

A: I have been designated by the Antrim Planning Board as one of two members of the Planning Board to represent the Planning Board before the SEC process in this Docket and to provide testimony to the SEC that describes the Antrim Master Plan, Zoning Ordinances, and Site

1 Plan Review and Subdivision regulations. My testimony will be covering the Antrim Master Plan  
2 and Zoning Ordinances.

3 **Q: How long have you lived at your present home?**

4 A: 15 years.

5 **Q Is your residence located within sight or hearing of the proposed wind tower**  
6 **development that is the subject of this Docket?**

7 A: Not to my knowledge.

8 **Q: Could you briefly outline your education?**

9 A: I received a Bachelor of Science in Forestry (Magna cum laude) in 1979 from the University  
10 of New Hampshire. I was also a graduate of Leadership New Hampshire in the class of 1994-95  
11 and attended the Institute for Participatory Management & Planning in 1992. Other courses are  
12 listed on my resume.

13 **Q: Are you presently employed?**

14 A: Yes. I am the founder and President of Innovative Natural Resource Solutions LLC. I am  
15 also a licensed forester in New Hampshire and certified forester with the Society of American  
16 Foresters and certified lead environmental auditor through RAB/QSA.

17 **Q: What sort of work does that involve?**

18 A: Our firm has offices in New Hampshire and Maine and specializes in assisting business,  
19 non-profit and government clients in resolving today's complex natural resource management and  
20 business challenges. We specialize in renewable energy issues, with an emphasis in biomass energy,  
21 as well as forest sustainability. Our firm has also worked for the wind industry.

**Q: Have you worked for Antrim Wind Energy, LLC or any of its affiliates and/or partners as described in the application and supporting materials from Antrim Wind Energy, LLC in this Docket?**

A: No. I have never worked for any of these entities.

**Q: Are members of the Antrim Planning Board elected or appointed?**

A: They are elected by the voters.

**Q: When were you elected to the Planning Board?**

A: In 2011.

**Q: Does Antrim have a Master Plan?**

A: Yes.

**Q: What is the purpose of the Master Plan?**

A: The NH law states the purpose of the Master Plan:

**674:2 Master Plan; Purpose and Description. –**

**I. The purpose of the master plan is to set down as clearly and practically as possible the best and most appropriate future development of the area under the jurisdiction of the planning board, to aid the board in designing ordinances that result in preserving and enhancing the unique quality of life and culture of New Hampshire, and to guide the board in the performance of its other duties in a manner that achieves the principles of smart growth, sound planning, and wise resource protection.** [bold emphasis added]

II. The master plan shall be a set of statements and land use and development principles for the municipality with such accompanying maps, diagrams, charts and descriptions as to give legal standing to the implementation ordinances and other measures of the planning board. Each section of the master plan shall be consistent with the others in its implementation of the vision section. The master plan shall be a public record subject to the provisions of RSA 91-A. The master plan shall include, at a minimum, the following required sections:

(a) A vision section that serves to direct the other sections of the plan. This section shall contain a set of statements which articulate the desires of the citizens affected by the master plan, not only for their locality but for the region and the whole state. It shall contain a set of guiding principles

1 and priorities to implement that vision.

2 (b) A land use section upon which all the following sections shall be based. This section shall  
3 translate the vision statements into physical terms. Based on a study of population, economic  
4 activity, and natural, historic, and cultural resources, it shall show existing conditions and the  
5 proposed location, extent, and intensity of future land use.

6 III. The master plan may also include the following sections:

7 (a) A transportation section which considers all pertinent modes of transportation and provides  
8 a framework for both adequate local needs and for coordination with regional and state  
9 transportation plans. Suggested items to be considered may include but are not limited to public  
10 transportation, park and ride facilities, and bicycle routes, or paths, or both.

11 (b) A community facilities section which identifies facilities to support the future land use  
12 pattern of subparagraph II(b), meets the projected needs of the community, and coordinates with  
13 other local governments' special districts and school districts, as well as with state and federal  
14 agencies that have multi-jurisdictional impacts.

