



Town of Douglas

Zoning Board of Appeals

29 Depot Street ~ Douglas, MA 01516

508-476-4000 ~ Fax: 508-476-4012

TTY: 508-476-1619

DECISION CASE NO. 2009-04

AMERICAN PRO WIND, LLC

Decision of the Douglas Zoning Board of Appeals (the "ZBA"), upon the application of American Pro Wind, LLC, with an address of 195 Libbey Parkway, Unit Two, Weymouth, MA 02189 (the "Applicant"), filed with the Town Clerk on January 29, 2009, for a use variance pursuant to Section 3.1.3, Appendix A and Section 9.2.2 (2) of the Douglas Zoning Bylaws (the "Bylaw"), and a height variance pursuant to Section 4.1.3 and Appendix B of the Bylaw for property located on the south side of Route 16, Douglas, MA 01516 at the Webster Town line (the "Locus") and zoned Industrial (the "Application"). The ZBA opened a public hearing on the Application on February 19, 2009 at the Douglas Municipal Center, pursuant to notice thereof published once in each of two (2) successive weeks in a newspaper of general circulation in Douglas, the first publication of which was not less than fourteen (14) days before the day of the public hearing, by posting such notice at the Town Hall at least fourteen (14) days prior to the day of the public hearing and by mailing a copy of said notice to all parties in interest. Further sessions of the public hearing were held on March 18, 2009, April 2, 2009, April 16, 2009 and April 30, 2009, with the public hearing being closed on April 30, 2009.

BACKGROUND:

1. The Applicant is a prospective purchaser of the "Locus", identified in the Assessor's records as Parcel Nos. 205-2, 205-3, 206-1, 207-1, 207-2, 230-2, and 230-4. The current owners of the Locus are James M. Sullivan (Parcel Nos. 205-2, 205-3, 206-1, 207-1, 207-2 and 230-2) and David M. Rudick and Patricia Trudeau (Parcel No. 230-4).
2. The Application is for a use variance and height variance, as aforesaid, to allow the Applicant to construct thirteen (13) permanent wind turbines to generate electrical power, not to exceed 525 feet in height from the base of the tower to the tip of the blade. (the "Project" or the "Facility")
3. Five (5) sessions of the public hearing were held, on the dates above noted, at which time the following documents and plans (the "Documents" and the "Plans," respectively, or the "Documents and Plans," collectively) were submitted by the Applicant, which Documents and Plans are hereby incorporated by reference:
 - a. "Application" for a use variance, a height variance and, if applicable, a special permit for the Project, dated January 27, 2009 and filed with the Town Clerk on January 29, 2009, together with "Additional Sheet A" and the eleven (11) maps annexed thereto.
 - b. Two (2) "Locus Maps," undated, each with a scale of 1" = 1,000'.
 - c. Informational materials published by the American Wind Energy Association (AWEA), consisting of thirteen (13) pages.
 - d. Applicant's PowerPoint presentation from the March 11, 2009 information meeting held at the Point Breeze Restaurant in Webster, MA, consisting of thirty-three (33) slides.
 - e. "Photosimulation Report, Douglas Woods Wind Farm, Douglas, Massachusetts," prepared by Atlantic Design Engineers, LLC, and dated February 16, 2009.
 - f. Five (5) additional photosimulations, provided following the April 16, 2009 public hearing.
 - g. "Shadow Flicker Analysis, Douglas Woods Wind Farm, Webster Street, Douglas, MA," prepared by Atlantic Design Engineers, LLC, and dated February 16, 2009.



