

**Municipal Officer's Certification of Official Text for the  
Amended Ordinance Titled  
"Wind Energy Facility Ordinance"  
for the Municipality of Canaan, Maine**

**To the Town Clerk of the Town of Canaan:**

We hereby certify to you that the document to which we have affixed this certificate is a true copy of an ordinance prepared by the Canaan Planning Board entitled, "Town of Canaan Wind Energy Facility Ordinance" to be presented to the voters for their consideration on March 16, 2013.

**Pursuant to 30-A M.R.S.A. §3002(2)**, you will retain this copy of the complete text of the ordinance as a public record and make other copies available for distribution to the voters, and you will ensure that copies are available at the town meeting/polling places on the day of the vote.

**Dated:** February 19 2013.

**Town Selectmen of Canaan, Maine**

Rita Graf  
Rita Graf

Daniel Harriman  
Daniel Harriman

Paul Natale  
Paul Natale

*Attestation*

Attest: A true copy of a final draft of a proposed amended ordinance entitled "Wind Energy Facility Ordinance", as provided to me by the municipal officers of Canaan on the 19th day of February, 2013.

Signature Theresa B. Hette  
Town Clerk of Canaan

## TOWN OF CANAAN, MAINE, WIND ENERGY FACILITY ORDINANCE

**1.0 Title.** This ordinance shall be known as the Town of Canaan, Maine, Wind Energy Facility Ordinance.

**2.0 Purpose.** The purpose of this Ordinance is to protect the health, safety, and general welfare of the residents and property owners of Canaan by establishing reasonable and uniform regulations for Wind Energy Facilities (WEFs).

**3.0 Authority.** This Ordinance is adopted pursuant to the enabling provisions of Article VIII, part 2, Section 1 of the Maine Constitution; the provisions of 30-A M.R.S.A. Section 3001 (Home Rule), and the provisions of the Planning and Land Use Regulation Act 30-A M.R.S.A. Section 4312, *et seq.*

**3.1 Conflicts with Other Ordinances, Laws and Regulations.** If there is a conflict between provisions in this Ordinance or between a provision in this Ordinance and a provision of any other ordinance, regulation, or statute from any jurisdiction, the more restrictive provision shall apply.

**3.2 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.

**4.0 Effective Date.**

**4.1** This Ordinance shall become effective on the date of its passage.

**4.2** If this Ordinance is enacted within 90 days after the expiration of an Ordinance entitled "Wind Facility Moratorium Ordinance, Canaan, Maine" (the Moratorium) adopted the effective date of this Ordinance shall be retroactive to the expiration date of the Moratorium.

**5.0 Applicability.** This ordinance applies to all Wind Energy Facilities and Meteorological Towers in the Town of Canaan proposed to be constructed or operated after the effective date of this Ordinance, unless determined as "Residential" in the "Town of Canaan Residential Wind Energy Ordinance".

**6.0 Definitions.**

**Acoustic Hazard.** Annoyance and hazard (health, property values) owing to the sound produced by a WEF.

**Applicant.** Person, or persons or entity applying for a Meteorological Tower permit or Wind Energy Facility permit to the Town of Canaan Planning Board.

**CEO** means Town of Canaan Code Enforcement Officer

**Covenants.** A legal agreement, convention or promise by two or more parties by deed in writing, signed, and delivered, by which one of the parties pledges himself to the other that something is done, or shall be done, or shall not be done, or stipulates the truth of certain facts. For this Ordinance this legal agreement shall contain stipulations required and put forth herein and shall be a covenant running with land.

**D** = Distance measured in feet.

**Debris Hazard.** Hazard owing to the possibility that the parts of a WEF, or material (ice or other debris) accumulated on its rotating elements, could be dislodged and fall or be thrown some distance onto surrounding property.

**Decibel (dB)** means the practical unit of measurement for sound pressure level; the number of decibels of a measured sound is equal to 20 times the logarithm to the base 10 of the ratio of the sound pressure of the measured sound to the sound pressure of a standard sound (20 micropascals); abbreviated "dB."

**dB(A)** or **dBA** means the abbreviation designating both the unit of measure sound level, the decibel, and the mode of measurement that uses the A-weighting of a sound level meter. **dB(C)** or **dBC** means the abbreviation designating both the unit of measure sound level, the decibel, and the mode of measurement that uses the C-weighting of a sound level meter.

**Engineering drawing.** Rendering of an object or land area using drafting instruments or CAD showing all critical features and appropriate dimensions to describe the subject.

**Falling Hazard.** Hazard owing to the possibility that the elements of a WEF could fall onto the surrounding property.

**Flicker Hazard.** Annoyance and hazard (health, property values) owing to the shadows produced by the rotating elements of a WEF.

**Geological Instability.** Can include possible fault lines, areas of potential landslides, heavily fractured or unstable bedrock that would cause the tower and/or structure to fall or collapse.

**Ho.** Height overall. Height of a Meteorological Tower or WEF Turbine from the base of the tower pad to the highest point on the structure or the highest point of any rotating element, whichever is higher.

**Inhabitant** means one who resides actually and permanently in a given place, and has his domicile there.

**LAeq** means the energy-equivalent sound pressure level measured in decibels with a sound level meter set for A-weighting, "Fast" response over a measurement period; expressed as LAeq or Leq in dBA.

**Lc** = Criterion sound level, dBA, set to 30 dBA, consistent with the World Health Organization's Night Noise Guideline 2009, to prevent biological effects, to protect public health in risk groups including children, elderly and those with disease or pre-existing health conditions and, to minimize sleep disturbance at night; a criterion level of 30 decibels (LAeq) for continuous intrusive noise as the level above which biological effects, medical impacts on sensitive populations, and sleep disturbance were found with sufficient evidence under comprehensive medical and scientific peer review by World Health Organization.

**LCeq** means the energy-equivalent sound pressure level measured in decibels with a sound level meter set for C-weighting, "Fast" response over a measurement period; expressed as LCeq or Leq in dBC.

**Lp** = Sound Pressure Level measured in dBA in accordance with American National Standards S12.9 – Part 3, "Quantities and Procedures for Description and Measurement of Environmental Sound" or ANSI S12.18.