15 (c) An economic development section which proposes actions to suit the community's  
16 economic goals, given its economic strengths and weaknesses in the region.

17 (d) A natural resources section which identifies and inventories any critical or sensitive areas or  
18 resources, not only those in the local community, but also those shared with abutting communities.  
19 This section provides a factual basis for any land development regulations that may be enacted to  
20 protect natural areas. A key component in preparing this section is to identify any conflicts between  
21 other elements of the master plan and natural resources, as well as conflicts with plans of abutting  
22 communities.

23 (e) A natural hazards section which documents the physical characteristics, severity, frequency,  
24 and extent of any potential natural hazards to the community. It should identify those elements of  
25 the built environment at risk from natural hazards as well as extent of current and future  
26 vulnerability that may result from current zoning and development policies.

27 (f) A recreation section which shows existing recreation areas and addresses future recreation  
28 needs.

29 (g) A utility and public service section analyzing the need for and showing the present and  
30 future general location of existing and anticipated public and private utilities, both local and regional,  
31 including telecommunications utilities, their supplies, and facilities for distribution and storage.

32 (h) A section which identifies cultural and historic resources and protects them for rehabilitation  
33 or preservation from the impact of other land use tools such as land use regulations, housing, or  
34 transportation. Such section may encourage the preservation or restoration of stone walls, provided  
35 agricultural practices, as defined in RSA 21:34-a, are not impeded.

36 (i) A regional concern section, which describes the specific areas in the municipality of  
37 significant regional interest. These areas may include resources wholly contained within the  
38 municipality or bordering, or shared, or both, with neighboring municipalities. Items to be  
39 considered may include but are not limited to public facilities, natural resources, economic and  
40 housing potential, transportation, agriculture, and open space. The intent of this section is to  
41 promote regional awareness in managing growth while fulfilling the vision statements.

42 (j) A neighborhood plan section which focuses on a specific geographical area of local  
43 government that includes substantial residential development. This section is a part of the local  
44 master plan and shall be consistent with it. No neighborhood plan shall be adopted until a local  
45 master plan is adopted.

46 (k) A community design section to identify positive physical attributes in a municipality and

1 provide for design goals and policies for planning in specific areas to guide private and public  
2 development.

3 (l) A housing section which assesses local housing conditions and projects future housing needs  
4 of residents of all levels of income and ages in the municipality and the region as identified in the  
5 regional housing needs assessment performed by the regional planning commission pursuant to RSA  
6 36:47, II, and which integrates the availability of human services with other planning undertaken by  
7 the community.

8 (m) An implementation section, which is a long range action program of specific actions, time  
9 frames, allocation of responsibility for actions, description of land development regulations to be  
10 adopted, and procedures which the municipality may use to monitor and measure the effectiveness  
11 of each section of the plan.

12 (n) An energy section, which includes an analysis of energy and fuel resources, needs, scarcities,  
13 costs, and problems affecting the municipality and a statement of policy on the conservation of  
14 energy.

15 **Q: When was the Antrim Master Plan adopted?**

16 A: It was adopted by the Planning Board in 2010. The previous version of the Master Plan was  
17 adopted in 2001.

18 **Q: What kind of process was used in the update of the Antrim Master Plan leading to its re-  
19 adoption in 2010?**

20 A: The recent update, overseen by a subcommittee of the Planning Board, included an eight-step  
21 process that began with a Visioning process facilitated by a consultant that included significant  
22 community involvement. From the Master Plan Visioning section:

23 “This step involved engaging Antrim’s citizens and getting their input to develop community  
24 supported vision statements, goals and objectives. To solicit input from the citizens, the master plan  
25 committee developed a comprehensive survey which was mailed to the residents, available for pick  
26 up at the town hall, and available on the town’s website. The surveys were collected over an 8 week  
27 period and resulted in 232 responses. The Master Plan committee also retained the firm of Jeffrey  
28 H. Taylor and Associates who conducted a visioning session at the town hall on June 6<sup>th</sup>, 2006. This  
29 session was well attended with approximately 75 residents providing input on their vision for the  
30 future of Antrim. A second visioning session was held in August of 2006. In addition to the above  
31 outreach programs, the Master Plan Subcommittee also conducted several visioning sessions with  
32 community groups to solicit their members’ views on Antrim’s future. All of the information  
33 gathering sessions were very widely advertised, and gave residents ample opportunity to voice their  
34 opinion on what kind of town they want Antrim to be in the future.”

