

STATE OF NEW HAMPSHIRE
TOWN OF ANTRIM

2014 Town Meeting Warrant
Petitioned Warrant Article

Article 2014- __. Are you in favor of adoption of an amendment to the Town of Antrim Zoning Ordinance which would provide for the development of Wind Farms in the Rural Conservation District and the Highway Business District and establish specific development standards, including standards on proper construction, public health and safety, noise, environmental and visual impacts, and require operational agreements with the Town?

ARTICLE V – HIGHWAY BUSINESS DISTRICT (HB)

Amend Paragraph B.1 to include the following:

pp. Wind Farms and Meteorological Towers as permitted in Article XIV-E.

ARTICLE IX – RURAL CONSERVATION DISTRICT (RC)

Amend Paragraph B.1 to include the following:

m. Wind Farms and Meteorological Towers as permitted in Article XIV-E.

ARTICLE XIV-E – WIND FARMS

1. PURPOSE AND INTENT. It is the express purpose of this Article to permit commercial-scale wind farms within particular areas of the Town of Antrim, so long as those systems meet the requirements set forth herein. The purpose of this Article includes the following:
 - A. Providing for the appropriate, harmonious, and orderly development of the Town of Antrim and surrounding areas by allowing Wind Farms which meet the standards expressed herein.
 - B. Establishing standards and adequate safeguards for the effects associated with Wind Farms, which, if satisfied, address impacts related to noise, visual impacts, aesthetic impacts, landscape preservation, public health, setbacks, pollution and environmental impacts to persons, structures, or adjacent properties.
 - C. Establishing standards and adequate safeguards for the effects associated with Wind Farms, which, if satisfied, address impacts on adjacent properties, including their value.

2. **APPLICABILITY.** The terms of this Article shall apply to Wind Farms and Meteorological Towers, as defined herein, proposed to be located on property owned by the Town, on privately owned property, and on property that is owned by any other governmental entity that acts in its proprietary capacity to lease such property for the purposes of hosting/developing a Wind Farm.
3. **AUTHORITY.** This Ordinance is adopted pursuant to the enabling provisions of NH RSA 674:16.
4. **CONFLICTS WITH OTHER ORDINANCES AND REGULATIONS.** If there is a conflict between provisions in this Ordinance and the remainder of the Ordinance, or between a provision in this Ordinance and a provision of any other ordinance or regulation, this Ordinance shall apply.
5. **VALIDITY AND SEVERABILITY.** Should any section or provision of this Ordinance be declared by the courts to be invalid, such a decision shall not invalidate any other section or provision of the Ordinance.
6. **DEFINITIONS.** For the purpose of this Article, the following terms shall have the meaning given herein:
 - A. "Access Roads" – Private roads serving a Project Site and/or Wind Farm.
 - B. "Ambient Sound Pressure" – The sound pressure level excluded from that contributed by the operation of the Wind Farm.
 - C. "Decommissioning Funding Assurance" – An assurance provided by the Owner, as more fully described in section 15, that guarantees completion of decommissioning activities.
 - D. "End of Useful Life" – The point in time at which a Wind Farm, or an individual Wind Turbine, has not generated electricity for a continuous period of twenty-four months for reasons other than the wind regime, maintenance or repair, facility upgrade or repowering.
 - E. "Meteorological Tower" – A tower used for the collection of wind data.
 - F. "Owner" – The Owner or Operator of a Wind Farm, including an Applicant.
 - G. "Occupied Building" – A permanent structure used as a year-round residence, school, hospital, church, public library or other building used for public gathering that is occupied or in use as of the date upon which a Site Plan application is made for the facility.
 - H. "Participating Landowner" – Any landowner having entered into an agreement with the Owner for lease of real property or the granting of easements, licenses and other rights for access, entry or conveyance of the other real property rights related to the Wind Farm.
 - I. "Permanent Met Tower" – A Meteorological Tower intended to be erected and remain as part of a Wind Farm.

- J. "Project Site" – Property with rights as conveyed to Owner by lease, easement or other agreement with a Participating Landowner that includes all Wind Turbine locations, access roads, and other ancillary facilities required for construction and operation of the Wind Farm.
- K. "Shadow Flicker" – The effect when the blades of an operating wind turbine pass between the sun and an observer, casting a moving shadow on the observer and the immediate environment within a distance equal to ten (10) times the rotor diameter of the applicable turbine.
- L. "Temporary Met Tower" – A Meteorological Tower erected prior to the construction of a Wind Farm.
- M. "Town" – Town of Antrim, New Hampshire.
- N. "Turbine Height" – The distance from the surface of the tower foundation to the tip of the uppermost blade when in a vertical position.
- O. "Wind Turbine" – A wind energy conversion system that converts kinetic wind energy into electricity, comprised primarily of a tower, a nacelle housing the generator, and a rotor.
- P. "Wind Farm" – A Wind Farm, including Wind Turbines, cable, accessory buildings and structures (including substations and Permanent Met Towers), electric infrastructure, access roads, electric poles and wires and other appurtenant structures and facilities. A Small Wind Energy System (SWES) is not a Wind Farm for purposes of this Ordinance.