**Ls** = Safety Factor, shall be 2 dBA unless otherwise authorized by the Town Planning Board, to account for variations in meter total instrument response.

**Lu** = Uncertainty factor, shall be 5 dBA unless otherwise authorized by the Town Planning Board, based on measured maximum hourly sound levels at wind turbine facilities in Maine compared to predicted sound levels and the resulted required corrections of 5 dB.

**Lw** = Manufacturer's Guaranteed Maximum Sound Power Level, in dBA re 1pW, under any operating conditions, including high winds, yawing, furling, and power outages, whether electrically loaded or unloaded.

**Maximum sound level** (also Lmax) means the maximum sound pressure level measured in decibels with a sound level meter set for A-weighting, "Fast" meter response over a measurement period; expressed as Lmax in dBA.

**Meteorological Tower (MT).** Tower constructed to mount instruments at one or more heights above grade for the purpose of collecting wind or other meteorological data.

**n = Number** (quantity) of wind turbines, where the expression  $4\log(n)$  represents the change in sound level due to the increase in the number of turbines based on independent analysis of measured noise levels around wind turbine facilities in Maine, and -0.5 dB is required when converting from sound power level to sound pressure level assuming spherical spreading, for dimensions in feet.

**Owner/Operator.** The person or entity that is the legal owner of the WEF, including successors and assigns, and that has the authority and responsibility to operate the WEF on a day-to-day basis. An Owner/Operator must have the legal authority to represent and bind.

**Property line.** The imaginary line along the ground surface and the vertical extension of that line which constitutes a legally enforceable boundary which separates real property owned or controlled by owner(s) from contiguous real property owned or controlled by another person.

**Sf/d.** Falling and Debris Hazard setback requirement (ft)

**Sc. Flicker Hazard setback requirement (ft)**

**Ss. Acoustic Hazard setback requirement (ft)**

**Sound level meter** means an instrument for the measurement of sound levels conforming to ANSI type I or type II standards.

**Sound pressure level** means the level of a sound measured in dB units with a sound level meter which has a uniform (flat) response over the band of frequencies measured. Sound pressure levels are referenced to 20 micropascals; expressed as [sound level] dB re 20uPA.

**Sound power level** is calculated from a sound pressure level at a given distance by the formula  $L_w = L_p + 20 \log D + 0.5$ , dB re 10-12 W where  $L_p$  is measured in accordance with American National Standards S12.9 – Part 3, "Quantities and Procedures for Description and Measurement of Environmental Sound" or ANSI S12.18, or  $L_w = L_p - 6 + 10 \log(4\pi(D^2))$ , dB re 10-12 W where  $L_p$  is measured in accordance with AWEA/IEC 61400-11 using a 1-meter flat ground board. D is the distance from the source (typically the hub height plus  $\frac{1}{2}$  the rotor diameter).

**Setback Area.** The entire land base that falls within the Setback for a particular MT or WEF.

**Setback.** A distance measured horizontally in feet from the center axis of any WEF turbine or Meteorological Tower radially for 360 degrees.

**Type 0: Micro Wind Energy Facility.** One or more wind turbines, each with a nameplate capacity of less than 1 kW and a turbine height (measured to the top of an upright blade) of 35 feet or less.

**Type 1: Small Wind Energy Facility.** A single wind turbine with a nameplate capacity of 10 kW or less and a turbine height (measured to the top of an upright blade) of 80 feet or less.

**Type 2: Intermediate Wind Energy Facility.** A single wind turbine with a nameplate capacity of less than 100 kW and or a turbine height (measured to the top of an upright blade) of 150 feet or less.

**Type 3: Large/Commercial Wind Energy Facility.** A single wind turbine with a nameplate capacity of 100 kW or a turbine height (measured to the top of an upright blade) of more than 150 feet. Or a WEF composed of two or more turbines each with a nameplate capacity of 1 kW or more. Or a WEF (of any size or number of turbines) 25% or more of whose power is intended for sale or use by entities or persons other than the generator.

**W** means power in Watts.

**Waiver.** A legal decision that may be made by the Planning Board that grants the Covenantees and the Covenantors of a Covenant presented to the Board a right of waiving or relinquishing protection for them in this Ordinance as regards acoustic and flicker effects.

**Wind Energy Facility (WEF).** All equipment, structures, roads, and power lines that together form a system for the production of electrical power using ambient wind as a source of motive power.

**Wind Energy Facility Turbine (WEFT).** Any machine constructed to convert ambient wind energy to electromotive energy.

## **7.0 Documents.**

### **7.1 Documents cited in this Ordinance**

- Bureau of Land and Water Quality, Site Location Development Law, 38 M.R.S.A. §§481-490, with regulations 06-096 CMR 371-377
- Maine Erosion and Sediment Controls Best Management Practices, Bureau of Land and Water Quality, Maine Department of Environmental Protection, March 2003, DEP LW0588
- Night Noise Guidelines for Europe, World Health Organization, October 2009, ISBN 9789289041737
- Town of Phillips Wind Energy Facility Ordinance

### **7.2 Guidance Documents as aids to Applicant**

- 12 M.R.S., Sections 685-B,2-C, 4, and 4-B of the Commission's statutes; 35-A M.R.S., Ch. 34-A, Sections 3451, 3452, 3454, and 3455, and other applicable provisions of the Legislature statute, 12 M.R.S., Sections 681 through 689
- Maine Association of Wetland Scientists (MAWS): Vernal Pool Technical Committee (VPTC) 2010 Interim Vernal Pool Survey Protocol, April 2010
- Maine Endangered Species Act, State of Maine, Inland Fisheries and Wildlife Laws, 12 MRSA Part 13, Chapter 925, Subchapter 3, Endangered Species
- Management Guidelines, for Land Use In or Adjacent To Spring Salamander and Roaring Brook Mayfly Habitat Maine Department of Inland Fisheries and Wildlife, dated March 4, 2010
- Natural Resource Protection Act, 38 M.R.S.A. §§ 480-A through 480-BB, statute and application
- Public Law, 123rd Legislature, Second Regular Session, Chapter 533, H.P. 1390- L.D. 1952, An Act to Streamline the Administration of Significant Vernal Pool Habitat Protection

## **8.0 Design, Manufacture, and Construction Standards**

8.1 The design and manufacture of all meteorological towers, all wind turbines, and all other components of a WEF shall conform to applicable national, state, and local standards for the wind industry, such as those established by the American National Standards Institute (ANSI), Underwriters Laboratories, and similar certifying organizations. All MTs and all components of a WEF shall conform to local, state, and national building codes.