**Q: What did Antrim residents say during the Master Plan Visioning process when asked the questions “What do you like about Antrim?” and “What community characteristics are important to you?”**

A: The top responses included the following:

- Small town atmosphere – i.e. knowing your neighbors
- Safety – i.e. low crime rate; good emergency services
- People/community spirit – i.e. volunteerism/strong social capital
- Rural character – i.e., open space; natural beauty; distinct villages/housing clusters.
- Affordability – i.e. modest housing prices; low property taxes.

**Q: When asked about their top concerns, what did Antrim residents say?**

A:

- Concern about the loss of rural character and hope that the Open Space Committee recommendations be implemented.
- Worry that Antrim may lose its small town atmosphere, with the concomitant desire that “sprawl” be limited and planning and zoning controls and regulations be used to manage growth.
- The desire that the town codes be enforced for reasons of safety and to protect property values. For example, the issue of unregistered “junk” vehicles on property was cited by a number of residents.
- Increasing Main Street traffic and the lack of public transit was a concern for many, indicating both transportation and safety issues.
- High taxes and unaffordable housing was another concern expressed by the respondents.

**Q: What is the Vision in the Antrim Master Plan resulting from this community involvement?**

A: The Antrim Master Plan Vision says “The citizens of Antrim want a town with the following characteristics:

Safe – A place where all people are reasonably free of fear of injury or loss of property. A place where help, when needed, is readily accessible.

1 Rural – A community that preserves its small town character through open  
2 landscapes and preservation of its historical and cultural resources.

3 Affordable– A community where the cost of living allows people of modest means  
4 to enjoy a reasonable quality of life.

5 Community spirit – A place where neighbors know and care for each other. A place  
6 with strong social institutions, citizen participation, and volunteerism.

7 A diverse economy – A town with a broad economic base that is not tied to any  
8 particular industry or business and with opportunities for earning a living within a  
9 supportive, modern infrastructure.

10 Pride in ownership – Home and business owners are vested in the long term success  
11 of the community. Local ownership of property creates a stable and committed  
12 citizenry that is invested in the town's future.

13 Effective local government – A town government that listens and is responsive to its  
14 citizens and efficiently delivers services.

15 Sustainable – Effective planning and wise use of resources will ensure the long term  
16 viability of the community. A town whose future is secure.”

17 **Q: What are the Chapters of the Antrim Master Plan?**

18 A: The Antrim Master Plan (full version in Appendix exhibits) includes the following Chapters:

19 I. Introduction

20 VIII. Future Land Use

21 II. A Vision for Antrim

22 IX. Population and housing

23 III. Natural Resources and Conservation

24 X. Community Facilities

25 IV. Energy Usage and Conservation

26 XI. Historic and Cultural Resources

27 V. Water Resources

28 XII. Economic Development

29 VI. Earth Excavation Sites

30 XIII. Traffic and Transportation

31 VII. Current Land Use

1 XIV. Implementation

2 Appendix

3 **Q: What is the relationship between the master plan and the zoning ordinances in Antrim**  
4 **and other communities in New Hampshire?**

5 A: NH RSA 674:2 says that the purpose of the Master Plan relative to zoning is “to aid the board in  
6 designing ordinances that result in preserving and enhancing the unique quality of life and culture of  
7 New Hampshire...”. The Planning Board designs zoning ordinances based on the Master Plan but,  
8 ultimately, the voters in the town decide what the zoning will be because they vote on the zoning  
9 ordinances and decide whether the proposals put forward should be law in the town or not.