7. USE REGULATIONS

- A. A Wind Farm shall require a building permit and shall be required to obtain site plan approval.
- B. A Wind Farm shall be a permitted use in the Rural Conservation District and Highway Business District.

8. DIMENSIONAL REQUIREMENTS. Wind Farms shall comply with the following requirements:

- A. Maximum Height. The overall Turbine Height of any Wind Turbine shall not exceed five hundred (500) feet in height.
- B. Setbacks
 - i. Setback From Occupied Buildings. The setback distance between a Wind Turbine and any existing Occupied Building shall be not less than 2,200 feet. The setback distance shall be measured in a straight line from the center of the Wind Turbine base to the nearest point on the foundation of the Occupied Building. Any owner of property on which an existing Occupied Building is located may waive or reduce the setback

distance by written consent, executed by all record owners of such property. The written consent shall be supplied to the Town, and the Owner.

- ii. **Setback From Property Lines.** The setback distance between a Wind Turbine and any landowner owning adjacent property shall be not less than 1.1 times the Turbine Height measured in a straight line from the nearest point on the property line to the center of the Wind Turbine base. Any owner of property may waive or reduce the property line setback distance by written consent, executed by all record owners of such property. The written consent shall be supplied to the Town and the Owner.
- iii. **Setback From Public Roads.** All Wind Turbines shall be set back from any public road a distance of not less than 1.5 times the Turbine Height as measured from the right-of-way line of the nearest public road to the center of the Wind Turbine base.
- iv. **Buffers.** Except where necessary for the development of the Project Site and Wind Farm improvements, including Access Roads, existing vegetation in the required setbacks from public roads and property lines (subject to waivers of the property line setbacks) shall be preserved in lieu of formal landscaping of the Project Site. This provision shall not prohibit the removal of dead or diseased vegetation or the thinning of buffers for fire protection purposes by a licensed New Hampshire forester.

9. MET TOWERS

A. Permanent and Temporary Met Towers shall be permitted in any district in which Wind Farms are allowed.

B. Temporary Met Towers

- i. **Time.** A Temporary Met Tower may remain in place for up to five years.
- ii. **Height.** A Temporary Met Tower shall not exceed eighty (80) meters in height.
- iii. **Setback.** The setback distance between a Temporary Met Tower and any adjacent property shall be not less than 1.1 times the height of the Temporary Met Tower measured in a straight line from the nearest point on the property line to the Temporary Met Tower. Any owner of property may waive or reduce the property line setback distance by written consent, executed by all record owners of such property. The written consent shall be supplied to the Town and the Owner.
- iv. **Lighting.** A Temporary Met Tower shall be lighted only if required by the Federal Aviation Administration.
- v. **Guy Wire Visibility.** Visible, reflective, colored objects, such as flags, reflectors, or tape shall be placed on the anchor points of the Temporary Met Tower guy wires, if any, and along the guy wires until the wire is greater than ten feet above the base of the Temporary Met Tower.

- vi. All anchors and foundations shall be removed to existing grade upon the removal of the Temporary Met Tower.
- vii. Unless otherwise provided in this section of the Ordinance pertaining to Temporary Met Towers, Temporary Met Towers shall not be required to meet any other standards applicable to Wind Farms in this Ordinance.

C. Permanent Met Towers

- i. An application for a Permanent Met Tower shall meet the requirements set forth herein for Wind Farms.
- ii. Guy Wire Visibility. Visible, reflective, colored objects, such as flags, reflectors, or tape shall be placed on the anchor points of the Permanent Met Tower guy wires, if any, and along the guy wires until the wire is greater than ten feet above the base of that Met Tower.

