

Rules & Regulations for review of
Special Permit applications for Wind Energy Turbines (05-09-08)

1.0 Rules and regulations.

After public notice and public hearing, the SPGA may modify the rules and regulations to effectuate the purpose of this section, including but not limited to performance standard regulations relative to design, environmental, safety, access and utility standards, reconstruction or replacement of existing towers, and modifications to existing WETs, and regulations governing monitoring and maintenance, abandonment and discontinuance of use, and indemnification, insurance and fee requirements. Public notice shall include publication of all proposed regulations in a newspaper of general circulation in the Town not less than 14 days prior to public hearing. Failure by the SPGA to promulgate such rules and regulations or a legal declaration of their invalidity by a court of law shall not act to suspend or invalidate the effect of this section.

1.1 Use, siting and dimensional regulations.

1.1.1 Use regulations.

All WETs shall require a building permit and in all cases may be permitted only as follows:

1. All WETs under **75 feet** in height shall be allowed as a matter of right in all districts provided they meet the dimensional requirements for lot size and set back.
2. Municipal WETs are exempt from this section.
3. Any proposed WET towers and ground-mounted WETs in excess of **130 feet** in total height shall only be allowed in the Large-Scale Wind Energy Turbine Overlay District, as identified in § 179.40.2H (1-9) and only upon:
 - a. Pre-filing review by the Development Plan Review Committee in accordance with § 179-40.1I(2) hereunder;
 - b. Referral to the Cape Cod Commission for discretionary review;
 - c. Application and issuance of a special permit by the Special Permit Granting Authority in accordance with Subsections G and H, and in accordance with Subsection L, Rules and regulations, hereunder;
 - d. Application and issuance of a building permit from the Building Commissioner;
 - e. Proof of ownership of or control over the WET site via an existing, lawful easement, lease, license or land use agreement; and
 - f. Any other required local, state and federal approvals.

1.1.2 Dimensional requirements.

Except as otherwise provided herein or in any subsequent regulations passed by the Planning Board, the height of WETs shall be as follows:

1. Height: New WETs
 - a. WETs whose total height is up to 75 feet may be allowed in any zoning district by a building permit issued by the Building Commissioner as specified in Section 179.40.2E of the WET Bylaw.
 - b. WETs whose total height is between 75 feet and 130 feet or more may be allowed in any zoning district by Special Permit from the Planning Board, as specified in Section 179.40.2F of the WET Bylaw.
 - c. WETs whose total height exceeds 130 feet may only be constructed in the Wind Energy Turbine Overlay District after approval by the Cape Cod Commission and after securing a Special Permit from the Planning Board.
2. Setbacks:
 - a. All WET equipment shelters, anchors, down guys and accessory buildings shall observe all applicable setbacks as specified in Ch. 179 Article 5, Table 2 of the Code of the Town of Brewster.
 - b. The setback of the center line of the WETs from adjacent property lines shall not be less than the total height of the WET measured from grade.
3. Fall Zones: All WETs shall have a fall zone whose minimum radius, measured from the center of the tower base, shall be equal to the total height of the WET. Fall Zones on adjunct property may be waived upon written notarized consent or an easement of said property owners.
4. Only monopole towers shall be allowed for LWETs.

2.0 Special Permit Regulations

All WETs in excess of 75 feet in total height (MWETs & LWETs) shall comply with the standards set forth in this section, unless waived by the SPGA as part of the Special Permit review process.

2.1 General

Proposed MWETs & LWETs shall be consistent with all applicable local, state and federal requirements, including but not limited to all applicable electrical, construction, noise, safety and communications requirements.

2.2 Design Standards

The Planning Board may adopt specific design standards or restrictions which will prohibit or regulate the degree to which WETs may impact views, view-sheds, scenic or historic landscapes which have been identified by the Town as important and having unique character or value.

2.3 Visibility

MWETs & LWETS shall be designed and sited consistent with the following:

2.3.1 Screening and buffering

Wherever possible, WETs and equipment shelters shall be located to make maximum use of existing vegetation and structures for the purposes of screening the turbines from off-site views. To the greatest extent possible, WETs shall be sited such that mature vegetation and/or existing structures are located between the facility and public and private viewpoints.

All equipment necessary for monitoring and operation of the WET shall be contained within the tower, if possible. The SPGA shall determine the need for and/or the appropriate width and materials for buffers.