10 **Q: If the Master Plan suggests something should be zoned a certain way or suggests a**  
11 **policy or approach to an issue but the zoning ordinance does not say the same thing, which**  
12 **document governs how development must proceed in Antrim?**

13 A: The Master Plan is a guidance document only. The voters of the town decide how development  
14 should proceed based on their wishes and through their approval of zoning ordinances by voting.

15 **Q: What does the Antrim Master Plan say about renewable energy and, particularly, wind**  
16 **energy?**

17 A: Though the citizen visioning process did not result in a vision voicing concerns about energy and  
18 climate change, the Antrim Master Plan includes a detailed 15-page section on this topic. Concerns  
19 for the consequences of climate change resulting from greenhouse gas emissions on our planet are  
20 the driver behind this section of the Plan. The Energy Usage and Conservation section of the  
21 Master Plan discusses the need for energy conservation through efficiency actions and reduction in  
22 energy use and encouragement of renewable energy to reduce fossil fuel use and reduce greenhouse  
23 gas emissions.

24 The recommendation of the Energy Usage and Conservation section of the Master Plan are:



1 “The Energy Committee has begun an energy audit for the public buildings in town to see where  
2 energy waste may be occurring and how to make them more efficient. Other steps the town can take  
3 include:

- 4 • Offer incentives in the form of property tax exemptions for residents or businesses who  
5 install renewable energy systems such as wind turbines and photovoltaic panels.
- 6 • Install the EPA Portfolio Manager software or the RETSCREEN software to manage the  
7 data from energy audits and to set goals for energy reduction over time.
- 8 • Thoroughly explore all the various programs listed in this document and any others that  
9 come to light so that the town can make intelligent choices about energy conservation and  
10 planning and take advantage of any grants or financial help that may be available.
- 11 • Conduct a feasibility study for creating a Community Choice Aggregate (CCA) to improve  
12 energy efficiency services, expand renewable energy and stabilize energy costs.
- 13 • Consider entering into a Performance Contract with an energy service company (ESCO).
- 14 • Establish point standards similar to those set up by the U.S. Green Building Council LEED  
15 certification to promote energy efficiency in future construction. Also, see the discussion  
16 above about Epping’s modification of the point system to fit its own needs.
- 17 • Encourage smart growth principles such as mixed use, centralized development, higher  
18 density, and alternative transportation to reduce energy use.
- 19 • Reevaluate using biodiesel fuel for Antrim’s diesel engines.”

20 **Q: What does the Antrim Master Plan say about what kind of development is appropriate for**  
21 **Antrim in the future?**

22 A: The purpose of the Future Land Use section of the Antrim Master Plan as stated in the plan is:

23 “...spelled out in RSA 674:2 II (b) which requires the master plan to include, “*A land use section*  
24 *...[that addresses] the proposed location, extent, and intensity of future land use.*” While

addressing future land use topics this section will provide guidance to the Planning Board for the establishment of ordinances and regulations that will guide development in Antrim as envisioned by its citizens.

The plan is intended to achieve the following results:

i. Protect Antrim's valuable natural resource areas by directing future growth toward land that can accommodate it.

ii. Provide adequate areas for light industrial, commercial, residential, and public service (infrastructure) growth.

iii. Encourage the protection of open space in unfragmented forest lands, wildlife corridors, scenic and historic areas. (See Open Space Conservation Plan for Antrim, September 26, 2005, Appendix 2.)