10. DESIGN STANDARDS

- A. Wind Turbines shall be painted and lighted in accordance with Federal Aviation Administration (FAA) regulations. Wind Turbines shall not be artificially lighted, except to the extent required by the Federal Aviation Administration or any other applicable authority that regulates air safety.
- B. Wind Turbines shall not display advertising, except for reasonable identification of the turbine manufacturer and/or Owner.
- C. Power Lines. On-site power collection or distribution lines between Wind Turbines shall, to the extent practicable, be placed underground.
- D. Attached Equipment. Communications or other equipment attached to the Wind Turbines shall be limited to that which is incidental or necessary for the safe and efficient construction, operation, maintenance, and interconnection of the Wind Farm.
- E. Controls and Brakes. All Wind Turbines shall be equipped with a redundant braking system, including both aerodynamic over-speed controls (including variable pitch, tip, and other similar systems) and mechanical brakes. Mechanical brakes shall be operated in a fail-safe mode. Stall regulation shall not be considered a sufficient braking system for over-speed protection.
- F. Electrical Components. All electrical components of the Wind Farm shall conform to relevant and applicable local, state, and national electrical codes, and relevant and applicable international standards. In the event of any inconsistency among various codes and standards, the state electrical code shall govern, except as pre-empted by federal law.
- G. Access to Wind Project Equipment.

- i. Wind Turbines shall be designed such that they cannot be climbed for the first fifteen (15) feet above the surface of the Wind Turbine foundation.
- ii. Access doors to Wind Turbines and electrical equipment shall be secured to prevent entry by non-authorized persons.
- iii. Vehicle entrances to a Project Site shall be gated and locked during those times when Wind Farm personnel are not present at the Project Site.

H. Signs.

- i. Warning signs identifying high voltage must be attached to each of the Wind Farm's aboveground electrical collection facilities, switching or interconnection facilities, and substations in locations and at a size reasonably deemed by the Owner to draw the attention of persons in proximity to such equipment to such signage.
- ii. Warning signs identifying safety risks related to winter or storm conditions shall be placed on roads providing access to the Wind Farm no less than 750 feet from each Wind Turbine tower base and on established trails in the vicinity of the Project at no less than 500 feet from each Wind Turbine tower base.
- iii. Signs shall be limited to those necessary to identify the Wind Farm and provide warnings or liability information, construction information, or identification of private property.
- iv. No signs shall be placed in a public right of way without the prior approval of the Town Board of Selectmen or its designee.
- v. After the completion of construction of the Wind Farm, signs visible from public roads shall not be lit unless required by applicable State or Federal law.
- vi. No sign required by this Ordinance shall be larger than twelve square feet, unless otherwise required by applicable State or Federal permits.

11. DEVELOPMENT REQUIREMENTS.

- A. Approved Plans and Permits. The Owner shall provide the Town with a copy of all Federal and State permits and plans pertaining to the Wind Farm.
- B. Storm Water Pollution Control. The Owner shall conform to all storm water requirements established by New Hampshire Department of Environmental Services (NHDES), including development of a Storm Water Pollution Prevention Plan and requisite inspections as included or referenced therein. Compliance with the NHDES requirements for a Storm

Water Pollution Prevention Plan will satisfy all municipal storm water drainage requirements.

- C. Waste Disposal. The Owner shall conform to all NHDES requirements regarding treatment and/or disposal of displaced ledge, rocks, tree stumps, loam, dredgings or subsoil. Compliance with the NHDES requirements shall satisfy all relevant municipal requirements.
- D. Erosion Control. The Wind Farm shall be designed constructed and maintained in accordance with accepted erosion and sediment control methods as required by the NHDES. Compliance with the Erosion Control requirements of the NHDES will satisfy all municipal erosion and sediment control requirements.
- E. Disposal of Construction Debris. Tree stumps, slash, and brush will be disposed of on-site or removed consistent with state law. Construction debris and stumps shall not be disposed of at Town facilities.
- F. Design Safety Certification. The design of the Wind Farm shall conform to applicable industry standards, including those of the American National Standards Institute. If requested by the Town, the Owner shall submit certificates of design compliance obtained by the equipment manufacturers from applicable certifying organizations.
- G. Spill Protection. Prior to commencement of construction, the Owner shall provide the Town with a copy of the Spill Prevention, Control and Countermeasure (SPCC) Plan for the Wind Farm as required by state or federal agencies.
- H. Hazardous Wastes. The Owner shall comply with all state and federal regulations applicable to the use and disposal of hazardous wastes involved in or generated by the Wind Farm during construction, operation, maintenance or decommissioning.
- I. Pesticides and Herbicides. The Owner shall not use herbicides or pesticides in connection with the maintenance of a Wind Farm or Project Site.
- J. Wetlands. The Owner shall obtain all applicable Federal and State permits pertaining to impacts to wetlands caused by the Wind Farm development. Compliance with the requirements of such permitting shall satisfy all municipal requirements pertaining to wetlands impacts for the Wind Farm.
- K. Ground Control. Prior to the commencement of construction, flags, stakes, walls, trees or other easily identifiable points on a Project Site shall be placed/marked by the Owner to identify (i) the perimeter of area(s) to be disturbed in the development of a Wind Farm, as well as (ii) any wetland or wetland buffer to be preserved within the perimeter of the development of the Wind Farm. Such points shall be well distributed along the perimeter of such disturbed areas at a density of not less than 4 points per acre. For those ground control points identifying areas to be disturbed within 25 feet of a wetland, such points shall be a maximum of 50 feet apart for straight boundaries, and 25 feet apart for boundaries along a curve. Such ground control points shall also be depicted on a plan provided to the Town.