8.2 **Meteorological towers (MT).** Meteorological towers must be under 200 feet in height, and must be designed so as not to require lighting. Guy wires are allowed but must be designed so as to limit Environmental Hazard to wildlife, especially birds and bats. For MTs connected with the potential development of commercial WEFs, a Decommissioning Bond will be required to ensure timely removal of the equipment.

8.3 No WEF Turbines or WEF components that are home-made or whose design has been altered except by the manufacturer shall be permitted except when necessary to facilitate mounting.

8.4 Underground power and transmission lines shall be buried at a depth consistent with state public utility engineering standards to prevent transient ground currents and stray voltage.

8.5 An application for a permit for a Type 3 WEF that will be connected to the Public Utility Grid shall include a Public Utility Grid Impact Statement documenting all anticipated changes to the public utility grid within the Town of Canaan due to the WEF. The Statement shall be signed and approved by the Maine Public Utilities Commission and shall include proof of leases or rights of way for transmission lines, and an analysis of the residual capacity in the grid that will be available to other local generating projects after the construction of the WEF.

8.6 A WEFT with a nameplate capacity less than 1 kW shall be equipped with a braking system designed to limit rotor speed and prevent blade flutter.

8.7 A WEFT with a nameplate capacity equal to or greater than 1 kW but less than or equal to 10 kW shall be equipped with a redundant braking system that includes stall regulation.

8.8 A WEFT with a nameplate capacity of more than 10 kW shall be equipped with a redundant braking system that includes both aerodynamic over-speed controls (including variable pitch, tip, and other similar systems) and mechanical brakes. Mechanical brakes shall operate in fail-safe mode. Stall regulation shall not be considered a sufficient braking system for over-speed protection on WEFTs with a nameplate capacity of more than 10 kW.

8.9 WEFs shall be designed and sited to prevent the disruption or loss of emergency or private radio, telephone, television, or similar signals. Interference with such communications shall be grounds for ordering the immediate shutdown of the WEF until the interference has been remedied.

8.10 The minimum distance between the ground and the blades of a WEF shall be 25 feet as measured at the lowest point in the arc of the blades.

8.11 WEFTs shall be mounted on monopole towers with no guy wires except that WEFTs with a nameplate capacity of under 1 kW may be mounted on structure roof tops.

8.12 The color of WEFTs and MTs shall be off-white or grey or some other unobtrusive color approved by the Town of Canaan Planning Board.

8.13 WEFs shall not be used to display signs or advertising except for signs at ground level identifying the turbine manufacturer, the WEF Owner/Operator, emergency contact information, and appropriate warnings as required by national, state, and local laws.

8.14 All construction activities must conform to the approved site plan, including any conditions of approval and changes approved by the Code Enforcement Officer and/or the Planning Board.

8.15 **Modification During Construction** If at any time it appears necessary or desirable to modify the approved plans before or during construction of the WEF, the Code Enforcement Officer, with assistance at the Applicant's expense from such staff, consultants or experts as the CEO deems appropriate, is authorized to approve minor modifications due to unforeseen circumstances such as encountering hidden outcrops of bedrock, natural springs, etc. The Code Enforcement Officer shall issue any approval under this section in writing and shall transmit a copy of the approval to the Selectmen and Planning Board. Revised plans shall be filed with the Planning Board for the record. For major modifications such as relocation of rights-of-way, relation of WEFTs, changes in grade by more than 1%, etc., the Applicant shall submit to the Planning board an amended plan for review and approval.

## 9.0 Public Health and Safety Standards

9.1 **Setback Standards.** All MTs and WEFs must be sited so as to satisfy the Setback Standards calculated in Table 1 for the following hazards:

- Falling and Debris Hazard
- Flicker Hazard
- Acoustic Hazard (See Table 2 for calculations of typical setback distance)

9.2 The applicant shall compute or look up, as appropriate, and graph the required setback for each hazard as a circle for a single unit or as a series of connected arcs for multiple units centered on each turbine and submitted with the required setback graphically superimposed to scale on town maps identifying lot owners and lot property lines.

9.3 **Acoustic Standards.** Sound levels due to the operation of the WEF shall not exceed 30 dBA or 50 dBC at property lines or structures in the Town of Canaan. Owner/Operators may request a waiver of these standards by means of written Covenants as specified in section 14.2.3 of this Ordinance.

9.3.1 Sound measurements shall be carried out at appropriate property lines or structures as soon as possible after the Town of Canaan Planning Board determines that a violation of the noise standards may have occurred.

9.3.2 All sound measurements shall be made by a professional acoustical engineer who is a Full Member of the Institute of Noise Control Engineering (INCE) or who possesses some comparable qualification. The engineer shall be chosen by the Owner/Operator from a list provided by the Planning Board and paid by the Owner/Operator.

9.3.3 Except as specifically noted otherwise, sound measurements shall be conducted in compliance with the American National Standards Institute (ANSI) Standard S12.18-1994 "Outdoor Measurements of Sound Pressure."

9.3.4 Sound level meters and calibration equipment shall comply with the latest version of ANSI Standard S1.4 "Specifications for General Purpose Sound Level Meters," and shall have been calibrated at a recognized laboratory within one year before the sound measurements are carried out.

9.4 An Application for a permit to construct a Type 3 WEF with one or more turbines having a nameplate capacity of 100 kW or more shall include a Fire Prevention and Fire Fighting Plan that has been approved by the Town of Canaan Fire Department. The plan shall identify a response plan to address all potential WEF fire scenarios and include a list of hazardous materials that may be encountered.

9.5 The Owner/Operator of a Type 3 WEF with one or more turbines having a nameplate capacity of 100 kW or more shall ensure that the WEF complies with the following fire control and prevention measures and assumes responsibility for all associated incremental costs.