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- h. "Acoustic Analysis, Douglas Woods Wind Farm, Webster Street, Douglas, MA," prepared by Atlantic Design Engineers, LLC, and dated February 16, 2009.
 - i. Letter of support from Philip Giudice, Commissioner of the Massachusetts Department of Energy Resources, dated April 1, 2009.
 - j. A turbine siting plan was presented to the ZBA showing the approximate location of all thirteen turbines on the project site with 1,000 feet set backs from turbine to the nearest existing residential structures.
 - k. Model wind by-laws published in October, 2008 by the Commonwealth of Massachusetts, Department of Energy Resources were presented to the ZBA. The model wind by-laws recommend that turbines be set back a distance equal to 1.2 times the blade tip height of the turbine from the nearest existing residential or commercial structure. The model wind by-laws also recommend a setback of 50 feet from the nearest property line and public or private way
 - l. Presented to the ZBA was a document entitled "Wind Energy and Health" published by the American Wind Energy Association that describes the environmental and health benefits of wind energy and addresses the benefits and myths of wind energy in the areas of noise, health, shadow and flicker.
 - m. Aerial view presented by the Applicant showed the Hull (2) wind turbine located 480 feet from the nearest residential dwelling and within 1,000 feet of dozens of residential dwellings.
4. The photosimulation, shadow/flicker study and acoustic/noise study, as aforesaid, were prepared by the Applicant's expert, Atlantic Design Engineers, LLC, of Sandwich, Massachusetts.
 5. The ZBA engaged the UMass Wind Energy Center, of Amherst, Massachusetts, to conduct a peer review of the Atlantic Design Engineers photosimulation, shadow/flicker, and acoustic/noise studies. The Center's findings, comments and recommendations are found in its review entitled "Douglas Woods Wind Farm: Revised Review of Studies by Atlantic Design Engineers," dated April 30, 2009. Atlantic Design Engineers LLC prepared, presented and submitted responses to all questions and issues brought up by the UMass Peer Review Study in a document entitled "Response to UMass Wind Energy Center Comments" dated April 30, 2009.
 6. The ZBA received comment from the Planning Board, by memorandum dated February 10, 2009. No other local boards offered written comment to the ZBA.

FINDINGS:

1. The Locus is located in the Industry "I" Zoning District, with approximately 274 +/- acres of land and 350' +/- road frontage.
2. The Project, as proposed, involves the construction of thirteen (13) permanent wind turbines to generate electrical power, not to exceed 525 feet in height from the base of the Tower to the tip of the blade.
3. Neither a meteorological tower nor wind turbines are an allowed use in the Industry "I" Zoning District, as per Section 3.1.3 and Appendix A of the Bylaw.
4. Section 9.2.2.2 of the Bylaw specifically allows the granting of use variances in an Industrial Zoned District.



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5. The maximum building height in the Industry "I" Zoning District is sixty (60) feet, as per Section 4.1.3 and Appendix B of the Bylaw.
6. Wind turbines and associated facilities are appropriately sited on the Locus and not in other locations, as necessary wind resources are available and adverse visual, safety and environmental impacts, to the extent such adverse impacts exist, may be adequately mitigated.
7. Existing topography of the land (high elevation) makes the provision of infrastructure (sewer and/or water) to the Locus problematic.
8. The Locus is largely surrounded by state owned land, including the Douglas State Forest, wetlands, and other small landlocked parcels, and is the only remaining feasible site for industrial development in this area of the town.
9. The Locus is located miles from any infrastructure (sewer and/or water), which could only be extended to the Locus at a grossly prohibitive cost given the area to be served. This factor is intrinsically related to the Locus, regardless of its owner or purchaser.
10. Without municipal water and sewer, the existing allowed uses in the industrial zone are extremely limited.
11. The aforesaid circumstances are unique to the Locus and the wind turbines proposed for the site, and do not affect generally other industrially zoned parcels in the Town of Douglas.
12. A literal enforcement of the provisions of the Bylaw would involve substantial hardship to the Applicant, as without the requested relief the Project could not be constructed.
13. The isolation of the Locus caused by the surrounding State Forest and landlocked parcels greatly minimizes any adverse impact of the proposed use on the surrounding area, as evidenced by photosimulations, a shadow/flicker study and an acoustic/noise study submitted by the Applicant and reviewed by the ZBA's own consultant.
14. Extensive evidence was presented at the hearings by the Applicants as to view representations, noise, set-backs, and shadow or flickering impacts.
15. Based upon the evidence presented at the public hearing, the ZBA finds that circumstances unique to the Locus and the wind turbines proposed for the site warrant a grant of the requested relief and that failure to grant said relief would involve substantial hardship to the Applicant; that the locus is an appropriate location for the use; that the use is not expected to adversely affect the neighborhood; that the use is not expected to create a hazard to pedestrians or vehicles, and that no nuisance is expected to be created by the use.
16. Further, the ZBA finds, subject to the Conditions noted herein, that approval of the request of the Applicant would not be to the substantial detriment of the public good and would not substantially nullify or substantially derogate from the intent and purpose of the Bylaw, but rather would promote the development of clean renewable energy, have a significant positive impact on the environment, and provide a positive economic benefit to the Town of Douglas.



