

## **SECTION 6.0                    SPECIAL REGULATIONS**

### **6.1 REMOVAL OF EARTH PRODUCTS**

**6.1.1 Applicability.** Except when incidental to and in connection with the construction of a structure or incidental to the grading and developing of contiguous property, the removal of sod, loam, clay, sand, gravel, stone or other earth materials shall be permitted only after issuance of a Special Permit by the Planning Board after a public hearing in accordance with Subsection 9.3 of the Zoning By-Law. The Board shall impose such conditions as will protect the neighborhood and Town against temporary and permanent hazards because of conditions which may be left after operations are completed or because of the methods of handling such materials at the site or of transporting such materials throughout the Town.

**6.1.2 Application Procedure.** The application to the Planning Board for a Special Permit for the removal of earth products shall include the following information:

1. The location of the proposed excavation(s).
2. The legal name(s) and address(es) of the property owner(s).
3. The legal name(s) and address(es) of the petitioner(s).
4. Names and addresses, including mailing addresses, of all abutting property owners located within three hundred (300) feet of the applicant's property line including those on the opposite side of any public or private way.
5. A plan of the land involved plus a strip one hundred (100) feet wide surrounding said land, prepared by a Registered Land Surveyor or Professional Engineer, showing all man-made features, property lines, vegetation cover, water courses, water bodies, drainage swales, and soil characteristics. Existing topography shall be shown at ten-foot contours, plus proposed contours at ten-foot intervals showing the finish grade of the site after completion of the proposed excavation project.
6. The estimated quantity of material to be removed or added and topsoil to be stripped, stockpiled and replaced.
7. Depth of excavation.
8. Steepness of slopes to be excavated.
9. Temporary or permanent drainage.
10. An erosion and sediment control plan.

**6.1.3 Performance Bond.** An irrevocable performance bond, or other form of surety satisfactory to the Planning Board, in the amount determined by the Planning Board, shall be

posted to ensure the satisfactory compliance with this Section. The bond shall not be released until the applicant has certified in writing and the Planning Board has determined that the restoration has been completed in compliance with the permit and plan.

**6.1.4 Standards for Extractive Operations.** The following standards shall apply to removal of earth products.

1. A minimum lot size of fifty (50) acres is required. Any lakes, ponds, streams, wetlands plus a minimum buffer strip of one hundred (100) feet is excluded from the computation to meet the minimum lot size requirements.
2. Topsoil and subsoil stripped from the operating area shall be stockpiled at the site, seeded with an erosion-control seed mixture and used in restoring the area.
3. No removal or extraction shall take place within three hundred (300) feet of any existing public or private way.
4. No removal or extraction shall take place within three hundred (300) feet of an adjacent property line or within one hundred (100) feet of any wetlands or within two hundred (200) feet of any river as defined in G. L. c. 131 § 40 as amended (Wetlands/Rivers Act).
5. No area shall be excavated or filled so as to cause the accumulation of standing water unless the Planning Board shall permit the creation of a pond by Special Permit in accordance with Subsection 9.3 of the Zoning By-Laws and upon the approval by the Conservation Commission.
6. Excavation for removal of earth, sand, gravel, and other soils shall not extend closer than eight (8) feet above the annual high groundwater table. Monitoring wells shall be installed by the property owner or applicant to verify groundwater elevations.
7. The actively disturbed area shall not exceed a total twelve (12) acres at any one time. Natural vegetation shall be left and maintained on undisturbed land for screening and noise reduction.
8. Operating hours, including the transportation of materials, shall be between 7:00 a.m. and 4:00 p.m., Monday thru Friday, Saturday 7:00 a.m. thru noon. No operation shall be allowed on Sundays and Federal and State Holidays.
9. The operator shall be responsible for cleaning spillage on public or private ways or properties.
10. Security and fencing: The plan shall provide for security to avoid any hazards such as erosion, falling rock, or unauthorized trespass.
11. The noise level at the property line shall not exceed these maximum permitted sound

pressure levels. Measurements to determine compliance with these standards shall be provided by the applicant upon request of the Building Inspector. Such measurements, taken at property lines of subject property and at adjoining properties as directed, may be made by any public or private agency, or person licensed or certified to perform such measurements and using competency standards, procedures and equipment approved by the Town of Becket. Acoustical terminology is that most recently approved by the American National Standards Institute (ANSI):

- a. Noise level at the property line shall not exceed 57.5 dB(A). The term dB(A) shall mean A-weighted sound pressure level in decibels as measured on a general purpose sound level meter complying with the provisions of American Standard for General Purpose Sound Level Meters (sl.4-1971, ANSI, or OSI (1999), properly calibrated and operated on the A weighting network..
- b. Reference pressure shall be 0.0002 microbars (background noise/level).

12. Impact on town ways. The use of town ways to transport loads shall be in conformance with Massachusetts General Laws and Town Betterment By-Laws. For Town ways which are used exclusively for the transport of the applicant's products or equipment, the Planning Board shall/may require that the applicant post financial security in an amount sufficient to assure proper maintenance and restoration. The Planning Board may require that a qualified consultant, to be paid for by the applicant, give an estimate of the dollar amount of the bond or surety to be posted.

**6.1.5 Decision.** The Planning Board may impose conditions, not specifically provided for herein, on any Special Permit relating to earth removal. Any and all conditions imposed by this or other Boards shall be attached to and made part of the Special Permit. The Special Permit shall be issued for no more than a maximum of five years and may be renewed. Renewal, extension or modification of a Special Permit for removal of earth materials shall be treated as a new application.

**6.1.6 Reclamation Standards for Extractive Operations.** Reclamation, for the purpose of this Section, shall mean that all land and/or affected areas are to be rehabilitated to a condition at least fully capable of supporting all practical uses which the area was capable of supporting prior to such operations. The Planning Board shall regulate the conversion of an ongoing or abandoned excavation site and its continuing use or reuse according to, but not limited to, the following conditions:

1. Reclamation shall be carried on simultaneously with excavation so that, for excavation only, when a five (5) acre operation area has been excavated, at least two (2) of those acres must be restored before work commences on the next two (2) contiguous acres. Final reclamation work shall be completed at least ninety (90) days prior to the expiration of the Performance Bond.
2. Unless the permit conditions expressly require alteration of drainage patterns, the land shall be left so that natural storm drainage shall leave the property at the original natural

drainage points, and so that the total discharge at peak flow as well as the area of drainage to any point is not increased (per Mass. Department of Environmental Protection storm management criteria).

3. All soil slopes created shall be finished at a grade of two (2) horizontal feet per one (1) vertical foot or less. Rock faces generated are to be finished without projections or overhangs.

4. Should the operation become inactive for a period of two (2) years, the site is to be reconstructed to resemble its original appearance and shall have not less than six (6) inches of soil restored over the area removed and be seeded with an erosion-control seed mixture. All machinery and temporary structures are to be removed. A bond or some form of surety shall be posted to ensure the reconstruction within one year of the expiration of the two year inactivity period.

5. In the case of continuing operations in one general locus, recovering the finished cut banks with a minimum of four (4) inches of soil and seeding with an erosion control seed mixture is required.

**6.1.7 Special Provisions.** The removal of topsoil and/or loamy subsoil from the Town of Becket is prohibited. No Special Permit shall be required for the following:

1. Removal of earth products on an operating farm, plant nursery or cemetery to the extent that such removal is necessary to the operation.

2. The occasional moving and removal of earth products for the maintenance, repair, or improvements of any existing roads.

3. Any operation that will remove less than twenty-five (25) cubic yards in a twelve month period.

4. Activities under Title V shall be exempt.

## **6.2 MOBILE HOME REGULATIONS**

**6.2.1 General.** No mobile home shall be located in the Town except under the following conditions.

**6.2.2 Catastrophe.** A mobile home may be occupied as a temporary dwelling for a period not to exceed twelve (12) months by the owner and occupier of a residence which has been destroyed by fire or other natural disaster while the residence is being rebuilt on the same lot, subject to the approval by the Board of Health prior to its occupancy.

**6.2.3 Special Permit Required.** No mobile home shall hereafter be parked or relocated within the limits of the Town except by Special Permit from the Zoning Board of Appeals for an extended period not to exceed twelve (12) months. Any mobile home being parked or relocated

in accord with the foregoing cannot be occupied as a habitation without approval by the Board of Health prior to its occupancy.