- Use of fireproof or fire resistant building materials and buffers as required by state law or the Canaan Fire Department.
- Incorporation of a self-contained fire protection system in the WEF turbine nacelle.
- Maintenance of firebreak areas, cleared of vegetation, as required by state law or the Canaan Fire Department.
- Provision for any additional fire fighting or rescue personnel, services, training, materials, and vehicles as may be required to deal with any emergency related to the WEF that is beyond the current capabilities of the Canaan Fire Department.

9.6 The Owner/Operator of all WEFs shall be responsible for compliance with all ordinances, regulations, and laws applicable to the generation, storage, cleanup, and disposal of hazardous materials connected with the WEF.

#### **9.7 Road and Property Risk Assessment**

9.7.1 An application for a permit to construct a Type 2 or Type 3 WEF shall include a Road and Property Risk Assessment that has been approved by the Town of Canaan Road Commissioner.

9.7.2 The Town of Canaan Planning Board shall require changes to the Road and Property Risk Assessment plan that it deems appropriate to protect public safety, to protect public and private property, and to address anticipated costs to the town.

9.7.3 A qualified third party engineer, chosen by the Applicant from a list provided by the Canaan Planning Board and paid by the Applicant, shall document road conditions prior to the construction of the WEF, and again within thirty days after construction is complete. Any road damage determined by the engineer to have been caused by the applicant or his contractors shall be promptly repaired at the applicant's expense.

9.7.4 The Town of Canaan may bond the roads in compliance with state regulations, and the bond is to be paid by the applicant prior to the transport of WEF components.

9.8 The Owner/Operator of any WEF shall notify the Town of Canaan Planning Board of any "extraordinary event" within 24 hours after that event. Extraordinary events shall include but not be limited to tower collapse, catastrophic turbine failure, fires, leakage of hazardous materials, unauthorized entry into a tower base, thrown blade or hub, injury caused by the WEF, and any other event that affects the public health and safety of the town or its residents.

#### **10.0 Environmental Standards**

10.1 The siting and construction of all WEFs shall be consistent with the Town of Canaan Comprehensive Plan.

10.2 If required by the laws of the State of Maine, a Department of Environmental Protection Site Location of Development permit shall be obtained and submitted with an application for a WEF permit. If submitted, this permit shall be considered adequate evidence that sections 11.3 and 11.3.1 of this Ordinance have been satisfied.

**10.3 Environmentally Sensitive Areas.** The design, construction, and maintenance of a WEF shall protect all environmentally sensitive areas that may be affected by its siting. Such areas shall include but not limited to wetlands, vernal pools, seeps or springs, steep slopes (equal to or greater than 15%), watersheds, flood plains, significant habitat for wildlife, fish, and plants. An application for a Type 3 WEF permit shall demonstrate appropriate measures for protecting all such areas during both construction and operation of the WEF.

#### **10.4 Wildlife Protection.**

10.4.1 The application for a Type 3 WEF shall include a Wildlife Protection Plan based on pre-construction field studies designed and carried out by a qualified wildlife biologist chosen by the Applicant from a list provided by the Planning Board and paid by the applicant. Such studies shall describe the possible adverse effects of the WEF on birds, bats, animals and their habitats, and shall propose remedies for these effects.

10.4.2 **Post Construction Wildlife Protection Field Studies.** Within three years after completion of construction of a Type 3 WEF, studies to ascertain its actual effect on wildlife shall be designed and carried out by a qualified wildlife

biologist chosen by the Owner/Operator from a list provided by the Planning Board and paid by the Owner/Operator. If these studies demonstrate undue adverse effects on wildlife caused by the WEF, the Owner/Operator in consultation with the Maine Department of Inland Fisheries and Wildlife (MDIFW) shall design and implement an appropriate mitigation plan. The plan shall be submitted to the Town of Canaan Planning Board for approval. The Owner/Operator shall be responsible for the full cost of carrying out the plan under the supervision of the MDIFW.

**10.5 Erosion Control.** Type 3 WEFs shall be designed, constructed, and maintained in accordance with accepted erosion and sediment control methods as set out in the Maine Erosion Control Handbook for Construction; The Best Management Practices, dated March (2003).

#### **10.6 Water Quality Protection.**

**10.6.1** Type 3 WEFs shall be designed, constructed, and maintained so as to avoid undue adverse impacts to groundwater, including sand and gravel aquifers. The Planning Board may require as condition of issuing a permit for a Type 3 WEF that a pre-construction baseline study of all wells, springs, and public water sources within the watershed of the WEF site be conducted. The study shall be designed and carried out by a water quality professional chosen by the Applicant from a list provided by the Planning Board and paid by the Applicant.

**10.6.2 Post Construction Groundwater Quality Study.** Within two years after completion of construction of a Type 3 WEF for which the Planning Board has required a pre-construction baseline Water Quality Study as described in section 10.6.1 of this Ordinance, a Post Construction Water Quality study of all wells, springs, and public water sources within the watershed of the WEF site shall be designed and carried out by a water quality professional chosen by the Applicant from a list provided by the Planning Board and paid by the Owner/Operator. If degradation or contamination is found to have occurred, fines and/or permanent remedies as required by the Town of Canaan or the State of Maine shall be the responsibility of the Owner/Operator.

**10.7 Hazardous Wastes.** The Owner/ Operator shall be responsible for compliance with all state and federal regulations applicable to the use and disposal of hazardous wastes involved in or generated by the WEF's construction and operation. This responsibility shall extend to safe and lawful disposal of the by-products of any Acid Rock Testing and Mitigation Plan.

**10.8 Blasting.** Owner/Operator of a WEF shall not undertake any blasting without notifying the Town of Canaan and submitting a blasting plan in accordance with the latest DEP Standards. The blasting plan shall be reviewed and approved by the Canaan Planning Board before any blasting takes place. Forty-eight hour notice shall be given to all residents within a two mile radius of the blasting area (measured horizontally) before blasting can begin.

**10.9 Light Pollution.** All WEFs shall be designed and sited to minimize nighttime light pollution and shall not exceed the minimal requirements by the Federal Aviation Authority. Red lights shall be used instead of white if possible and shall be shielded to the greatest extent possible from viewers on the ground. An applicant for a WEF shall provide a plan showing all lighting on and around the WEF.