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APPROVAL AND CONDITIONS:

Approval is hereby granted, three members being present and voting at a duly called meeting held on May 6, 2009, by vote of three (3) in favor to none (0) against, for a use variance and a height variance for thirteen (13) permanent wind turbines to generate electrical power, not to exceed 525 feet in height from the base of the tower to the tip of the blade, together with all necessary electric infrastructure required for the Facility, together with adequate access and parking, all substantially in the manner and in the approximate location shown on the Documents and Plans submitted by the Applicant, but subject to the following conditions:

1. The Facility shall be constructed in substantial conformance with the Application and with the terms and conditions hereof, subject to site plan review by the ZBA, pursuant to Section 9.4 of the By-law. The Applicant shall comply with such reasonable conditions as may be imposed by the ZBA in its decisions thereon. In no event shall more than 13 turbines ever be constructed on the Locus.
2. The meteorological tower authorized by the ZBA's Decision dated February 25, 2009, Case No. 2009-04, shall be permitted on a temporary basis only, not to exceed fifteen (15) months from the date of installation thereof, as per the terms of said Decision.
3. The thirteen (13) wind turbines shall be freestanding monopole towers. Upon submission of the application for the building permit, the Applicant shall provide to the Building Inspector a certification from the structural engineer for the project, who shall be licensed in the Commonwealth of Massachusetts as a structural engineer, stating that the integrated tower and turbine structure(s) do not exceed the maximum height specifications of the manufacturers and are structurally sound and safe, as per industry standards.
4. The wind turbines shall be set back one thousand (1,000) feet, or more, at the Applicant's discretion, from any present residential structure existing as of May 6, 2009. Except as specifically set forth herein, all other setbacks shall comply with the Dimensional Regulations (Appendix B) of the Douglas Zoning By-Law for property in the Industrial Zone.
5. As part of the site plan review process, the Applicant has suggested, and the ZBA agrees, that the Applicant shall submit for the ZBA's approval detailed information and/or plans concerning the following:
 - a. Final placement of the thirteen (13) wind turbines, provided the same shall be in substantial conformance with the terms and conditions hereof and the siting as set forth in the Application. But in any event the setbacks of the wind turbines shall not be less than the following:
 - i. No turbine shall be located closer than 150 feet to any property line. Except that the one turbine located on parcel 205-3 as shown on a plan dated January 30, 2009, "Meteorological Tower", by Atlantic Design Engineers LLC and consisting of one sheet, shall be permitted to have no less than a fifty (50) foot set back from the easterly property line.
 - ii. All wind turbines shall be set back one thousand (1,000) feet, or more at the Applicant's discretion, from any residential structure existing as of May 6, 2009.



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- iii. No structures shall be permitted to be built or permitted to exist within the area around the base of the tower which shall be equal to the circumference around the tower, where the radius is equal to the length of the rotor blade measured from the center of the hub. This prohibition shall not apply to transformers or other electrical equipment and infrastructure that are necessary for the operation of the turbines.
 - iv. All wind turbines shall be set back a distance equal to the height of the tower plus the length of the rotor blade measured from the center of the hub from any Habitable Structures (this term shall mean those structures intended for uses which include overnight accommodations of persons) whether existing or to be built. This prohibition shall not apply to any Habitable Structure which is not located within the property boundaries of the Locus.
 - v. Although the Site Plan Review decision may dictate more extensive setbacks, in no event shall such decision decrease the number of turbines below 13 or decrease the aggregate wind efficiency of the project as presented by the Applicant and analyzed by the Board during the Site Plan Review process.
- b. Design plans prepared and signed by a Registered Professional Structural Engineer for all structures, including support towers, and schedules for the construction and operation of the Facility.
 - c. Color and finish of the wind turbines, which shall be neutral, low-contrasting and non-reflective so as to minimize any adverse visual impact on the surrounding area. Color and finish shall comply with all safety requirements of the Federal Aviation Administration (FAA) and the Massachusetts Aeronautics Commission (MAC).
 - d. Lighting and signage. Wind turbines shall be lighted only if required by the Federal Aviation Administration (FAA) and/or the Massachusetts Aeronautics Commission (MAC). Lighting of all other structures and equipment shall be limited to that required for safety and operational purposes and shall be shielded to the extent feasible. Signage shall be determined by site plan review and shall be in conformance with the Town's General By-laws.
 - e. Location of utility connections. All utility connections shall be shown on the site plan.
 - f. Location and control of access roads. The Applicant shall be responsible for the cost of maintaining all access roads internal to the locus, unless accepted as public ways, including the cost of repairing any damage thereto resulting from operation of the Facility. The turbines and electrical apparatus shall be designed and located so as to prevent unauthorized access, provided, however, that site access shall be maintained at a level acceptable to the Police Chief and Fire Chief.
 - g. Any site plan review submission shall include the location of the control building, the substations, any and all other structures, roads and improvements.
6. During the site plan review process, the Applicant has suggested, and the ZBA agrees, that the ZBA may retain the services of the Town staff and/or outside consultants if it determines that any issues before it require such expertise, at the expense of the Applicant. The use and payment for such consultants shall be governed by G.L. c. 44, §53G, the rules and regulations of the Town.