**6.2.4 Replacement.** In the case of a mobile home located within the limits of the Town on or before February 28, 1970, on a lot owned by the owner of said mobile home, said mobile home may be replaced by another, of similar size but no greater than the length of the existing mobile home in the same location on the lot with a certificate of occupancy from the Building Inspector, provided such replacement takes place within one year of the removal or demolition of the original mobile home.

**6.2.5 Recreational Trailers.** Travel or camping trailers or self-contained motor homes, not being used for living purposes, may be parked on the owner's premises and be exempt from the provisions of this Section, provided that mobility is maintained and certified by valid attached registration plates as issued by the state of origin.

**6.2.6 Use of Recreational Trailers.** Travel or camping trailers and self-contained motor homes may be located and occupied for a period not to exceed thirty (30) days, in a trailer camping area located, licensed and operating in the Town of Becket prior to December 6, 1976. In addition, travel or camping trailers and self-contained motor homes may be parked or stored in said camping area, provided mobility is maintained and certified by valid attached registration plates as issued by the state of origin and further provided that such parking or storage area be suitably screened from view from either public road or abutters' property.

### **6.3 INDUSTRIAL USES**

All operations shall be such as to confine disturbing smoke, fumes, dust, and noise to the premises and further, no operations shall be hazardous by reasons of potential fire, explosion, radiation or other contamination.

### **6.4 WIRELESS COMMUNICATIONS**

**6.4.1 Purpose.** The purpose is to outline the special permitting process to site a wireless communication facility within the Town of Becket, while minimizing potential damage and adverse visual impacts of wireless communication facilities on adjacent properties, residential neighborhoods, and areas of historic or high scenic value; to allow the provision of necessary wireless communication services in an orderly way; and to promote shared use of existing facilities which reduce the need for new facilities.

#### **6.4.2 Definitions.**

DISTANCE shall be measured on a horizontal plane.

FAA shall mean the Federal Aviation Administration.

FCC shall mean the Federal Communications Commission.

HEIGHT shall be the distance measured from ground level to the highest point on the structure.

NON-RESIDENTIAL STRUCTURE shall mean such structures as but not limited to buildings, grain silos, and water towers, but does not include houses or apartments.

WIRELESS COMMUNICATION BUILDING shall mean any building or shelter used to house equipment primarily for generating and detecting electromagnetic radiation and is an accessory to a wireless communication structure.

WIRELESS COMMUNICATION DEVICE shall mean any antenna, appurtenance, wiring or equipment used in connection with the reception or transmission of electromagnetic radiation which is attached to a structure.

WIRELESS COMMUNICATION FACILITY shall be used as a general term to include wireless communication building, wireless communication device, and wireless communication structure.

WIRELESS COMMUNICATION STRUCTURE shall mean any structure or tower intended to support equipment used for the transmission and reception of electromagnetic radiation, including the antennas, wiring or other devices attached to or mounted on a structure.

**6.4.3 Exemptions.** The following shall be exempt from this by-law:

1. Wireless communication facilities used for Town or State emergency services.
2. Amateur radio towers used in compliance with the terms of any amateur radio service licensed by the Federal Communications Commission and used solely for that purpose.
3. Wireless communication structures and devices used expressly for home television and radio reception.

**6.4.4 General Guidelines.**

1. No wireless communication facility shall be erected, constructed, or installed without a Special Permit from the Planning Board.
2. Wherever feasible, wireless communication devices shall be located on existing towers or other non-residential structures, minimizing proliferation of new towers.
3. Wireless communication structures shall be built so that the structural integrity of the facility is able to accommodate devices operated by another carrier with little or no modification.
4. Wireless communication buildings shall be no larger than five hundred (500) square feet and twelve (12) feet high, shall be designed to match other accessory buildings on site, and shall be used only for the housing of equipment related to this particular site.

5. Any change in use of the structure must be pre-approved by the Planning Board.

#### **6.4.5 Setbacks.**

1. The minimum distance from the base of the wireless communication structure to any property line or road right-of-way shall be at least 1.25 times the height of the structure.
2. The minimum distance from any guy wire, anchor or brace to any property line or road right-of-way shall be equal to the length of the guy wire.
3. The setbacks for the wireless communication building shall comply with the setback requirements for the zoning district.
4. The wireless communication structure shall be a minimum distance of three (3) times the height from school buildings, including playgrounds and athletic fields, and abutting residences to prevent the structure from appearing to “tower” over, adversely affecting property values.

#### **6.4.6 Siting and Height Requirements.**

1. The height shall be the minimum height necessary to accommodate anticipated and future use.
2. Wireless communication structures are encouraged on State lands, provided that said lands are not subject to the provisions of Article 97 of the Amendments to the Constitution of the Commonwealth of Massachusetts. If facilities predating this by-law exist on such lands, the shared use of such facilities is encouraged.
3. The wireless communication structure shall, when possible, be sited off ridge lines and where their visible impact is the least detrimental to valuable historic and scenic areas. “Valuable” should be determined by any appropriate Town Board(s) and can include views that the Town has identified as scenic or views listed in the Massachusetts Landscape Inventory. G.L. c. 131, §39A, conducted by Massachusetts Dept. of Environmental Management, 1982.

**6.4.7 New Structures.** No new wireless communication structure shall be permitted unless the Applicant demonstrates to the reasonable satisfaction of the Planning Board that no existing wireless communication structure can accommodate the applicant’s proposed wireless communication device. Evidence submitted to demonstrate that an existing structure can not accommodate the applicant’s proposed device may consist of any of the following:

1. No existing wireless communication structures or non-residential structures are located within the geographic area required to meet the Town of Becket’s and applicant’s engineering requirements.
2. Existing wireless communication structures or non-residential structures are not

sufficient height to meet the applicant's requirements.

3. Existing wireless communication structures or non-residential structures do not have sufficient structural strength or cannot be brought up to appropriate strength to support the proposed wireless communication device.
4. The proposed wireless communication device would cause electromagnetic interference with the existing devices on the site, or the existing devices would cause interference with the proposed wireless communication device.
5. The fee, costs, or contractual provisions required by the owner in order to share an existing wireless communication structure or to adapt an existing structure for use are unreasonable.
6. The applicant demonstrates that there are other limiting factors that render existing structures unreasonable.

#### **6.4.8 Design Requirements.**

1. Wireless communication structures shall be designed to accommodate the maximum number of users as technologically possible.
2. There shall be no signs or advertisements, except for no trespassing signs and a required sign giving a phone number where the responsible party can be reached on a 24-hour basis.
3. All wireless communication devices shall be colored, molded, and/or installed to blend into structure and/or the landscape.
4. The facility shall be fenced to control access.
5. Night lighting of the facility shall be prohibited unless required by the FAA. If required by the FAA, a copy of the FAA permit requiring lighting should be submitted with the application.
6. There shall be a maximum of one parking space at each facility to be used in connection with maintenance of the site and shall not be used for the storage of vehicles or other equipment.
7. Existing on-site vegetation shall be preserved to the maximum extent possible.
8. Vegetative screening shall be used to screen abutting residential properties and roadways. Plants that fit in with the surrounding natural vegetation shall be used.

**6.4.9 Application Process; New Structure.** Applications for a Special Permit for siting wireless communication facilities shall be filed in accordance with rules and regulations already

established in the Zoning By-Law. To site a new wireless communication structure, the Applicant shall submit 12 copies of the information set forth below along with the application form to the Planning Board.

1. Site plans and engineering plans, prepared by a professional engineer licensed to practice in Massachusetts, on 24" x 36" sheets at a scale of 1"=40' or 1" = 200', where appropriate, on as many sheets as necessary to show the following:

- a. north arrow, date, scale, seal(s) of the licensed professional(s) who prepared plans and space for the reviewing licensed engineer's seal;
- b. name and address of landowner and names and addresses of abutters;
- c. property lines and location of permanent structures or buildings within a five hundred (500) foot radius of proposed wireless communication structure;
- d. existing (from a topographical survey completed within 2 years of application submittal date by a professional surveyor licensed to practice in Massachusetts) and proposed contours at a maximum of two (2) foot intervals and spot elevations at the base of all the proposed and existing structures;
- e. vegetation to be removed or altered;
- f. plans for drainage of surface water and plans to control erosion and sedimentation, both during construction and as a permanent measure;
- g. delineation of wetlands, if any;
- h. location of wireless communication structure, including supports or guy wires, if any;
- i. plans for anchoring and supporting the structure, including specifications of hardware and all other building material;
- j. plans for accessory buildings;
- k. layout and details of surfacing for access road(s) and parking;
- l. amenities such as lighting, fencing and landscaping;
- m. four (4) view lines in a one to three-mile radius of the site, beginning at True North and continuing clockwise at ninety-degree intervals and additional view lines from any historic, scenic, or other prominent areas of Town determined by the Planning Board;
- n. plans for a well or other water source, if any;



shall arrange to fly a two-foot-diameter balloon at the site of the proposed wireless communication structure at the maximum height of the proposed installation. The date and location of the flight shall be advertised at least fourteen (14) days, but not more than twenty one (21) days before the flights, and again in the public hearing advertisement in a newspaper with a general circulation in the town.