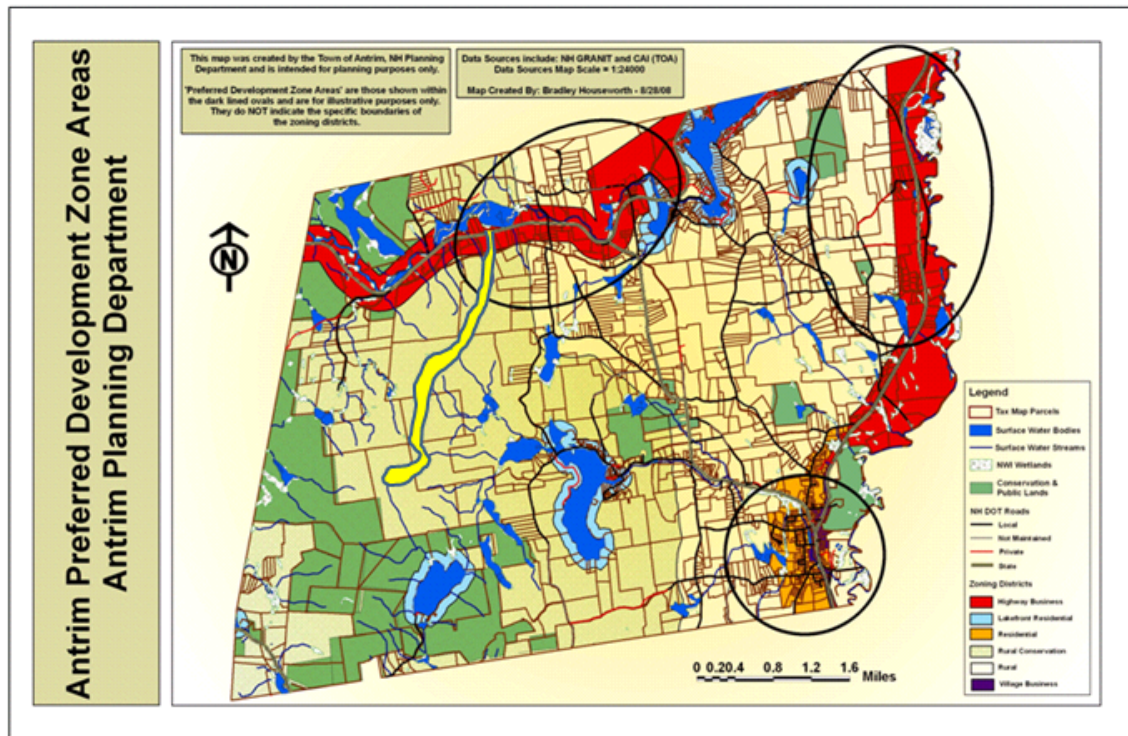
iv. Protect and preserve Antrim's rural and small town character.

v. Provide incentives to create a range of housing types for a range of household incomes.

vi. Direct higher density development toward areas with existing infrastructure (highways, roads, utilities) in order to minimize the cost of providing public services."

**Q: What areas of Antrim are recommended for future development in the Future Land Use section of the Master Plan?**

A: There are three Potential Preferred Development Zone Areas listed in the Antrim Master Plan: in the Antrim village area; the Route 202 corridor and the Route 9 corridor. These are embodied in the following map and are noted with circles identifying the zones where the future development should occur (note that the area for the proposed Antrim Wind development is superimposed on this map):



Map VIII-1: Antrim Potential Preferred Development Zone Areas

AWE Project area



**Q: What does the Future Land Use section of the Master Plan say about the area where the proposed Antrim Wind Energy road and tower locations are proposed for?**

**A:** In a sub-section entitled “Outside Preferred Development Zones (rural area development)” the Plan says:

“The bulk of the undeveloped land in Antrim is in the western portion of the town. This area is already subject to substantial conservation ownership or restrictive easements, and has few roads. The constraints on future development in this area arise from steep slopes, lack of infrastructure, and preservation of wetlands and wildlife habitats.

i. Large areas of the rural land in Antrim are unsuited for high intensity uses such as homes, roads, and commercial buildings. Many of these areas have remained undeveloped due to their economic limitations but contribute to the quality of life enjoyed by the citizens of Antrim as open space.

1     ii.     Open Space Conservation Plan for Antrim (see Appendix 2): This plan identifies priority  
2     areas for conservation and recommends the use of conservation easements to permanently protect  
3     these areas. The major areas identified in the plan cover much of the part of the town west of Gregg  
4     Lake from the Hillsborough and Windsor town lines south to the Hancock town line.