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7. During the site plan review process, the Applicant shall present mitigation of shadowing or flicker impacts as follows: As to any residential location existing as of May 6, 2009, where estimated shadowing/flicker exceeds thirty (30) Experienced Hours per year, the Applicant shall provide to the Board with copies to the affected property owners, a Flicker Mitigation Plan for the Board's review and approval, prior to the submission of the building permit application. Said Mitigation Plan shall either: (i) provide for mitigation where shadowing/flicker is reduced to thirty (30) Experienced Hours or below per year; or (ii) set forth such other acceptable resolution that may be approved as part of the Mitigation Plan. "Experienced hours" are defined as hours a residence is in use and the occupants are awake.)
8. Operation of the Facility shall conform with the Department of Environmental Protection's (DEP) Division of Air Quality Noise Regulations, found at 310 CMR 7.10.
9. Prior to the issuance of any building permit for the control building or wind turbines, the Applicant shall submit to the ZBA, for its review and approval, a plan for the operation and maintenance of the Facility, including the temporary meteorological tower, the wind turbines, any associated structures or equipment and access roadways. Said plan shall include the provision for repair, upgrade and replacement in a manner consistent with this decision of the towers for both during and after their useful life of the initial turbines such that the facility may be operated in an ongoing and consistent manner consistent with industry standards. Copies of same shall be provided to the Police Department and the Fire Department, together with a project summary, electrical schematic for and plan of the Facility. The Applicant shall cooperate with said Departments in developing an emergency response plan. Approval of the operating and maintenance plan by the ZBA shall not be unreasonably withheld.
10. At all times, the individual(s) responsible for the operation and maintenance of the Facility shall be properly trained and familiar with wind energy conversion facilities and approved and/or certified, as appropriate, by industry standards.
11. The Applicant shall maintain the Facility in good condition. Maintenance shall include, but not be limited to, painting, structural repair of the foundations and the wind turbines themselves, upkeep of all landscaped and buffer areas and testing of security measures.
12. In the event that hazardous materials or wastes are used or stored on the Locus, provision shall be made to conform to all local, state and federal laws regarding the handling and containment of such materials or wastes.
13. Prior to the first inspection for construction of a wind tower following the construction of the foundation, the Applicant shall provide evidence to the ZBA of the availability of liability insurance in an amount reasonably sufficient and consistent with industry standards to cover any loss or damage to persons and/or structures occasioned by the construction, use or failure of the Facility. The Applicant, its successors and assigns shall be required to maintain such insurance so long as the Facility is being constructed or is in operation, and until such time as it is physically removed.
14. The Applicant shall indemnify and hold the Town harmless from and against all debts, liabilities and costs associated with any municipal emergency response to incidents at the Facility. Prior to the issuance of building permits, the Applicant shall execute an indemnification agreement that is consistent with this paragraph. Such agreement is subject to the prior approval of the



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Board of Selectmen, in consultation with Town or Special Counsel, such approval not to be unreasonably withheld.