**6.4.10 Application Process; Existing Nonresidential Structure.** Applications for a Special Permit for siting wireless communication facilities shall be filed in accordance with rules and regulations already established in the Zoning By-Law. To site on an existing nonresidential structure, such as buildings, grain silos, steeples, water towers or other non-residential structures, the Applicant shall submit 12 copies of the information set forth below along with the application form to the Planning Board.

1. Site plans and engineering plans, prepared by a professional engineer licensed to practice in Massachusetts, on 24" x 36" sheets at a scale of 1"=40' or 1" = 200', where appropriate, on as many sheets as necessary to show the following:
  - a. north arrow, date, scale, the seal(s) of the licensed professional(s) who prepared the plans and a space for the reviewing licensed engineer's seal.
  - b. plans for supporting and attaching the device, including specifications of hardware and all other building material.
  - c. building plans for accessory buildings, if any.
  - d. layout and details of surfacing for access road and parking, if it is to be altered from existing condition.
2. A map showing the areas covered by proposed device(s) of different signal strengths and the interface with adjacent service areas.
3. A narrative report written by the carrier and licensed professional engineer which shall:
  - a. include a draft of the contract between the structure/building owner (whichever appropriate) and the Applicant.
  - b. demonstrate that the wireless communication structure or non-residential structure to which the device will be mounted has the structural integrity to support such a device.
  - c. describe actions to be taken if electromagnetic radiation from the facility should exceed levels designated by the FCC.
  - d. describe the projected future needs of the carrier and how the proposed facility fits with future projections.

- e. describe in detail the steps which the carrier will follow in the event of an emergency, such as fire or collapse of the tower. In particular, what are the responsibilities of the carrier and how are the town officials to be notified for the safety of personnel, town and personal properties?
4. Proof of approval of all other permits needed for construction and operation.
5. If the proposed facility adds more than five (5) feet to the height of the structure at the effective date of this by-law and will exceed zone height restrictions, the Planning Board may require a balloon test as described herein.

#### **6.4.11 Approval.**

1. In granting a Special Permit for wireless communication facilities, in addition to the findings required by the Town's Zoning By-Law for Special Permits, the Town of Becket Planning Board shall find:
  - a. That the Applicant has demonstrated to the satisfaction of the Planning Board that the requirements of this by-law have been met.
  - b. That the size and height of the structure is the minimum necessary.
  - c. That the proposed wireless communication facilities will not adversely impact historic structures or scenic views.
  - d. That there are no feasible alternatives to the location of the proposed wireless communication facilities, including co-location that would minimize their impact, and the applicant has exercised good faith in permitting future co-location of facilities at the site.
2. When considering an application for wireless communication facility, the Planning Board shall place great emphasis on the proximity of the facility to residential dwellings and its impact on these residences, and the Board will encourage the use of existing structures.
3. Any extension or construction of new or replacement towers or transmitters shall be subject to the Special Permit, following the same procedure as siting a new wireless communication device.

#### **6.4.12 Conditions of Use.**

1. An initial bond shall be posted by the applicant to cover construction costs and removal cost of a facility in the event of non use and an annual maintenance bond for the access road, site, and structure(s) in an amount approved by the Planning Board. An access road may include existing town roads not designed for heavy traffic and which are

not paved.

## 2. Regulatory Compliance.

- a. Annual certification demonstrating structural integrity and continuing compliance with current standards of the FCC, FAA and the American National Standards Institute shall be filed with the Building Inspector by the Special Permit Holder, and shall be reviewed by a licensed professional engineer hired by the town and paid for by the Special Permit Holder.
- b. If the FCC or the FAA regulations are changed, the owner or operator shall bring the facilities into compliance within six months or earlier if a more stringent compliance schedule is included in the regulation.
- c. Failure to comply with any regulations shall be grounds for removal of non-complying structures, buildings, and devices at the owner's expense.

## 3. Removal and Repair.

- a. An applicant must either file a performance bond or a deposit of money or negotiable securities in an amount determined by the Board to be sufficient to cover the cost of removal with the Town of Becket Planning Board agreeing to remove, within 180 days of notice from the town, the wireless communication facility not in operation for a period of twelve months, unless the reason for non-operation is the result of major damage. The Board may hire professional consultants to determine the amount of bond or security required. Such bond or security, if filed and deposited, shall be approved as to form and manner of execution by Town Counsel, and shall be contingent on the completion of repairs or removal.
- b. If the facility is not removed within 180 days, the Town will remove said facility at the owner's expense.
- c. In the event of major damage, repair must begin immediately or as soon as possible. Major damage shall mean damage to the facility caused by no fault of the owner or operator.

## 4. Accommodation of Emergency Communications.

- a. An applicant who seeks to site a wireless communications facility on a new structure must first provide the chiefs of the Town of Becket's emergency services (police, fire, ambulance, highway, emergency coordinator and emergency dispatch) with a copy of the plans for the proposed new structure. Providing six additional sets of the information required under § 6.4.9 (1) of the Bylaw to the chairperson of the Planning Board will be sufficient to meet this requirement.

b. The new wireless communications structure must reserve adequate space to allow for the mounting and connection of one or more antennas for the use of these emergency services to the structure and adequate space in the wireless communication building to allow for the necessary equipment to serve the(se) antenna(s).

c. It shall be the sole responsibility of the chiefs of the emergency services to determine and communicate to the applicant what, if any, emergency communications needs exist now and in the future. The applicant and its licensed professional engineer shall assist the chiefs in determining how antennas mounted on the proposed new structure can serve those needs.

## **6.5 SMALL WIND ENERGY SYSTEMS**

**6.5.1 Purpose.** The purpose of this subsection is to provide a permitting process for small wind energy systems (SWES) so that they may be utilized in a cost-effective, efficient, and timely manner to increase the use of distributed generation; to integrate these systems into the community in a manner that minimizes their impacts on the character of neighborhoods, on property values, and on the scenic, historic, and environmental resources of the Town; and to protect health and safety, while allowing wind energy technologies to be utilized.

**6.5.2 Applicability.** One or two SWES on a lot, which meet all the criteria of this subsection, are permitted as of right with Site Plan approval on lots of less than two acres. Site Plan approval requirements are specified in subsection 9.4. One or two SWES on a lot, which meet all the criteria of this subsection, are permitted as of right on lots of 2 acres or greater. More than two SWES on a lot or combination of lots of any size, which meet all the criteria of this subsection, may be allowed by Special Permit from the Planning Board. The Planning Board may grant a Special Permit only if it finds that the application complies with the provision of this subsection and is consistent with the applicable criteria for granting Special Permits as specified in subsection 9.3. The maximum permitted tower height on any given lot is subject to the design requirements specified in subsection 6.5.4.

### **6.5.3 Definitions**

The following definitions shall apply:

***Fall Zone:*** The area on the ground from the base of a tower that forms a circle with a radius equal to the tower height, including other appurtenances. The fall zone is the area within which there is a potential hazard from falling debris (such as ice) or collapsing material.

***Small Wind Energy System:*** All equipment and structures utilized in connection with the conversion of wind to electricity that is intended primarily to, but not limited to, reduce on-site

consumption of utility power and is less than two-hundred feet (200') in height. This includes, but is not limited to, a wind turbine, a tower and associated control or conversion electronics.

***Tower Height:*** The height from the existing grade of the fixed portion of the tower to the blade tip of the turbine at the highest point of its rotation or the highest point of the SWES.