**10.10 Scenic Resource Standards.** If a Type 2 or Type 3 WEF is proposed for a site that is visible from a Scenic or Special Resource as defined by the State of Maine or by the Canaan Comprehensive Plan, the Applicant shall provide the Planning Board with a Visual Impact Assessment that addresses the evaluation criteria set forth in the Department of Conservation Standards, Chapter 3, 04-056, adopted April 4, 2010, Or the most recent.

#### **11.0 Financial Standards**

**11.1** An applicant for a Type 3 WEF shall provide evidence satisfactory to the Town of Canaan Planning Board that the project is financially viable. Evidence of financial viability shall include the following:

- A budget for the construction of the WEF
- Proof of adequate financing for all aspects of the construction
- Proof of long-term power purchase contracts if 25% or more of the WEF output is intended for sale.
- Proof of adequate funds for Decommissioning as specified in section 11.3 of this Ordinance.



11.2 The Owner/Operator of a Type 3 WEF shall maintain a current general liability policy for the WEF covering bodily injury and property damage commensurate with the scope and scale of the project. Proof of current insurance must be presented to the Planning Board with the application for a permit and every year thereafter on the date of the insurance's annual renewal.

11.3 The Owner/Operator of a Type 3 WEF shall, at his/her expense, be responsible for complete Decommissioning of the WEF within twelve months after it ceases to generate electricity, or after its operational license has been revoked.

11.3.1 Decommissioning shall include removal and disposal off-site of all parts of the WEF (including foundations) in accordance with local, state and federal laws and regulations. Areas of disturbed earth shall be graded, seeded, or otherwise re-vegetated.

11.3.2 A Professional Engineer shall be chosen by the Applicant from a list provided by the Planning Board and paid by the Applicant to estimate the total cost of Decommissioning without consideration of the salvage value of the equipment. The amount of this estimate shall be the amount of the Decommissioning Funds required to be posted at the time of the initial Application.

11.3.3 No permit for a Type 3 WEF shall be issued until Decommissioning Funds have been posted by the Applicant with a bonding company or a Federal or State-chartered lending institution (the Escrow Agent) authorized to conduct such business in the State of Maine and approved by the Town of Canaan.

11.3.4 Estimates as described in section 11.3.2 shall be redone annually on the anniversary of the granting of a WEF Permit, and the Owner/Operator of the WEF shall be required to maintain Decommissioning Funds that are at least equal to the most recent estimate.

11.3.5 Decommissioning funds may be in the form of a performance bond, surety bond, letter of credit or other form of financial assurance acceptable to the Town of Canaan.

11.3.6 If the Owner/Operator of the WEF does not complete Decommissioning within the time prescribed in section 11.3 of this Ordinance, the Town of Canaan may take such action as necessary (including court action) to secure the posted Decommissioning Funds and to ensure completion of the Decommissioning.

11.3.7 The Escrow Agent shall not release the Decommissioning Funds except upon written approval of the Town of Canaan.

**11.4 Tax Valuation Agreement and Tax Impact Statement** An Applicant for a WEF that will have a taxable property value of more than \$10 million or that will be qualified as a "designated business" for the purposes of state tax incremental financing as defined in Title 30-A M.R.S.A. Section 5241 shall enter into a written Tax Valuation Agreement with the Town of Canaan and shall also present to the Town a Tax Impact Statement.

11.4.1 The Tax Valuation Agreement shall describe the methodology that will be used for tax valuation of the WEF throughout the period of its useful life. The Tax Valuation Agreement shall be reviewed by a qualified tax attorney chosen from a list provided by the Town of Canaan Planning Board and paid by the Applicant. No Permit shall be issued until the Tax Valuation Agreement has been approved by the Town of Canaan Planning Board.

11.4.2 The Tax Impact Statement shall estimate the annual tax burden on the citizens of Canaan over a 10 year period beginning with the first full year of the WEF's operation. The Tax Impact Statement's estimates shall be based on the following data and assumptions: 1) the estimated tax contribution from the WEF that will result from the Tax Valuation Agreement; 2) estimated reduction in tax revenue due to any reductions in the value of properties covered by waivers (assuming that other property values remain constant); 3) estimated adjustments to the amount received from the State for aid to education (assuming a constant school budget); 4) estimated adjustments to the amount received as part of the State municipal revenue sharing program; 5) a constant mill rate. The Tax Impact Statement shall be prepared by an Accountant chosen from a list provided by the Town of Canaan Planning Board and paid by the Applicant.

11.5 Promises of benefits made to the Town of Canaan by the applicant shall be documented and submitted with the Final Application. These benefits shall become a legally enforceable provision of the permit.

## **12.0 Ethical Standards**

12.1 All deliberations concerning the permitting and regulation of WEFs shall be conducted at public meetings for which notice has been duly given.

12.2 Conflicts of Interest. No elected or appointed official or employee of the Town of Canaan who has a financial interest in the WEF under consideration shall be directly or indirectly involved in the permitting or other regulation of that WEF. Financial interest includes but is not limited to the following:

- Having right, title or interest in land on which any part of the WEF will be constructed
- Having signed for the Applicant's benefit a Covenant with financial remuneration
- Having a financial arrangement such as employment or the promise of employment—including employment as an outside contractor—with the Applicant
- Serving as a paid representative of an individual or company that derives income from the development of wind power

### **13.0 Permitting and Licensing Authority**

13.1 The Town of Canaan Planning Board is authorized to review all applications for permits to erect Meteorological Towers and to construct Wind Energy Facilities and all applications for operational licenses to operate such Facilities in the Town of Canaan. The Planning Board may approve, reject, or conditionally approve applications in accordance with the standards of this Ordinance.

13.2 The Town of Canaan Planning Board and/or its designated agents or representatives shall have the right to access and inspect WEF sites.

13.3 The Town of Canaan Planning Board reserves the right to limit the number of applications for WEF permits that are under review at any given time. Only one application for a Type 3 WEF permit will be accepted or processing at any given time.

13.4 The Maine Department of Environmental Protection (DEP) may be required to review WEF applications within the Town of Canaan. When making its own determination about such applications, the Planning Board shall consider, to the extent applicable, findings in the DEP review.