15. The construction and operation of the wind turbines shall be consistent with all applicable local, state and federal requirements, including but not limited to all applicable safety, construction, environmental, electrical, communications and aviation requirements.
16. Damage to any public or private way within the Town occasioned by the transport of the wind turbines or any associated structures or equipment, or any component thereof, shall be promptly repaired by the Applicant at its sole cost and expense. The Applicant shall, prior to construction of any further tower from the date the damage occurs, either cause said repairs to be made to a condition approved by the Highway Department of the Town of Douglas or in the alternative provide to the Town of Douglas an amount of money sufficient, as determined by the Highway Department, to make said repairs.
17. Once eighty percent (80%) or more of the Facility has been discontinued or abandoned, said portion of the Facility shall be promptly removed by the Applicant, its successors or assigns, or replaced pursuant to Condition 9 contained herein. Notice thereof shall be provided to the Town by U.S. mail, certified. The Facility or a portion exceeding eighty percent (80%) thereof shall be deemed discontinued or abandoned if inoperable for twenty-four (24) months or more. Removal of the Facility shall require (a) removal of the abandoned wind turbines, blades, and towers and all structures and equipment appurtenant thereto, and (b) proper disposal of all solid and/or hazardous materials and wastes from the Locus in accordance with the law and (c) restoration of the Locus to its natural condition, to the extent feasible and practicable, as may be further addressed during the Site Plan Review process. In the event that the Applicant fails to remove the specific portions of the Facility deemed discontinued and abandoned, the Town may enter the Locus and remove same. As part of the site plan review and approval, the Applicant shall provide to the ZBA a form of surety or assurance acceptable to the ZBA in order to secure conformance with this provision. Said surety or assurances shall be delivered to the Town upon application for a building permit. The Applicant shall provide a form of surety or assurances to the Town, in an amount equal to the cost of removal of any abandoned wind turbine(s), as herein defined, and/or of the Facility as a whole, to allow for same. The form of the required surety or assurance is subject to the prior approval by the Selectmen who may consult with Town's Counsel or Special Counsel, the fees for whom shall be borne by the Applicant pursuant to G.L. c. 44, §53G.
18. The Applicant shall make reasonable efforts to cooperate and coordinate with the School Department to provide information for inclusion in the school curriculum related to the science, economics and policy surrounding wind energy. To the extent feasible, and consistent with safety, legal, and insurance requirements, the Applicant will allow the Facility to be occasionally used for educational presentations and tours for school personnel and students.
19. The Applicant has offered and the Town accepts that the Applicant will in good faith negotiate with the Town concerning a payment in lieu of taxes for both real estate and personal property taxes on the incremental value of the project and/or tax increment financing for the Facility.
20. The Applicant shall submit with its application for a Building Permit, a recorded plan pursuant to G.L. c. 41, §§81X or 81P, as may be determined by the Applicant, whereby the several parcels referenced in herein are combined to create a single parcel with one (1) street address having its frontage on Webster Road.



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21. Upon the Applicant's written request, the ZBA may grant an additional six (6) months to the one year period as set forth in G.L. c. 40A, §10, for the exercise of the rights authorized by this variance decision. An aggregate of actions by the Applicant that demonstrates both deliberate and expeditious pursuit of the wind turbine facility and compliance with the terms hereof shall be considered by the Board to be an exercise of this variance. For example, actions including, but not limited to, the recording of the plan, construction of the foundation of the control building and construction of 1000 feet of the proposed access road, when viewed in combination, shall be considered by the Board to be an exercise of this variance.

22. Any person aggrieved by this decision may appeal to the Worcester Superior Court or other Court of competent jurisdiction within 20 days of the date the decision is filed with the Douglas Town Clerk. This variance shall not take effect until it has been filed in the Worcester County Registry of Deeds with certification from the Town Clerk that 20 days have elapsed since the decision was filed with the Town Clerk and that no appeal has been filed or if such appeal has been filed, it has been dismissed or denied

Therefore, the ZBA, three members being present and voting at a duly called meeting held on May 6, 2009 by vote of three (3) in favor to none (0) against, grants the petition for the use Variances and height Variances for thirteen (13) permanent wind turbines to generate electrical power, not to exceed 525 feet in height from the base of the tower to the tip of the blade, consistent with the Findings and Conditions listed above.

Colin H. Haire

Harold Davis

Daniel Heney

Members Present and Voting in the negative:

None