**6.5.4 Design Requirements:** The following design requirements shall apply to SWES:

1. Tower Height: The maximum permitted tower height on any given lot is subject to the design requirements specified in subsection 6.5.4 but in no instance shall any tower height be 200 ft. or greater.
2. Setbacks:
  - a. The minimum horizontal distance from the base of any tower structure to any property line or road right-of-way shall be 125% of the tower height. The minimum horizontal distance to any existing residence not occupied by the SWES applicant shall be the greater of 300 feet or 300% of the tower height.
  - b. No part of the SWES, including guy wire and anchors, may extend closer to the property boundaries than the set back for the zoning district in the dimensional table in Subsection 4.2.
  - c. The setback distances specified in 6.5.4.2.a. and 6.5.4.2.b for any SWES may be reduced by Special Permit from the Zoning Board of Appeals for SWES proposed on lots of less than 2 acres and by Special Permit from the Planning Board for SWES proposed on lots of 2 acres or greater consistent with the requirements of public health, safety, and welfare and the purposes of this Subsection. If the setback distances are reduced so that the “fall zone” of the tower includes land on abutting and adjacent property, such reduction shall only be permitted if the affected property owner(s) executes a recorded easement allowing the fall zone onto such property(s).
  - d. Setbacks need not be cleared of trees or other vegetation.
3. Access: All SWES shall be designed and maintained, to prevent unauthorized access.
4. Color and finish: A non-reflective exterior color designed to blend with the surrounding environment shall be used. No decorations shall be allowed.
5. Visual Impact: The applicant shall demonstrate through project site planning and proposed mitigation that the SWES minimizes impacts on the visual character of surrounding neighborhoods and the community to the extent practical. This may include, but not be limited to:
  - a. information regarding site selection, turbine design or appearance, buffering, screening, or lighting.

- b. To the extent practical electrical conduits shall be underground.
  - c. No logos, designs, or other signage shall exceed two square feet in total area.
6. Noise: Small Wind Energy System shall comply with the Massachusetts noise regulation (310 CMR 7.10) and most current related DEP Policies or Guidelines. Noise analysis may be required to be performed by a professional engineer.
  7. Compliance with Federal Aviation Administration (FAA) requirements: All SWES shall comply with applicable FAA regulations.
  8. Tower Location: Any SWES shall be subject to the Wetlands Protection Act G.L. c. 131 §40.

**6.5.5 General Requirements:** The following general requirements shall apply to SWES.

1. An application for a SWES must be prepared by a qualified person or firm, such as a licensed engineer. This provision may be waived by the appropriate permitting body if in the opinion of the permitting body the material submitted is deemed sufficient to make a decision.
2. Construction: The construction, operation, maintenance and removal of SWES shall be consistent with all applicable town, State, and Federal requirements, including all applicable health, safety, construction, environmental, electrical, communications and aviation requirements.
3. Operation and Maintenance: An application for a permit for a SWES shall include a plan for the general procedures for safe and effective operation and maintenance of the system, including guy wires, anchors, support structures and lubricants.
4. Approved Wind Turbines: Proposed small wind turbine makes and models must appear on the approved list of the California Energy Commission Lists of Eligible Small Wind Turbines or New York State Energy Research and Development Qualified Wind Generators, or a similar list approved by the Commonwealth of Massachusetts if one becomes available.
5. Compliance with State Building Code: Building permit applications for small wind energy systems shall comply with the state building code and all applicable local, state and national electrical codes.
6. Utility Notification: All grid connected installations must comply with the Uniform Standards for Interconnecting Distributed Generation. Off- grid systems shall be exempt from this requirement.

7. An application for a permit for a SWES shall include a plan for its removal.

### **6.5.6 Abandonment and Removal**

1. Abandonment: A SWES shall be considered to be abandoned if it is not operated for a period of two years or if it is designated a safety hazard by the Building Inspector. If the Building Inspector determines that a SWES is abandoned, the owner shall be required to physically remove the SWES within 180 days of written notice from the Building Inspector.

The owner shall have the right to respond to the written notice of abandonment within 30 days of such notice. If the owner can provide information to demonstrate that the SWES has not been abandoned, the Building Inspector may withdraw the notice of abandonment.

If the property owner fails to remove the small wind energy system in accordance with the requirements of this section after 180 days of such notice and the Building Inspector has not withdrawn said notice, the Town shall have the authority to enter the property and physically remove the facility at the owner's expense. The term physically remove shall include, but not be limited to: 1. Removal of SWES, any equipment shelters, and security barriers from the subject property; and 2. Proper disposal of the waste materials from the site in accordance with local and state solid waste disposal regulations.

## **6.6 LARGE-SCALE GROUND-MOUNTED SOLAR PHOTOVOLTAIC INSTALLATIONS**

**6.6.1 Purpose.** The purpose of this bylaw is to promote the creation of new large-scale ground-mounted solar photovoltaic installations (LSGMSPI) by providing standards for the placement, design, construction, operation, monitoring, modification and removal of such installations that address public safety, minimize impacts on scenic, natural and historic resources and to provide adequate financial assurance for the eventual decommissioning of such installations.

**6.6.2 Applicability.** The provisions set forth in this section shall apply to the construction, operation, and/or repair of LSGMSPI. This section applies to LSGMSPI proposed to be constructed after the effective date of this section. This section also pertains to physical modifications that alter the type, configuration, or size of these installations or related equipment.

**6.6.3 Definitions.** The following definitions shall apply:

***As-of-Right Siting:*** As-of-Right Siting shall mean that development may proceed without the need for a special permit, variance, amendment, waiver, or other discretionary approval. As-of-right development may be subject to site plan review to determine conformance with local zoning ordinances or bylaws. Projects cannot be prohibited, but can be reasonably regulated by the Becket Building Inspector and the Site Plan Approval Board.

***Building Permit:*** A construction permit issued by an authorized building inspector; the building permit evidences that the project is consistent with the state and federal building codes as well as local zoning bylaws, including those governing ground-mounted large-scale solar photovoltaic installations.

**Customer-Owned Generator:** An LSGMSPI owned by an entity other than the electric utility company.

**Large-Scale Ground-Mounted Solar Photovoltaic Installation (LSGMSPI):** A solar photovoltaic system that is structurally mounted on the ground and is not roof-mounted, and has a minimum nameplate capacity of 250 kW DC.

**Rated Nameplate Capacity:** The maximum rated output of electric power production of the Photovoltaic system in Direct Current (DC).

**Site Plan Review:** Review by the Site Plan Approval Board to determine conformance with local zoning bylaws. See Becket Zoning Bylaws §9.4 for details.

**Solar Photovoltaic Array:** An arrangement of solar photovoltaic panels.

**6.6.4 General Requirements for all Large Scale Solar Power Generation Installations.** The following requirements are common to all LSGMSPIs to be sited on any parcel in Becket with a lot size of four (4) acres or more. Any such parcel may be used as a site for an LSGMSPI, as long as all Site Plan Review criteria have been met to the satisfaction of the Site Plan Approval Board.

1. Compliance with Laws, Ordinances and Regulations. The construction and operation of all LSGMSPI shall be consistent with all applicable local, state and federal requirements, including the Wetlands Protection Act , M.G.L. c. 141, §40 et seq., and any other regulations or laws under the purview of the Becket Conservation Commission, and including but not limited to all applicable safety, construction, electrical, and communications requirements. All buildings and fixtures forming part of an LSGMSPI shall be constructed in accordance with the State Building Code. All necessary permits from the Conservation Commission shall be obtained by the applicant prior to Site Plan Review.
2. Building Permit and Building Inspection. No LSGMSPI shall be constructed, installed or modified as provided in this section without first obtaining a building permit.
3. Fees. The application for a building permit for an LSGMSPI must be accompanied by the fee required for a building permit and the required Site Plan Approval review fee.

**6.6.5 Site Plan Review.** LSGMSPIs with 250 kW or larger of rated nameplate capacity shall undergo site plan review by the Site Plan Approval Board prior to construction, installation or modification as provided in this section. Failure by the Site Plan Approval Board to render a decision on the submitted plan in accordance with Section 9.4.6 of the Becket Zoning By-Laws within 365 days of Completeness Notification (as set forth below) shall be deemed to be a constructive approval of those plans. An applicant claiming constructive approval of a LSGMSPI shall follow the process set forth in M.G.L. c. 40A, §9 to obtain a certificate of such approval from the Town Clerk.