12. ACCESS ROAD(S).

- A. The requirements set forth herein shall apply to the design and construction of Access Roads.
- B. Except as required by state or federal law, or by utilities interconnected to a Wind Farm, the surface for all Access Roads shall be gravel.
- C. During construction, the travel surface of the Access Road shall not exceed 20 feet in width, except for those Access Roads used for the passage of construction cranes.
- D. During construction, the travel surface of Access Roads used for the passage of construction cranes shall not exceed 36 feet in width.
- E. After completion of construction of a Wind Farm, travel surfaces for Access Roads shall be reduced to 16 feet, by adding topsoil to the shoulders and seeding with a native seed mixture.
- F. Access Road grades shall not exceed fifteen percent (15%) grade.
- G. Stormwater controls and crossings of streams and wetlands shall be designed and constructed to be consistent with any applicable standards required by NHDES. Compliance with NHDES requirements will satisfy all municipal requirements regarding stream, wetlands and stormwater management requirements.

13. NOISE RESTRICTIONS

- A. Residential Noise Restrictions. Sound generated during the operation of a Wind Farm shall not exceed 50 dBA or 5 dBA above ambient, whichever is greater during daytime and 45 dBA or 5 dBA above ambient, whichever is greater, at night. The decibel levels shall be measured at the exterior façade of a residential Occupied Building. Any owner of property may waive or modify the residential noise restrictions, by delivering a waiver to the Owner, executed by all record owners of such property, a copy of which shall be supplied to the Town. Upon request of the Planning Board, the Owner shall provide a noise study which demonstrates that the Wind Farm will meet the requirements set forth in this Paragraph.
- B. Post-Construction Noise Measurements. Within one year of the commencement of operations of the Wind Farm, the Owner shall retain a qualified acoustics engineer to take sound pressure level measurements in accordance with the most current version of ANSI S12.18 (or its equivalent). The measurements shall be taken at up to seven sensitive receptor locations as mutually identified by the Owner and Town Board of Selectmen. The periods of the noise measurements shall include daytime and nighttime during both winter and summer seasons. All sound pressure levels shall be measured with a sound meter that meets or exceeds the most current version of ANSI S1.4 (or its equivalent) specifications for a Type II sound meter. The Owner shall provide the final report of the acoustics engineer to the Town within thirty (30) days of its receipt by the Owner.

14. SHADOW FLICKER

- A. Shadow Flicker shall not exceed 30 hours per year at any residential Occupied Building.
- B. Upon request of the Planning Board, the Owner shall provide a shadow flicker study which demonstrates that the Wind Farm will meet the requirements set forth in Paragraph (14)(A).

15. DECOMMISSIONING

A. Decommissioning Estimate

- i. As part of its site plan application, an Owner shall submit to the Town Planning Board an estimate for the cost to decommission the Wind Farm (the "Decommissioning Estimate"). The estimate shall include the cost of any decommissioning activities, minus the recoverable salvage value of the decommissioned materials. The plan and estimate shall include the cost of removing the foundations down to eighteen (18) inches below grade. The Decommissioning Estimate shall be prepared by a qualified third party consultant, selected by the Owner and reasonably acceptable to the Board of Selectmen, with experience in wind farm decommissioning and salvage value estimates.
- ii. The estimates referenced in paragraph (15)(A)(i) shall be updated and submitted to the Town every three years thereafter. In each instance the estimates shall be performed by a qualified third party consultant, selected by the Owner and reasonably acceptable to the Board of Selectmen, with experience in wind farm decommissioning and salvage value estimates.

B. Time for Decommissioning. The Owner shall, at its expense, complete decommissioning of the Wind Farm or individual Wind Turbines within twenty-four (24) months after the End of Useful Life of the Wind Farm or individual Wind Turbines, as the case may be. The End of Useful Life for an individual Wind Turbine shall not trigger decommissioning requirements for the remainder of the Wind Farm.