A year-round vegetated buffer of sufficient height and depth to screen the facility may be provided. Height and depth of the required buffer may vary in accordance with the specific project and site conditions. Trees and vegetation may be existing on the subject property or installed as part of the proposed facility or a combination of both. Where vegetation shall be installed, the project proponent shall be required to provide a surety bond sufficient to ensure that if supplemental vegetation is required to replace failed vegetation or to increase visual buffering, funding shall be available. Consideration should be given to providing vegetated buffers nearer to the viewer to get maximum benefit from the screening, while limiting any turbulence in the wind that could effect the efficiency of the wind turbine. The SPGA shall approve the types of trees and plant materials and depth of the needed buffer based on site conditions.

2.3.2 Scenic Landscapes and Vistas

WETs shall be located toward the edge of any defined scenic and open view-sheds.

2.4 Color

WETs shall be painted in a non-reflective, white, off-white, light gray or light blue hue, which blends with sky and clouds.

2.5 Lighting and Signage

2.5.1 Wind turbines shall be lighted only if required by the Federal Aviation Administration (FAA). The proponent shall provide a copy of the FAA's determination to establish the required markings and/or lights for the structure.

2.5.2 Lighting of equipment structures and any other facilities on site shall be shielded from abutting properties. There shall be total cutoff of all light at the property lines of the parcel to be developed, and footcandle measurements at the

property line shall be 0.0 initial footcandles when measured at grade.

2.5.3 Signs shall be limited to those needed to identify the property and the owner and warn of any danger. All signs shall comply with the requirements of the Town's sign regulations.

2.6 Historic Districts

WETS proposed for locations within the Old King's Highway Regional Historic District (OKHHD) or for locations which will be visible from multiple points within the OKHHDC shall apply to the Old King's Highway Historic District Commission for a certificate of appropriateness.

Proof that a Project Notification Form has been submitted to Massachusetts Historical Commission shall be included with the Special Permit application. A response to the notification shall be included in the decision.

3.0 Environmental Standards

3.1 Wetlands

WETs shall not be located in wetlands or wetland buffer areas. Locating WETs & LWETs near wetland resources shall be avoided whenever possible in order to minimize any potential impact on bird, bat or rare species. Wetland buffer areas may be used for the purposes of providing a clear area.

3.2 Open Space

WETs shall be designed to minimize fragmentation of designated open space areas and shall avoid permanently protected open space. Preferred sites are those that have existing roadways and/or transmission facilities in close proximity to avoid clearing of vegetation for these purposes. Land clearing for the purposes of reducing wind turbulence in the vicinity of the turbine is prohibited, unless the proponent can adequately demonstrate it is essential to operational requirements, does not adversely affect the natural resources in the area and if adequate erosion controls are proposed.

3.3 Storm-water

Storm-water run-off shall be contained on-site.

3.4 Noise

The WET and associated equipment shall not generate noise in excess of 10 db above pre-construction ambient sound levels at ground level at the property line, or at the nearest residence. The project shall also meet all applicable state noise regulations.

An analysis, prepared by a qualified engineer, shall be presented that demonstrates compliance with these noise standards.

3.5 Shadowing/Flicker

MWETs & LWETs shall be sited in a manner to produce minimal shadowing or flicker impacts on adjacent habitable buildings. The proponent has the burden of proving that this effect does not negatively impact neighboring uses, and suggesting mitigation that would address the issue.

3.6 Rare and Protected Species

MWETs & LWETs shall be located in a manner that does not have negative impacts on rare species in the vicinity (particularly avian species, bats, etc.).

All Special Permit applications shall provide proof to the SPGA that the Massachusetts Natural Heritage and Endangered Species Program (NHESP) have been notified of the proposal. The proponent shall have the burden of proving that the project will have no adverse impact on the species in question or its habitat. A response to the notification shall be included to the decision.

4.0 Safety Standards

No hazardous waste shall be discharged on the site of any MWETs & LWETs. If any hazardous materials are to be used on site, there shall be provisions for full containment of such materials. An enclosed containment area shall be provided with a sealed floor, designed to contain at least 110% of the volume of the hazardous materials stored or used on the site. The amount of hazardous material on site shall be limited to normal household storage.

The MWETs & LWETs shall be designed to prevent unauthorized climbing such as through construction of a fenced enclosure or locked access.

5.0 Application Procedures

5.1 Special Permit Granting Authority (SPGA)

The Special Permit Granting Authority (SPGA) for MWETs & LWETs shall be the Planning Board.