1. General. All plans and maps shall be prepared, stamped and signed by a Professional Engineer licensed to practice in Massachusetts.
2. Required Documents. Pursuant to the site plan review process, the project proponent shall provide the following documents in addition to those required under §9.4 of the Zoning By-Law
  - a. A site plan showing:
    - i. Property lines and physical features, including roads, for the project site;
    - ii. The proposed site for the installation shown on a map of the Town of Becket.
    - iii. Proposed changes to the landscape of the site, grading, vegetation clearing and planting, exterior lighting, screening vegetation or structures;
    - iv. Blueprints or drawings of the LSGMSPI signed by a Professional Engineer licensed to practice in the Commonwealth of Massachusetts showing the proposed layout of the system and any potential shading from nearby structures or vegetation;
    - v. One or three line electrical diagram detailing the LSGMSPI, associated components, and electrical interconnection methods, with all National Electrical Code compliant disconnects and overcurrent devices;
    - vi. Documentation of the major system components to be used, including the PV panels, mounting system, and inverter;
    - vii. Name, address, and contact information for proposed system installer;
    - viii. Name, address, phone number and signature of the project proponent, as well as all co-proponents or property owners, if any;
    - ix. The name, contact information and signature of any agents representing the project proponent; and
  - b. Documentation of actual or prospective access and control of the project site (see also Section 6.6.6);
  - c. An operation and maintenance plan (see also Section 6.6.7);
  - d. Description of financial surety that satisfies Section 6.6.14; and

- e. Proof of liability insurance that satisfies Section 6.6.15.
3. **Application Submission.** The application packet must contain all the appropriate application fees, application forms, and the appropriate number of copies of all plans and supporting documentation as set forth in §9.4.3 of the Zoning By-Laws. The application packet shall be submitted to the Town Clerk. The Town Clerk shall stamp the application with the date received and shall immediately notify the Chair of the Site Plan Approval Board of a submitted application packet.
  4. **Completeness Review.** The Site Plan Approval Board shall, within thirty (30) calendar days of the receipt of the application by the Town Clerk, determine whether the application is complete or incomplete (“Completeness Review”) and notify the applicant in writing by certified mail.
    - a. **Incomplete Applications.** If the Site Plan Approval Board determines the application to be incomplete, the Board will provide the applicant with a written explanation as to why the application is incomplete and request the information necessary to complete the application. Any additional information submitted by the applicant starts a new thirty (30) calendar day Completeness Review.
    - b. **Complete Applications.** When the Site Plan Approval Board determines the application to be complete, the Board will notify the applicant in writing (“Completeness Notification”) and transmit copies of the completed application to the appropriate local boards, commissions and departments for their independent review.

**6.6.6 Site Control.** The project proponent shall submit documentation of actual or prospective access and control of the project site sufficient to allow for construction and operation of the proposed solar photovoltaic installation.

**6.6.7 Operation & Maintenance Plan.** The project proponent shall submit a plan for the operation and maintenance of the LSGMSPI, which shall include measures for maintaining safe access to the installation, storm water controls, as well as general procedures for operational maintenance of the installation.

**6.6.8 Utility Notification.** No LSGMSPI shall be constructed until evidence has been given to the Site Plan Approval Board that the utility company that operates the electrical grid where the installation is to be located has been informed of the LSGMSPI’s owner or operator’s intent to install an interconnected Customer-Owned Generator; as well as documentation from said utility that they can and will connect the proposed Customer-Owned Generator into their power grid. Off-grid systems shall be exempt from this requirement.

**6.6.9 Dimension and Density Requirements.** The following dimensional and density requirements shall apply to all LSGMSPIs.

1. Setbacks. For LSGMSPIs, front, side and rear setbacks shall be as follows:
  - a. Front yard: The front yard depth shall be at least 50 feet;
  - b. Side yard. Each side yard shall have a depth at least 50 feet;
  - c. Rear yard. The rear yard depth shall be at least 50 feet.
2. Appurtenant Structures. All appurtenant structures to LSGMSPIs shall be subject to reasonable regulations concerning the dimensions and height of structures. All such appurtenant structures, including but not limited to, equipment shelters, storage facilities, transformers, and substations, shall be architecturally compatible with each other. Whenever reasonable, such structures should comply with the setback requirements in §6.6.9 (1), be screened from view and/or joined or clustered to avoid adverse visual impacts.

**6.6.10 Design Standards.** The following design standards shall apply to all LSGMSPIs.

1. Lighting. Lighting of LSGMSPIs shall be consistent with local, state and federal law. Lighting of other parts of the installation, such as appurtenant structures, shall be limited to that required for safety and operational purposes, and shall be reasonably shielded from abutting properties. Where feasible, lighting of the solar photovoltaic installation shall be directed downward and shall incorporate full cut-off fixtures to reduce light pollution.
2. Signage. Signs on large- scale ground-mounted solar photovoltaic installations shall comply with §5 of the Becket Zoning By-Laws. A sign shall be required to identify the owner and operator of the LSGMSPI and provide a 24-hour emergency contact phone number. Solar photovoltaic installations shall not be used for displaying any advertising except for reasonable identification of the manufacturer.
3. Utility Connections. Reasonable efforts, as determined by the Site Plan Approval Board, shall be made to place all utility connections from the solar photovoltaic installation underground, depending on appropriate soil conditions, shape, and topography of the site and any requirements of the utility provider. Electrical transformers for utility interconnections may be above ground if required by the utility provider.
4. Fencing and Screening. All fencing and screening shall be in compliance with §4.3.2 (2) of the Becket Zoning By-Laws.

**6.6.11 Safety and Environmental Standards.** The following safety and environmental standards shall apply to all LSGMSPIs.

1. Emergency Services. The LSGMSPI's owner or operator shall provide a copy of the project summary, electrical schematic, and site plan to the local fire chief. Upon request the owner or operator shall cooperate with local emergency services in developing an

emergency response plan. All means of shutting down the solar photovoltaic installation shall be clearly marked. The owner or operator shall identify a responsible person for public inquiries throughout the life of the installation.

2. Land Clearing, Soil Erosion and Habitat Impacts. Clearing of natural vegetation shall be limited to what is necessary for the construction, operation and maintenance of the LSGMSPI or otherwise prescribed by applicable laws, regulations, and bylaws.

#### **6.6.12 Monitoring and Maintenance.**

1. Solar Photovoltaic Installation Conditions. The LSGMSPI's owner or operator shall maintain the facility and access road in good condition. Maintenance shall include, but not be limited to, painting, structural repairs, and integrity of security measures. Site access shall be maintained to a level acceptable to the local Fire Chief and Emergency Medical Services.
2. Modifications. All modifications to an LSGMSPI made after issuance of the required building permit shall require approval by the Site Plan Approval Board.

#### **6.6.13 Abandonment or Decommissioning.**

1. Removal Requirements. Any LSGMSPI which has reached the end of its useful life or has been abandoned consistent with Section 3.12.2 of this bylaw shall be removed by the owner or operator no more than 150 days after the date of discontinued operations. The owner or operator shall notify the Site Plan Approval Board by certified mail of the proposed date of discontinued operations and plans for removal. Decommissioning shall consist of:
  - a. Physical removal of all LSGMSPIs, structures, equipment, security barriers and transmission lines from the site.
  - b. Disposal of all solid and hazardous waste in accordance with local, state, and federal waste disposal regulations.
  - c. Stabilization and re-vegetation of the site as necessary to minimize erosion. The Site Plan Approval Board may allow the owner or operator to leave landscaping or designated below-grade foundations in order to minimize erosion and disruption to vegetation.
2. Abandonment. Absent notice of a proposed date of decommissioning or written notice of extenuating circumstances, the LSGMSPI shall be considered abandoned when it fails to operate for more than one year without the written consent of the Site Plan Approval Board. If the owner or operator of the LSGMSPI fails to remove the installation in accordance with the requirements of this section within 150 days of abandonment or the proposed date of decommissioning, the town may enter the property and physically remove the installation.

**6.6.14 Financial Surety.** Proponents of LSGMSPI projects shall provide a form of surety, either through escrow account, bond or otherwise, to cover the cost of removal in the event the town must remove the installation and remediate the landscape, in an amount and form determined to be reasonable by the Site Plan Approval Board, but in no event to exceed more than 125 percent of the cost of removal and compliance with the additional requirements set forth herein, as determined by the project proponent. Such surety will not be required for municipally- or state-owned facilities. The project proponent shall submit a fully inclusive estimate of the costs associated with removal, prepared by a qualified engineer. The amount shall include a mechanism for calculating increased removal costs due to inflation.

**6.6.15 Liability Insurance.** The owner or operator of an LSGMSPI shall provide the Town Clerk with a certificate of insurance showing that the property has a minimum of one million dollars in liability coverage, and that the Town of Becket is an additional named insured thereon. Such a certificate shall be supplied on an annual basis upon the renewal of said insurance policy.