### **14.0 Permit and Operational License Requirements**

14.1 **Meteorological Tower (MT).** The application for a permit for an MT shall be submitted in at least ten hard copies and five CDs to the Town of Canaan Planning Board and shall include the following information:

- Applicant and property owner name, address and contact information
- Proposed location of the MT including lot designation
- Engineering drawing of proposed tower structure, instrument package, and guy system, if any
- Engineering drawing of proposed tower base
- Engineering drawing of tower location showing property lines and setback requirements (as specified in Table 1 of this Ordinance)
- Any building, use or construction permits required by other authorities because of the size or construction of the tower
- Intended period of data collection and date MT will be removed
- Plans for mitigation of Environmental Hazard to wildlife for towers requiring guy systems
- Description of intention
- Decommissioning Bond for MT
- A legally enforceable agreement that the applicant shall pay (in advance if required by the Town of Canaan Planning Board) for the services of all consultants that the Planning Board deems necessary to evaluate the application.
- Fee: As established by the Selectmen

14.1.1 Within 30 days of the Planning Board's receiving a Meteorological Tower (MT) application the Planning Board shall, with assistance from such staff, consultants, committees or commissions as it deems appropriate, notify the applicant in writing that the application is complete or, if the application is incomplete, shall inform the applicant of the specific additional material needed to complete the application.

14.1.2 Within 60 days of determining the MT application is complete, the Planning Board shall approve the MT Application, approve the MT Application with conditions, or disapprove the MT Application. The time limit for review may be extended by mutual agreement between the Planning Board and the Applicant.

**14.2 Wind Energy Facility (WEF).** A Preliminary Application for a Permit to Construct a Type 0, Type 1, Type 2, or a Type 3 WEF shall include at least ten hard copies. Type 3 WEF applications shall also include five CDs of the complete application. Upon approval of the Preliminary WEF Application, a Final WEF Application shall be prepared and submitted in at least ten hard copies for Type 0, Type 1, Type 2, and Type 3 WEFs. Type 3 WEF applications shall also include five CDs of the complete application. Approval of the Final WEF Application shall constitute a Permit to Construct the WEF.

**14.2.1 The Preliminary Application shall include the following items:**

- Applicant and property owner's name, address and contact information
- Nameplate data for the type of WEF turbine(s) to be used including manufacturer, model, rated power output and maximum sound power level
- Engineering drawing of the type of WEF turbine to be used
- Certification of the non-reflecting properties of the WEF turbine's external surfaces
- Engineering drawing of the tower base for the type of WEF turbine to be used
- Engineering drawing of the WEF turbine location(s)
- Engineering or architectural drawings of all planned structures, including structures for support and maintenance of the WEF
- Description of intended use, including energy storage and grid connections, and the percentage (if any) of generation intended for sale or use by entities or persons other than the applicant
- Engineering drawings and/or electrical schematics of any energy storage equipment or facilities
- Calculations and supporting data for all setback requirements (as specified in Table 1 of this Ordinance). For Type 3 WEFs, setback requirements must be calculated for each WEF turbine.
- Overlay of Town of Canaan property maps showing the setback area and all property lines and rights of way affected by the setback requirements
- List of property owners whose property, wholly or in part, lies within the setback areas
- Shadow-Flicker Modeling Report as specified in Table 1 of this Ordinance
- A legally enforceable agreement that the applicant shall pay (in advance if required by the Town of Canaan Planning Board) for the services of all consultants that the Planning Board deems necessary to evaluate the application
- Fees: As established by the Board of Selectmen

14.2.1.1 Within 30 days for Type 0 or 1 or within 60 days for Type 2 or 3 of the Planning Board's receiving a Preliminary WEF Application, the Planning Board shall, with assistance from such staff, consultants, committees or commissions as it deems appropriate, notify the applicant in writing that the application is complete or, if the application is incomplete, shall inform the applicant of the specific additional material needed to complete the application.

14.2.1.2 After the Planning Board determines that a Preliminary WEF Application is complete, the Planning Board shall determine whether Preliminary WEF Application meets all requirements of this Ordinance. In determining whether the Application meets the requirements of this Ordinance, the Planning Board may obtain assistance from such staff and consultants as it deems appropriate.

14.2.1.3 Within 30 days for a Type 0 or 1 or within 60 days for a Type 2 or 3 WEF of determining the Preliminary WEF Application is complete, the Planning Board shall approve the Preliminary WEF Application, approve the Preliminary Application with conditions, or disapprove the Preliminary WEF Application. The time limit for review may be extended by mutual agreement between the Planning Board and the Applicant.

14.2.1.4 The Planning Board shall make findings of fact and conclusions relative to the standards contained in this Ordinance. If the Planning Board finds that all standards have been met, they shall approve the Preliminary WEF Application. If the Planning Board finds that any of the standards of this Ordinance, have not been met, the Planning Board shall either deny the Preliminary WEF Application or approve the Preliminary WEF Application with conditions to ensure all of the standards will be met. The reasons for any conditions shall be stated in the findings of facts and conclusions.

**14.2.2 The Final Application shall include the following items:**

- Updates to information provided in the preliminary permit, including additions, corrections, and any other changes
- Results of any meteorological testing
- Any building use or construction permits required by other authorities due to the scope of the intended project
- Public Utility Grid Impact Statement as specified in section 8.5 of this Ordinance
- Financial analysis for Type 3 WEFs, including evidence of financial capacity to carry out the project, as specified in section 11.1 of this Ordinance
- Proof of general liability insurance as specified in section 11.2 of this Ordinance
- Decommissioning bond for Type 3 WEFs as specified in section 11.3 of this Ordinance
- Tax Valuation Agreement as specified in section 11.4.1 of this Ordinance
- Tax Impact Statement as specified in section 11.4.2 of this Ordinance
- Statement of Benefits promised to the Town of Canaan, if any
- Fire Prevention and Fire Fighting Plan as specified in sections 9.4-9.5 of this Ordinance
- Road and Property Risk Assessment as specified in section 9.7 of this Ordinance
- Plan to protect Environmentally Sensitive Areas, as specified in section 10.3 of this Ordinance
- Wildlife Protection Plan as specified in section 10.2.4 of this Ordinance
- Baseline Water Quality Study (if required) as specified in section 10.6 of this Ordinance
- Plan for the handling and disposal of Hazardous Wastes as specified in section 10.7 of this Ordinance
- Plan to minimize Light Pollution as specified in section 10.9 of this Ordinance
- Visual Impact Assessment (if required) as specified in section 10.10 of this Ordinance
- Blasting Plan as specified in Section 10.8 of this Ordinance
- A legally enforceable agreement that the applicant shall pay (in advance if required by the Town of Canaan Planning Board) for the services of all consultants that the Planning Board deems necessary to evaluate the application.
- Fees : As established by the Board of Selectmen