5.2 Pre-Application Conference

Prior to the submission of an application for a Special Permit under this regulation, the applicant is strongly encouraged to meet with the SPGA at a public meeting to discuss the proposed MWETs & LWETs in general terms and to clarify the filing requirements. The SPGA shall meet with an applicant under this regulation within

sixty-five (65) days following a written request submitted to the SPGA and the Town Clerk. If the SPGA fails to meet with an applicant who has requested such a meeting within sixty-five (65) days of said request and said meeting has not been postponed due to mutual agreement, the applicant may proceed with a Special Permit application under this regulation without need for a pre-application conference.

5.3 Pre-Application Filing Requirements

The purpose of the conference is to inform the SPGA in a preliminary way as to the nature of the proposed MWETs & LWETs. As such, no formal filings are required for the pre-application conference. However, the applicant is encouraged to prepare sufficient preliminary architectural and/or engineering drawings to inform the SPGA of the location of the proposed facility, as well as its scale and overall design.

5.4 Professional Fees

The Town may retain a technical expert/consultant to verify information presented by the applicant. The cost for such a technical expert/consultant will be at the expense of the applicant in accordance with MGL Chapter 44 Section G.

5.5 Application Filing Requirements

The following shall be included with an application for a Special Permit for each MWETs & LWETs:

5.5.1 General Filing Requirements

1. A Completed Application Form
2. Documentation of the legal right to install and use the proposed facility and proof of control over the clear area, per Section 1.1.1 (3) -e. of these regulations.

5.5.2 Siting Filing Requirements

5.5.2.1 Vicinity/Site Map

A vicinity plan appropriately scaled showing the following:

1. Adjacent tree cover within 300 feet on the subject property and adjacent properties within 300 feet, by dominant species and average height, as measured by or available from a verifiable source.
2. Proposed location of MWETs & LWETs, fencing and all associated ground equipment.
3. Proposed security barrier (if applicable), indicating type, materials and extent, as well as point of controlled entry.

4. Location of all roads, public and private, within 300 feet of the subject property and on all adjacent properties within 300 feet including driveways proposed to serve the MWETs & LWETs.
5. Distances, at grade, from the proposed MWETs & LWETs to each building on the vicinity plan.
6. Contours at each two feet above mean sea level (AMSL) for the subject property and adjacent properties within 300 feet. Town Maps may be available to assist you.
7. All proposed changes to the existing property, including grading, vegetation removal and temporary or permanent roads and driveways.
8. Representations, dimensioned and to scale, of the proposed facility, including cable locations, fall zone(s), parking areas and any other construction or development attendant to the MWETs & LWETs.
9. Diagram representing the sight lines referenced below showing viewpoint (point from which view is taken) and visible point (point being viewed).

5.5.2.2 *Sight lines and photographs*

Sight lines and photographs as described below:

1. Sight line representation. A sight line representation shall be shown from representative locations that show the lowest point of the tower visible from each location. These locations shall include a sight line representation from the closest abutting residence and/or occupied building that are within 300 feet of the facility. Each sight line shall be depicted in profile, appropriately scaled. The profiles shall show all intervening trees and buildings.
2. Existing (before condition) photographs. Each sight line shall be illustrated by one four-inch by six-inch color photograph of the current view.
3. Proposed (after condition). Each of the existing condition photographs shall have the proposed MWETs & LWETs superimposed on it to accurately simulate the proposed wind energy conversion facility when built.

5.5.3.3 Elevations

Siting elevations, or views at-grade from the north, south, east and west for a 50-foot radius around the proposed MWETs & LWETs plus from all existing public and private roads that serve the subject property.

Elevations shall be one-eighth inch equals one foot scale and show the following:

1. MWETs & LWETs and if applicable the security barrier and associated equipment, with total elevation dimensions of all parts of the facility.
2. Security barrier. If the security barrier will block views of the MWETs & LWETs, the barrier drawing shall be cut away to show the view behind the barrier.
3. Any and all structures on the subject property within 300 feet of the tower.
4. Existing trees and shrubs at current height and proposed trees and shrubs at proposed height at time of installation, with approximate elevations dimensioned.
5. Grade changes, or cuts and fills, to be shown as original grade and new grade line, with two-foot contours above mean sea level.

5.6 Design Filing Requirements

1. Specifications for the proposed MWETs & LWETs shall be provided for all equipment and attendant facilities
2. Materials of the proposed MWETs & LWETs specified by type and specific treatment (e.g., anodized aluminum, stained wood, painted fiberglass, etc.). These shall be provided for the tower and all other proposed equipment/facilities.
3. Colors of the proposed MWETs & LWETs represented by a color board showing actual colors proposed.
4. Dimensions of the MWETs & LWETs shall be shown on all drawings, specified for all three directions: height, width and breadth.
5. Appearance shown by at least two photographic simulations of the MWETs & LWETs within the subject property. The photographic

simulations shall be provided for the facility that illustrates the total height, width and breadth of the structures.