## **6.7 LARGE WIND ENERGY SYSTEMS**

### **6.7.1 Purpose.**

The purpose of this bylaw is to encourage the responsible development of the town's wind energy resources by providing standards for the design, placement, construction, monitoring, modification and removal of large wind energy systems that address public safety, preserves the character and appearance of the town, preserves property values, minimizes impacts on scenic, natural and historic resources of the town and provides adequate financial assurances for decommissioning.

### **6.7.2 Applicability.**

This bylaw applies to all large wind energy systems to be constructed after the effective date of this bylaw. This bylaw also applies to physical modifications to large wind energy systems that are materially altered by type, number, location, height or configuration.

### **6.7.3 Definitions.**

**Fall Zone** - The area on the ground from the base of the tower that forms a circle with a radius equal to 1.5 times the height of the large wind energy system. The fall zone is the area within which there is a potential hazard from falling debris (such as ice) or collapsing material.

**Height** - The height from the existing grade of the fixed portion of the tower to the blade tip of the turbine at the highest point of its rotation or the highest point of the wind energy system.

**Large Wind Energy System** - A wind energy system with a height equal to or greater than two-hundred feet (200').

**Meteorological Tower** - A tower used for supporting anemometers, wind vanes and other equipment to assess wind resources at a predetermined height above ground.

**Nacelle** - The frame and housing at the top of the tower that encloses the gearbox and generator to protect them from weather.

**Rotor** - The blades and hub of the wind turbine that rotate during turbine operation.

**Small Wind Energy System** - A wind energy system with a height of less than two-hundred (200') feet. Small wind energy systems are regulated by § 6.5.

**Wind Energy System** - All equipment, machinery and structures utilized in connection with the conversion of wind to electricity. This includes but is not limited to transmission, storage, collection and supply equipment, substations, transformers, towers, wind turbines, foundations, stormwater control measures, access roads and other appurtenant structures, facilities and equipment.

**Wind Turbine** - A device that converts kinetic wind energy into rotational energy that drives an electrical generator. A wind turbine typically consists of a nacelle body and a rotor with two or more blades.

#### **6.7.4 Use Regulations.**

- a. No large wind energy system shall be erected, constructed, or installed without first obtaining a special permit from the Special Permit Granting Authority, or "SPGA", as defined in this Zoning By-law. Physical modifications to an existing large wind energy system that materially alter its type, number, location, height or configuration shall also require a special permit from the SPGA.
- b. Meteorological towers shall be permitted subject to the issuance of a building permit for a temporary structure not to exceed two years.

#### **6.7.5 General Requirements.**

- c. **Compliance.** The construction, operation, modification and removal of a large wind energy system shall comply with all local, state and federal laws.
- d. **Site Control.** The applicant shall demonstrate actual control over and legal access to the proposed site sufficient to allow for the construction and operation of a large wind energy system.
- e. **Utility Notification.** The applicant shall demonstrate that ISO New England or the utility company that controls the electric grid in the area of the proposed site has been informed of and has or will approve the applicant's intent to install an interconnected large wind energy system. Off-grid large wind energy systems shall be exempt from this requirement.
- f. **Operation & Maintenance.** The operator(s)/owner(s) of a large wind energy system shall maintain the large wind energy system in good condition. As part of a special permit application, an applicant shall submit an operation and maintenance plan for the anticipated life expectancy of the large wind energy system, showing how the operator(s)/owner(s) will inspect and maintain the large wind energy system in good condition.
- g. **Inspection Reports.** The operator(s)/owner(s) of a large wind energy system shall submit inspection reports to the Building Inspector every five (5) years. The inspection report must be completed by a licensed professional engineer.
- h. **Unsafe Structure.** Should the inspection of any large wind energy system reveal structural defects or safety concerns that in the opinion of the licensed professional engineer render the large wind energy system unsafe, the following actions must be taken. At the discretion of the Building Inspector, the operation of the large wind energy system shall be suspended until the structural defects and/or safety concerns have been addressed. Within thirty (30) business days of notification of an unsafe structure and/or safety defect, the operator(s)/owner(s) of the large wind energy system shall submit a plan to remediate the structural or safety defects to the Building Inspector. Failure to remediate the structural or safety defects within six (6) months from the date of initial notice shall be a violation of the special permit. The Building Inspector shall allow the operator(s)/owner(s) to restart the large wind energy system only after receipt of written certification by a licensed professional engineer that the structural defects and/or safety concerns have been remedied.

- i. **Contingency Plan.** The applicant shall submit a contingency plan that outlines the protocols to be followed to mitigate unacceptable adverse impacts to the town, its residents and the environment. At a minimum, the plan shall include mitigation steps to address the possibility of excessive noise, excessive shadow & flicker and excessive wildlife injuries or mortalities as determined by the state or federal agency with jurisdiction over the impacted species.
- j. **Liability Insurance.** The operator(s)/owner(s) of the large wind energy system shall obtain and keep current an insurance policy, against loss or damage to persons or property, including personal injury or death resulting from the construction, operation and decommissioning of the large wind energy system. The SPGA shall determine the minimum amount of liability insurance required. The operator(s)/owner(s) of the large wind energy system shall submit proof of liability insurance, in the amount determined by the SPGA, prior to the issuance of a building permit and on an annual basis thereafter.
- k. **Removal Plan & Cost Estimate.** The applicant shall submit a detailed plan for the removal of the large wind energy system and restoration of the site to its pre-existing condition upon abandonment or decommissioning. The removal plan shall be certified by a licensed professional engineer and include a detailed estimate of the anticipated removal and site restoration costs that includes a mechanism to account for inflation.
- l. **Financial Surety.** The operator(s)/owner(s) of the large wind energy system shall provide the SPGA with financial surety, of such type and form as the SPGA shall require in its reasonable discretion, for the following purposes prior to the issuance of a building permit. The SPGA may engage a qualified consultant, to be paid for by the applicant, to estimate the amount of surety needed. All surety shall be approved as to form and manner of execution by Town Counsel.
  - i) Surety to ensure that the large wind energy system project site is properly stabilized to protect downslope properties and public ways. The amount and form of surety shall be determined by the SPGA.
  - ii) Surety to cover possible damage caused during the transportation and construction of the large wind energy system. The amount and form of surety shall be determined by the SPGA.
  - iii) Surety to cover the cost of removal of the large wind energy system and the restoration of the site in the event the town must remove the large wind energy system and restore the site. The amount and form of surety shall be determined by the SPGA.

- iv) No less than ninety (90) days prior to the expiration of any financial surety required by this bylaw, the current operator(s)/owner(s) of the large wind energy system shall provide the SPGA with renewed, extended or replacement financial surety.
- m. **NHESP Letter.** The applicant shall petition the Massachusetts Natural Heritage & Endangered Species Program “NHESP” for a letter of determination as to the possible existence of rare or endangered species and species of special concern at the proposed site and submit the letter to the SPGA as part of any permit application.

#### 6.7.6 Design Standards.

- a. **Meteorological Towers.** All meteorological towers shall be set back at least 1.5 times its height from all public and private ways, excluding a dedicated site access road, and off-site buildings. No meteorological tower shall exceed four-hundred twenty (420’) feet in height.
- b. **Height.** No large wind energy system shall exceed four-hundred twenty (420’) feet in height.
- c. **Appearance.** All large wind energy systems shall be finished in a neutral (white or gray) non-reflective color to minimize visual impacts.
- d. **Signage.** Signs listing the 24-hour contact information of the large wind energy system operator(s)/owner(s) shall be installed in an easily accessible and noticeable location at the large wind energy system site. All signs shall comply with the further requirements of this Zoning By-law, as currently set forth in Section 5.0. Sign locations may be determined by the SPGA.
- e. **Lighting.** Large wind energy systems shall contain a beacon light or lights as required by the Federal Aviation Administration “FAA”. Where allowed by the FAA, the beacon light shall be white. A large wind energy system may include lights necessary for the safe operation of the large wind energy system. All operational lighting shall be directed downwards and screened from roadways and abutting properties with native vegetation.
- f. **Shadow/Flicker.** No large wind energy system shall cause more than thirty (30) shadow/flicker hours per year on any off-site inhabited building or undeveloped lot. In calculating the number of shadow/flicker hours per year, the applicant may incorporate sunshine probabilities and meteorological data when calculating the shadow/flicker hours per year. The SPGA may allow more than thirty (30) shadow/flicker hours per year on an off-site inhabited building or an undeveloped lot only if written permission is granted and maintained by all individuals or entities with control over the affected real properties.
- g. **Appurtenant Structures & Equipment.** All structures and equipment that are part of a large wind energy system shall, unless otherwise expressly set forth herein, comply with the dimensional requirements of the underlying zoning district, including but not limited to setbacks and height.