14.2.2.1 Within 30 days for Type 0 or 1 or 60 days for Type 2 or 3 of the Planning Board's receiving a Final WEF Application, the Planning Board shall, with assistance from such staff, consultants, committees or commissions as it deems appropriate, notify the applicant in writing that the application is complete or, if the application is incomplete, shall inform the applicant of the specific additional material needed to complete the application.

14.2.2.2 The Planning Board shall hold a public hearing within 30 days of the date of determination of a complete Final WEF Application for a Type 3 WEF. The Planning Board shall publish the time, date, and place of the hearing at least two times, the date of the first publication to be at least seven days prior to the hearing in a newspaper of area wide circulation. The abutting landowners shall be notified by the Planning Board of the hearing. Public hearings by the Planning Board shall be conducted according to the procedures outlined in title 30-A M.R.S.A. Section 2691, Subsection 3 (A), (B), (C), (D), and (E).

14.2.2.3 After the Planning Board determines that a Final WEF Application is complete, the Planning Board shall determine whether the Application meets all requirements of this Ordinance. In determining whether the Final WEF Application meets the requirements of this Ordinance, the Planning Board may obtain assistance from such staff and consultants as it deems appropriate.

14.2.2.4 Within 30 days for a Type 0 or 1 or within 90 days for a Type 2 or 3 of determining the Final WEF Application is complete, the Planning Board shall approve the Final WEF Application, approve the Final WEF Application with conditions, or disapprove the Final WEF Application. The time limit for review may be extended by mutual agreement between the Planning Board and the Applicant.

14.2.2.5 The Planning Board shall make findings of fact and conclusions relative to the standards contained in this Ordinance. If the Planning Board finds that all standards have been met, they shall approve the Final WEF Application. If the Planning Board finds that any of the standards of this Ordinance, have not been met, the Planning Board shall either deny the Final WEF Application or approve the Final WEF Application with conditions to ensure all of the standards will be met. The reasons for any conditions shall be stated in the findings of facts and conclusions.

14.2.3 An Applicant for a WEF permit may also apply for a Waiver of the Flicker Hazard and Acoustic Hazard Setback Standards and the Acoustic Standards specified in section 10.3. The Application (in at least ten hard copies) shall be submitted with the Final Application for the WEF and shall include the following items:

- A legal Covenant signed by the Applicant and each Inhabitant or Property Owner or other party of legal status in the Town of Canaan whose residence and/or property falls within the Flicker Hazard and Acoustic Hazard setback areas for the WEF declaring that the Inhabitant is willing to waive with respect to his/her residence and/or property the Flicker Hazard and/or Acoustic Hazard Setback Standards of this Ordinance and also the Acoustic Standards specified in section 9.3, including the protections they afford for the value of his/her property and for his/her personal health, safety, and welfare.
- A declaration signed by parties to the Covenant that it has been recorded at the Registry of Deeds office appropriate to the affected property, and that the Covenant contains such legal language as may be necessary to make the agreement binding on current and future Inhabitants and/or Property Owners.
- A declaration signed by parties to the Covenant of the amount and terms of any consideration(s) provided to the Inhabitant and/or Property Owner for entering into the Covenant.
- A declaration signed by parties to the Covenant that they recognize that the burden of proof as to the legality of the Covenant and any Waiver of Standards of this Ordinance that may be granted by the Planning Board rests on the Applicant.

14.2.4 Waivers shall be permitted for Acoustic Hazard and Flicker Hazard Standards and for the Acoustic Standards specified in section 9.3. No Waivers of other Requirements and Standards in this Ordinance shall be permitted.

14.3 An Operational License is required for the operation of any type 3 WEF built in the Town of Canaan after the effective date of this Ordinance. An application for an Operational License shall be submitted in ten hard copies to the Town of Canaan Planning Board after the WEF has been fully built.

14.3.1 The application for an original Operational License shall include the following items:

- An Inspection Report certifying the structural and operational integrity of the WEF. This Report shall be signed by a Maine licensed professional engineer chosen by the Town of Canaan Planning Board and paid by the Owner/Operator of the WEF.

- A signed statement that the Applicant has read this Ordinance, understands all its provisions, and agrees to abide by them.
- Fee: As established by the Selectmen.

14.3.2 An Operational License shall be valid for two years and can be renewed by submission of a new Inspection Report and Fee as specified in section 14.3.1 of this Ordinance at least thirty days before expiration of the License.

14.3.3 An Operational License shall be revoked and the WEF required to cease operations if the CEO determines that the WEF is violating any of the standards and requirements of this Ordinance. The Operational License shall not be reinstated until the Board of Selectman is satisfied that all violations have ceased and all problems have been corrected.

14.3.4 **An Operational License shall automatically terminate upon transfer of ownership of the WEF.** The new Owner/Operator shall apply for a new Operational License and shall not operate the Type 3 WEF until the new License has been issued.

14.3.4.1 The Application for an Operational License by a new Owner/Operator shall contain the following items:

- Copies of the original Permit Applications, updated as necessary, and signed by the new Applicant
- A copy of the original Operational License Application, updated as necessary, and signed by the new Applicant
- A statement, signed by the new Applicant, that he/she has read this Ordinance, understands it, and will abide by all of its provisions.
- Fee: As established by the Selectman.

14.3.4.2 A new Applicant for a Type 3 WEF shall provide evidence satisfactory to the Town of Canaan Planning Board that the project remains financially viable. Evidence of financial viability shall include the following:

- Proof of long-term power purchase contracts

- Proof of adequate funds for Decommissioning as specified in Section 11.3 of this Ordinance.