6. Landscape plan including existing trees and shrubs and those proposed to be added, identified by size of specimen at installation and species.

7. For LWETs only: Within 30 days of the pre-application conference, or within 21 days of filing an application for a Special Permit, the applicant shall arrange for a balloon or crane test at the proposed site to illustrate the height of the proposed facility. The date, time and location of such test shall be advertised in a newspaper of general circulation in the Town at least 14 days, but not more than 21 days prior to the test. In addition, an identical courtesy notice shall be sent to the Town Clerk of all adjacent Towns.

8. If lighting of the site or turbine is proposed, the applicant shall submit a manufacturers computer-generated point-to-point printout, indicating the horizontal footcandle levels at grade, within the property to be developed and twenty-five (25) feet beyond the property lines. The printout shall indicate the locations and types of luminaires proposed.

5.7 Noise Filing Requirements

The applicant shall provide a statement listing the existing and maximum future projected measurements of noise from the proposed MWETs & LWETs, measured in decibels Ldn (logarithmic scale, accounting for greater sensitivity at night), for the following:

1. Existing, or ambient: the measurements of existing noise.
2. Existing plus the proposed MWETs & LWETs: maximum estimate of noise from the proposed facility plus the existing noise environment.

Such statement shall be certified and signed by a qualified engineer, stating that noise measurements are accurate and meet the Noise Standards of this Bylaw and applicable state requirements.

5.8 Use by Telecommunications Carriers

MWETs & LWETs may be used to locate telecommunications antennas, subject to applicable regulations governing such uses, and subject to the following requirements:

1. All ground-mounted telecommunications equipment shall be located in either a shelter, within the wind turbine tower or otherwise screened from view year-round (either through effective landscaping or existing natural vegetated buffers);

2. Antennas shall be flush-mounted to be in keeping with the design of the tower; and
3. All cabling associated with the personal wireless facility shall be contained within the tower structure or enclosed within a conduit painted to match the turbine mount.

6.0 Modifications

A modification to a MWETs & LWETs will require a Special Permit when the following events apply:

1. The applicant requests the terms of the Special Permit be altered, or,
2. The applicant requests adding equipment or alter the height, location or exterior appearance of the original design.
3. SPGA initiates

7.0 Monitoring and Maintenance

The applicant shall maintain the MWETs & LWETs in good condition. Such annual maintenance shall include, but shall not be limited to, painting, structural integrity of the foundation and support structure and security barrier (if applicable), and maintenance of the buffer areas and landscaping if present.

8.0 Abandonment or Discontinuation of Use

8.1 At such time that a MWETs or LWETs is scheduled to be abandoned or discontinued, the applicant will notify the Town by certified U.S. mail of the proposed date of abandonment or discontinuation of operations. Such notice shall be given no less than 30 days prior to abandonment or discontinuation of operations. The facility shall be considered abandoned upon such discontinuation of operations.

Upon abandonment or discontinuation of use, the applicant shall physically remove the MWETs or LWETs within 90 days from the date of abandonment or discontinuation of use. "Physically remove" shall include, but not be limited to:

1. Removal of all machinery, equipment, equipment shelters and security barriers from the subject property.
2. Proper disposal of the waste materials from the site in accordance with local and state solid waste disposal regulations.
3. Restoring the location of the MWETs or LWETs to its natural condition, except that any landscaping, grading or below grade foundation shall remain in the after-condition.

8.2 If an applicant fails to remove a MWETs or LWETs in accordance with this section of this Bylaw, the town shall have the authority to enter the subject property and physically remove the facility. The Planning Board may require the applicant to post a bond at the time of construction to cover costs of the removal in the event the Town must remove the facility. The amount of such bond shall be equal to 150% of the cost of compliance with this section. The applicant shall submit a fully-inclusive estimate of the costs associated with removal, prepared by a qualified engineer. In lieu of a bond, the Town of Brewster may register a lien against the property to assure the removal of the WET and the other clean-up specifications outlined in Section 8.1-3.

9.0 Term of Special Permit

A Special Permit issued for any MWETs or LWETs shall be valid for twenty (20) years. At the end of that time period, the MWETs & LWETs shall be removed by the applicant or a new Special Permit shall be required.