**h. Noise Regulations.** The operation of all large wind energy systems and appurtenant equipment shall not increase the background ambient noise level by greater than five (5) dBA measured at the property lines of the large wind energy system site. The SPGA may allow the construction of a large wind energy system that increases the ambient background noise level, at the property lines of the site, by more than five (5) dBA, if written permission is granted and maintained by all individuals or entities with control over the affected real properties.

**i. Setbacks.**

i) A large wind energy system shall be set back at least one-half mile, measured from the base of the nearest wind turbine, from any off-site inhabited buildings or undeveloped lots in existence on the date the application to construct a large wind energy system is received by the SPGA. The SPGA may reduce the setback requirement from off-site inhabited buildings and undeveloped lots, if written permission is granted and maintained by all individuals or entities with control over the affected real properties.

ii) A large wind energy system shall be set back a distance equal to one and one-half (1.5) times the height of the large wind energy system from property lines, on-site inhabited buildings, public and private rights of way and recreational trails “fall zone”. The SPGA may reduce the setback requirement from property lines and on-site inhabited buildings, if written permission is granted and maintained by all individuals or entities with control over the affected real properties.

**j. Unauthorized Access.** All large wind energy systems shall be constructed to prevent unauthorized persons from gaining access to the large wind energy system.

**k. Emergency Response Access.** The large wind energy system and access roads shall be constructed and maintained to allow for safe access at all times by local emergency vehicles. Local public safety officials shall be provided with the ability to access the system as needed to respond to emergencies.

**l. Habitat Fragmentation.** To the extent possible, large wind energy systems, associated roadways and transmission lines shall be located in or adjacent to areas where land is already cleared to avoid habitat fragmentation.

**m. Vegetation Clearing.** The clearing of natural vegetation shall be limited to that which is necessary for the construction, operation, and maintenance of the large wind energy system, associated roadways and transmission lines and is otherwise prescribed by applicable laws. Revegetation plans shall be provided for restoration areas required for construction, but not necessary for ongoing maintenance and operations. Only native species typically found in the system’s environment may be used for restoration.

- n. Wetlands.** All large wind energy systems, associated roadways and transmission lines shall be constructed in compliance with all applicable local, state and federal laws pertaining to wetlands.
- o. Wildlife.** All large wind energy systems, associated roadways and transmission lines shall be constructed to avoid or minimize impacts to wildlife, with particular attention paid to avian and bat species, as well as rare species, endangered species and species of special concern.
- p. Stormwater Management.** All stormwater controls installed at the large wind energy system site and on associated roadways shall be constructed and managed according to the Massachusetts Department of Environmental Protection's Stormwater Policy.
- q. Invasive Species Management.** The applicant and subsequent large wind energy system operator(s)/owner(s) shall utilize best management practices during construction and post-construction to control the introduction of invasive species at the large wind energy system site and along the associated roadways and transmission lines.

#### **6.7.7 Pre-application Conference.**

Prior to the submission of an application for the construction or modification of a large wind energy system, applicants are required to meet with the SPGA at a public meeting to discuss the proposed large wind energy system project and to clarify the filing requirements and permitting process. The applicant is encouraged to prepare sufficient preliminary architectural and/or engineering drawings to inform the SPGA and the public of the location of the proposed large wind energy system, as well as its overall scale and design.

#### **6.7.8 Large Wind Energy System Site Assessments.**

- a. Balloon/Crane Test.** After the application is submitted, and not more than fourteen (14) days before the public hearing, the applicant shall arrange to fly a brightly colored four-foot diameter balloon at the site of the proposed large wind energy system at the maximum height of the large wind energy system. A balloon shall be flown for each proposed wind turbine and each balloon shall contain a beacon light similar in color and output to the beacon light to be required by the FAA. The balloons shall be flown for a period of forty-eight (48) hours. The date and location of the flight shall be advertised at least fourteen (14) days, but no more than twenty-one (21) days, before the flights, and again in the public hearing advertisement in a Berkshire County newspaper with a general circulation in the town. If visibility and weather conditions are inadequate for observers the SPGA may require additional tests.
- b. Sight Line Simulations.** The SPGA shall select up to five (5) locations from which the applicant shall prepare and submit with its application sight line simulations from

the chosen locations to the proposed large wind energy system site. All simulations shall be in color and provide an accurate representation of the height, width and breadth of the proposed large wind energy system.

- c. Project Viewshed Map.** The applicant shall submit as part of its application a viewshed map showing all areas within eight (8) miles of the proposed large wind energy system site that will be able to view the large wind energy system. The viewshed map shall identify streets, historical resources, cultural facilities, recreational resources, publicly owned land, and other local landmarks.
- d. Noise Analysis.** The applicant shall submit the results of a noise analysis to the SPGA as part of its application. The noise analysis shall be conducted in accordance with industry standards and certified by a qualified independent acoustical engineer. The noise analysis shall contain sufficient information for the SPGA to determine whether the operation of the proposed large wind energy system will comply with the noise regulations set forth in § 1.6 (h). In completing the noise analysis, the acoustical engineer shall consider the unique topography of the surrounding area, both daytime and nighttime ambient noise levels, seasonal conditions, nearby residences, prevailing wind direction and atmospheric conditions, such as high wind shear or thermal inversion that may affect the propagation of sound emitted from the large wind energy system. The noise analysis shall also analyze and discuss the anticipated impacts of low frequency noise emitted from the large wind energy system.
- e. Post Construction Noise Monitoring.** The large wind energy system operator(s)/owner(s) shall conduct one year of post construction noise monitoring to document the noise levels during operation of the large wind energy system. The operator(s)/owner(s) shall take noise measurements at the property lines on a quarterly basis and submit its findings to the SPGA.
- f. Shadow/Flicker Analysis.** The applicant shall conduct a shadow/flicker analysis and submit its findings to the SPGA as part of its application. The analysis shall include a detailed discussion of the anticipated shadow/flicker impacts for all off-site inhabited buildings and undeveloped lots estimated to receive thirty (30) or more shadow/flicker hours per year – worst case scenario. At least fourteen (14) days prior to the public hearing, the applicant shall notify, by certified mail return receipt, all the owners of off-site inhabited buildings and undeveloped lots expected to receive thirty (30) or more shadow/flicker hours per year – worst case scenario. The applicant shall submit proof of notification to the SPGA.

**g. Avian & Bat Species Analysis.** The applicant shall submit the results of an avian and bat species analysis to the SPGA as part of its application. The avian and bat species analysis shall be conducted and certified by a qualified independent wildlife biologist. The avian and bat species analysis shall contain sufficient information to fully characterize and determine the risk posed by the proposed large wind energy system to avian and bat species. Applicants are strongly encouraged to comply with the most recent US Fish & Wildlife Service Wind Turbine Guidelines Advisory Committee Recommended Guidelines: “Recommendations on developing effective measures to mitigate impacts to wildlife and their habitats related to land-based wind energy facilities”, when planning and conducting studies to meet the requirements of this section. The large wind energy system operator(s)/owner(s) shall conduct one year of post construction monitoring to document avian and bat species injuries and mortalities and submit its findings to the SPGA.

#### **6.7.9 Application Procedures.**

Upon receipt of a complete application for a large wind energy system, the SPGA shall review and take action upon the application in accordance with the special permit procedures set forth in § 9.3 and this section.

#### **6.7.10 Technical Review.**

Upon receipt of an application for a large wind energy system special permit, the SPGA may engage professional and technical consultants, including legal counsel at the applicant’s expense, pursuant to M.G.L. Chapter 44 § 53G, to assist the SPGA with its review of application materials and to monitor construction projects to ensure that all work is conducted in accordance with approved plans and conditions. The SPGA may direct the applicant to deposit funds with the SPGA for such review at the time the application is accepted, and to add additional funds as needed upon notice. Failure to comply with this section shall be good grounds for denying the application. Upon approval of the application, any excess amount in the account attributable to the application processing, including any interest accrued, shall be refunded to the applicant.

#### **6.7.11 Reasonable Conditions & Mitigation.**

The SPGA may impose reasonable conditions, safeguards and limitations on time and use and may require the applicant to implement all reasonable measures to mitigate unforeseen adverse impacts of the large wind energy system should they occur.