- i. Decommissioning Plan. The Owner shall provide a decommissioning plan to the Town Board of Selectmen no less than three months before decommissioning is to begin. The decommissioning plan shall describe all Wind Farm equipment, facilities or appurtenances proposed to be removed, the process for removal, and the post-removal site conditions. The Town Board of Selectmen will consider the remaining useful life of any improvement before requiring its removal as part of decommissioning. Approval of the Town, not to be unreasonably withheld, conditioned or delayed, must be received before decommissioning can begin.

C. Decommissioning Funding Assurance:

- i. The Owner shall provide a bond, letter of credit or other form of surety satisfactory to the Town Board of Selectmen for the complete decommissioning of the Wind Farm,

prior to the issuance of a building permit for the Wind Farm (the "Decommissioning Funding Assurance"). The amount of the Decommissioning Funding Assurance shall equal to the greater of the Decommissioning Estimate plus twenty-five percent (25%) or \$200,000. The Owner shall adjust the amount of Decommissioning Funding Assurance to reflect the updated decommissioning costs and salvage value within 90 days of each update of the Decommissioning Estimate.

- ii. Any decommissioning bond or letter of credit must be issued or made by an entity having and maintaining a minimum credit rating of "BBB" from Standard and Poor's, or "Baa2" from Moody's or their commercial equivalent.
- iii. Funds expended from the Decommissioning Funding Assurance shall only be used for expenses associated with the cost of decommissioning the Wind Farm.
- iv. If the Owner fails to complete decommissioning within the required period the Board of Selectmen, after holding a public hearing with notice to the Owner and abutters, may, at its sole discretion, require the expenditure of decommissioning funds from the Decommissioning Funding Assurance as reasonably necessary to complete decommissioning.

(1) In such an event, where the Owner has failed to complete the required decommissioning obligations and the Town expends funds from the Decommissioning Funding Assurance to effect the decommissioning requirements, the Town shall also have the right to receive the salvage value available from the decommissioned materials in an amount sufficient to reimburse the Town for any out of pocket expenses incurred for performing decommissioning that were in excess of the otherwise available decommissioning funds (e.g. to be "made whole"). Any remaining salvage value for the decommissioned materials shall be paid to the Owner.

D. Transfer of Decommissioning Responsibility

- i. The Decommissioning provisions of this Ordinance shall apply to and be binding and enforceable on all successors and assigns of the Owner.
- ii. Any successors or assigns of the Wind Farm shall be bound by the decommissioning provisions of this Ordinance and shall provide the Board of Selectmen with written confirmation stating that they agree to be so bound.

16. MUNICIPAL AGREEMENT

- A. Prior to the issuance of any building permit for a Wind Farm, the Owner shall negotiate, execute and deliver an agreement between the Town Board of Selectmen and the Owner (the "Municipal Agreement").
- B. The Municipal Agreement shall address the following:

- i. Access by town personnel to the Wind Farm, including for the purpose of emergency response, building or safety inspections.
 - ii. Reasonable liability insurance and indemnification provisions for the protection and benefit of the Town.
 - iii. A process for the dissemination of public information and communications, and a process for handling complaints pertaining to the Wind Farm.
 - iv. Access to, and use of public roads for the construction and operation of the Wind Farm, as well as any cost associated therewith.
 - v. A construction schedule, including hours during which construction may occur, and protocols for construction and operation of construction vehicles.
 - vi. Blasting protocols, including notification of town officials, provision of a blasting plan, insurance, and delivery of a copy of the relevant blasting license.
 - vii. Delivery of any wildlife and plant species protection protocols developed in consultation with the New Hampshire Fish and Game Department and the New Hampshire Natural Heritage Bureau, in order to avoid undue impacts to wildlife and plant species, including endangered and threatened species. Such wildlife and plant species protection protocols shall satisfy municipal requirements for the protection of wildlife and plant species.
- C. The Municipal Agreement shall be recorded at the Hillsborough County Registry of Deeds, prior to the issuance of any building permit for the Wind Farm.

17. WAIVERS; RECORDING.

- A. Any waivers by landowners permitted by this Ordinance shall be recorded in the Registry of Deeds for Hillsborough County, New Hampshire. The waiver shall describe the properties benefited and burdened and advise all subsequent purchasers of the burdened property of the basic terms of the waiver, including time duration. A copy of any such recorded waiver shall be provided to the Town.