14.3.4.3 Within 60 days of the Planning Board receiving an Application for a Type 3 WEF Operational License, the Planning Board shall, with assistance from such staff, consultants, committees or commissions as it deems appropriate, notify the applicant in writing that the application is complete or, if the application is incomplete, shall inform the applicant of the specific additional material needed to complete the application.

14.3.4.4 Within 60 days of determining that the Operational License Application is complete, the Planning Board shall determine whether the Type 3 WEF Application meets the requirements for an Operational License. In determining whether the Type 3 WEF Application meets the requirements of this Ordinance, the Planning Board may obtain assistance from such staff and consultants as it deems appropriate.

14.3.4.5 The Planning Board shall make findings of fact and conclusions relative to the standards contained in this Ordinance. If the Planning Board finds that all standards have been met, they shall approve the Type 3 WEF application. If the Planning Board finds that any of the standards of this Ordinance have not been met, the Planning Board shall either deny the Type 3 WEF Application or approve the Type 3 WEF Application with conditions to ensure all of the standards will be met. The reasons for any conditions shall be stated in the findings of facts and conclusions.

## 15.0 Violations and Enforcement

15.1 It shall be the duty of the Code Enforcement Officer to enforce the provisions of this Ordinance. If the Code Enforcement Officer shall find that any provision of this Ordinance is being violated, he/she shall notify in writing the person responsible for such violation, indicating the nature of the violation and ordering the action necessary to correct it. He/she shall order discontinuance of illegal use of land, buildings or structures, removal of illegal buildings, structures, additions, or work being done, or shall take any other action authorized by this Ordinance to ensure compliance with or to prevent violation of its provisions.

15.2 The Code Enforcement Officer shall keep a complete record of all essential transactions of the office, including applications submitted, permits granted or denied, variances granted or denied, revocation actions, revocation of permits, appeals, court actions, violations investigated, violations found, and fees collected.

15.3 Legal Action and Violations: When any violation of any provision of this Ordinance shall be found to exist, the Municipal Attorney, as designated by the Municipal Officers, either on his own initiative, or upon notice from the Code Enforcement Officer, is hereby authorized and directed to institute any and all actions and proceedings, either legal or equitable, that may be appropriate or necessary to enforce the provisions of this Ordinance in the name of the Municipality.

15.4 Fines: Any person, including, but not limited to, a landowner, a landowner's agent or a contractor, who orders or conducts any activity in violation of this Ordinance, shall be penalized in accordance with Title 30-A, Maine Revised Statutes, Annotated, Subsection 4452. The Selectmen are authorized to enter into a Consent Agreement and in such cases court action is not necessary.

#### **16.0 Appeals**

16.1 The Town of Canaan Board of Selectman shall have the authority to hear and decide administrative appeals by a party who alleges that an error in applying this Ordinance has been committed by the Town of Canaan Planning Board or the Code Enforcement Officer (CEO).

16.2 The Board of Selectman may reverse a decision of the Planning Board or the CEO only upon finding that the decision was contrary to specific provisions of this Ordinance or contrary to the facts presented to the Planning Board or the CEO. If the Board of Selectman determines that the record of the Planning Board is inadequate, the Board of Appeals may remand the matter to the Planning Board for additional fact finding.

#### **17.0 Amendments**

17.1 Amendments to this Ordinance may be initiated by a majority vote by the Board of Selectman, Planning Board, or by written petition by a number of voters equal to at least 10% of the number of votes cast in the municipality in the last gubernatorial election. This Ordinance may be amended by a majority vote of the legally constituted municipal governing body at a regular or special town meeting or by referendum ballot. Title 30-A M.R.S.A Chapter 141 § 3001- 3014

# TABLE 1

## SETBACK DISTANCE STANDARDS ALL MEASUREMENTS AND DISTANCES IN FEET

SETBACK (FT)	METEOROLOGICAL TOWER	TYPE 0 & TYPE 1	TYPE 2	TYPE 3
FALLING & DEBRIS HAZARD	$S_{fd} = H_o \times 1.5$ Where: $S_{fd}$ Setback Distance $H_o$ Height Overall	$S_{fd} = H_o \times 1.5$ Where: $S_{fd}$ Setback Distance $H_o$ Height Overall	$S_{fd} = H_o \times 1.5$ Where: $S_{fd}$ Setback Distance $H_o$ Height Overall	$S_{fd} = H_o \times 1.5$ Where: $S_{fd}$ Setback Distance $H_o$ Height Overall
FLICKER HAZARD	Not Applicable	$S_c = (H_o / .176) \times 1.5$ Where: $S_c$ Setback Distance $H_o$ Height Overall Not including 120° to 240° True	$S_c = (H_o / .176) \times 1.5$ Where: $S_c$ Setback Distance $H_o$ Height Overall Not including 120° to 240° True	Flicker Analysis Report
ACOUSTIC HAZARD	Not Applicable	$S_s = 10^{((L_w + L_u + L_s + 4\log(n) - 5 - 30)/20)}$ Where: $S_s$ Setback Distance $L_w$ Manufacturer's Guaranteed Maximum Sound Power Level, in dBA re 1pW $L_u$ Uncertainty Factor = 5 $L_s$ Safety Factor = 2 $n$ No. of Turbines for one turbine $4\log(n)=0$	$S_s = 10^{((L_w + L_u + L_s + 4\log(n) - 5 - 30)/20)}$ Where: $S_s$ Setback Distance $L_w$ Manufacturer's Guaranteed Maximum Sound Power Level, in dBA re 1pW $L_u$ Uncertainty Factor = 5 $L_s$ Safety Factor = 2 $n$ No. of Turbines for one turbine $4\log(n)=0$	$S_s = 10^{((L_w + L_u + L_s + 4\log(n) - 5 - 30)/20)}$ Where: $S_s$ Setback Distance $L_w$ Manufacturer's Guaranteed Maximum Sound Power Level, in dBA re 1pW $L_u$ Uncertainty Factor = 5 $L_s$ Safety Factor = 2 $n$ No. of Turbines