### 6.7.12 Application Requirements.

The applicant shall submit the following required information as part of the application for a large wind energy system special permit. All site plans shall be signed and sealed by a registered land surveyor in consultation with a licensed professional engineer.

**a. Contact Information.** Name, address, phone number, e-mail and signature of the applicant, as well as all co-applicants and property owners, and the name and contact information and the signature of any agents representing the applicant.

**b. Site Identification.** Identify the location of the proposed large wind energy system. Provide the street address, if any, and the tax map and parcel number(s).

**c. Location Map.** A relevant portion of the most recent USGS Quadrangle Maps at a scale of 1" = 25,000' or similar scale showing the proposed large wind energy system site, associated roadways, transmission lines and the area within at least a two mile radius of the proposed site.

**d. Vicinity Map.** A map of the proposed large wind energy system site at a scale of 1" = 300' or similar scale, with existing contour intervals no greater than ten (10') feet showing the entire area within a ½ mile radius of the proposed large wind energy system, showing the following:

- i. Existing topography, public and private roads, recreation trails, property lines of all lots, structures including their use, historic sites, cultural sites, wetlands, known bat hibernacula, known critical habitat areas, other environmentally sensitive areas, location of existing and proposed electric distribution lines, transformers, substations, and access easements.

**e. Site Plan.** A site plan with a scale of 1" = 40', unless otherwise noted with contour intervals no greater than two (2') feet showing the following:

- i. Property lines of the proposed large wind energy system site and adjacent parcels within two (2) times the height of the large wind energy system.
- ii. Outline of all existing structures, including their uses, located within one ½ mile the height of the large wind energy system with exact distances to the large wind energy system listed.
- iii. Existing and proposed public and private roads, driveways, and recreational trails within two (2) times the height of the large wind energy system.

- iv. Representations, dimensioned and to scale, of the proposed large wind energy system including, but not limited to, tower foundations, guy anchors, cable locations, associated equipment and structures, fencing, electric distribution infrastructure, parking and access roads.
- v. All proposed changes to the existing site, associated roadways and transmission lines, including but not limited to areas of temporary clearing, areas of permanent clearing, areas of grading, and areas of cut and fill.
- vi. Delineation of all wetland resource areas and buffers on the proposed large wind energy system site, associated roadways and transmission lines.
- vii. Location of known habitat areas for rare species, endangered species and species of special concern
- viii. A cross section of the proposed access road indicating its width, crown, depth of gravel, drainage, and paving or other surface material.

**f. Elevations.** Siting elevations or views at grade from north, south, west and east for a distance equal to 1.5 times the height of the large wind energy system. Elevations shall be at one quarter inch equals one foot or similar scale and show the following:

- i. The proposed large wind energy system, associated equipment, existing and proposed structures, and security barriers with total elevation dimensioned.
- ii. Existing and proposed trees and shrubs at the time of application with approximate elevations dimensioned.

**g. Technical Information**

- i. Documentation of the large wind energy system's nameplate capacity, manufacturer, model number, tower height, rotor diameter, braking mechanisms, other safety mechanisms, tower type, color, foundation type and foundation dimensions.
- ii. One or three line electrical diagram detailing the large wind energy system, associated components and electrical interconnection methods with all National Electrical Code compliant disconnects and overcurrent devices.

**h. Stormwater Control Plans.** Engineering plans showing the drainage of surface water and detailed plans to control erosion and sedimentation, during construction, and as a permanent measure, which show conformance to the Massachusetts Department of Environmental Protection's Stormwater Policy.

- i. **Transportation Plan.** A written transportation plan discussing the anticipated transportation issues created by the transportation of the large wind energy system components, which shall include the following:
  - i. A map showing the anticipated transportation route commencing at the Massachusetts state line.
  - ii. All locations in the Town of Becket where land alterations and clearing of vegetation will be required, regardless of ownership, including the approximate square footage of each land alteration and clearing.
  - iii. A detailed list of all bridges and culverts to be crossed in the Town of Becket during the transportation of the large wind energy system components that include the applicable width and weight restrictions of each bridge and culvert.
  - iv. Detailed site plans for all anticipated road, bridge, or culvert alterations in the Town of Becket along the anticipated transportation route, regardless of ownership.
  - v. A list of the anticipated combined weight of the delivery vehicles and cargo.
  - vi. A list of the turning radii of the delivery vehicles with cargo.
  - vii. All anticipated road closures and traffic disruptions that may affect emergency response vehicles and plans to manage these road closures and traffic disruptions in cooperation with local emergency officials.
  - viii. All off-site staging areas.

#### **6.7.13 Waiver.**

Upon written request of the applicant, the SPGA may waive any of the application requirements contained in § 1.12, as the SPGA, in its discretion, deems appropriate.

#### **6.7.14 Damage to Public/Private Ways & Public/Private Lands.**

The applicant shall be responsible for the cost of repairing any damage to public/private ways and public/private lands in the Town of Becket in connection with the transportation, construction, operation, maintenance and decommissioning of the large wind energy system.

- a. In furtherance of this section, the Becket Highway Superintendent in conjunction with an independent licensed professional engineer, paid for by the applicant and selected by the town, shall document the condition of all public/private ways and public/private lands along the anticipated transportation route prior to the transportation of any large wind energy system component.

- b. Within thirty (30) days after all large wind energy system components have been transported, the Becket Highway Superintendent in conjunction with the independent licensed professional engineer, paid for by the applicant and selected by the town, shall re-document the condition of all public/private ways and public/private lands along the actual transportation route to determine whether the public/private ways and public/private lands have been damaged by the applicant and if so, the total cost to repair such damage. The applicant is responsible for the total cost of all repairs even if this exceeds the amount of the surety held by the Town.

#### **6.7.15 Abandonment & Removal of Large Wind Energy Systems.**

- a. The most recent operator(s)/owner(s) shall remove the large wind energy system, or any part thereof, at the end of its useful life or when it has been abandoned, as defined herein, and restore the site in accordance with its removal plan. The most recent operator(s)/owner(s) shall notify the Building Inspector by certified mail of the proposed date of discontinuance. Without notice of a proposed date of discontinuance, the large wind energy system, or any part thereof, shall be presumed to have been abandoned if it is not in operation for a period of six (6) months. The Building Inspector may engage, at the applicant's expense, a licensed professional engineer to help determine whether the large wind energy system has been abandoned.
- b. After six (6) months of non-operation of any portion of the large wind energy system, the Building Inspector shall issue a written notice of discontinuance to the most recent operator(s)/owner(s) of the large wind energy system. The most recent operator(s)/owner(s) shall have thirty (30) days to rebut the presumption of abandonment raised by such non-operation by submitting information to the Building Inspector demonstrating that the part of the large wind energy system in question has operated within the six (6) month period or that it will return to operation at a date specified not to exceed one year from discontinuance. If the most recent operator(s)/owner(s) does not rebut the presumption or fails to return the discontinued portion of the large wind energy system to operation within six (6) months from the date of the written notice of discontinuance, or within such other time as agreed to in writing by the Building Inspector, it shall be deemed abandoned.
- a.c. The most recent operator(s)/owner(s) shall physically remove the large wind energy system and restore the site within one-hundred eighty days (180) days from the end of its useful life or from when it has been abandoned, as defined herein. If the most recent operator(s)/owner(s) fails to remove the large wind energy system within the one-hundred eighty (180) day period, the town shall have the right, to the extent it is otherwise duly authorized by law, to enter onto the site and physically remove the large wind energy system and restore the site at the sole expense of the most recent operator(s)/owner(s).

#### **6.7.16 Lapse of Approval.**

Any special permit approved to construct, operate or modify a large wind energy system pursuant to this bylaw shall automatically expire if:

- a. The large wind energy system is not installed and operating within two (2) years from the date of approval; or
- b. The large wind energy system is abandoned or discontinued.

#### **6.7.17 Violations.**

It is unlawful for any person or entity to construct, install, modify or operate a large wind energy system that is not in compliance with this bylaw or with any condition contained in a special permit, issued pursuant to this section.

#### **6.7.18 Penalties.**

Any person or entity that fails to comply with any provision of this bylaw or any condition contained in a special permit, issued pursuant to this section shall be subject to enforcement and penalties as allowed by applicable law.

#### **6.7.19 Severability.**

The provisions of this bylaw are severable, and the invalidity of any section, subdivision, subsection, paragraph or other part of this bylaw shall not affect the validity or effectiveness of the remainder of this bylaw.