5     iii.     Development of the rural areas of Antrim pits the desires of the citizens to protect the small  
6     town and rural character of Antrim against the interest and property rights of land holders.  
7     Therefore, care must be taken by the Planning Board when managing growth in this area so that the  
8     rights of the property owners are not excessively restricted. However, there are several tools the  
9     Planning Board may use to encourage the property owners and developers to use their property in a  
10    way that is consistent with the vision of the citizens as put forth in the master plan.

11    a.     Conservation Easements: Land under a conservation easement remains in private ownership  
12    and on the tax rolls but is prevented from being developed. Conservation easements can be acquired  
13    through purchase or donation from landowners.

14    b.     Open Space Development: This development tool involves the grouping of homes on one  
15    part of the property while the remaining land is left as open space. This space may be used for  
16    agriculture, recreation, or managed woodland. The open space is then permanently protected by a  
17    conservation easement. Adequate provisions for sewage disposal, water, and roadways must be  
18    made. This method is very successful in protecting land for open space and allows owners to retain  
19    the economic value of their land. Incentives for the developer may involve allowing more units to be  
20    built than would otherwise be available under traditional regulations.

21    c.     Settlement Density: The rural areas of Antrim vary as to their ability to support homes,  
22    roads, and septic systems. Since these areas are not generally serviced by public utilities, the impact  
23    of housing on the land should be minimized. This impact should be managed primarily by requiring  
24    appropriate minimum lot sizes and frontages in the rural and rural conservation districts. The  
25    Planning Board should review this requirement from time to time to ensure it adequately supports  
26    the intent of the citizens to protect the town's rural character.

27    d.     Home Occupations and Home Based Business: Since the rural areas of town generally do  
28    not have the infrastructure to support mid- to large scale commercial activity, it is important that

1 these areas allow Home Occupations and Home Based Businesses. Small scale businesses bring vital  
2 local services to the citizens (business services, building trades, traditional crafts, law services, etc.),  
3 attract people with a long-term commitment to the town, and create a diversified economic base for  
4 commercial activity in town. However, these businesses are constrained by the need to remain fairly  
5 small and unobtrusive to the neighborhood. Reasonable restrictions should be developed to allow  
6 for the development of small to medium sized new businesses in the rural areas as well as the  
7 growth of existing businesses, while protecting the property rights of the residential owners.  
8 Agricultural based businesses and businesses that use the land in its open state will be encouraged.

9 e. Infrastructure Improvements: In the rural areas the town should refrain from over-building  
10 roads and other infrastructure which will encourage the over development of these areas. The town  
11 should also be wary of accepting privately built roads as town roads in these areas as it will lead to  
12 fragmented assets that are expensive and inefficient to maintain and repair.”

13 **Q: What does the Economic Development section of the Master Plan say about wind**  
14 **development in Antrim?**

15 A: In the Infrastructure Recommendations of this section of the Plan, it says:

16 “Explore the use of alternative energy sources including geothermal, solar, wood pellets, wind, and  
17 water power in providing long-term improvements in a sustainable fashion.”

18 **Q: What is the purpose of zoning ordinances in New Hampshire towns?**

19 A: RSA 674:17 says that the purpose of zoning in NH towns and cities is:

20 “I. Every zoning ordinance shall be adopted in accordance with the requirements of RSA 674:18.  
21 Zoning ordinances shall be designed:

- 22 (a) To lessen congestion in the streets;
- 23 (b) To secure safety from fires, panic and other dangers;
- 24 (c) To promote health and the general welfare;
- 25 (d) To provide adequate light and air;
- 26 (e) To prevent the overcrowding of land;
- 27 (f) To avoid undue concentration of population;

(g) To facilitate the adequate provision of transportation, solid waste facilities, water, sewerage, schools, parks, child day care;

(h) To assure proper use of natural resources and other public requirements;

(i) To encourage the preservation of agricultural lands and buildings and the agricultural operations described in RSA 21:34-a supporting the agricultural lands and buildings; and

(j) To encourage the installation and use of solar, wind, or other renewable energy systems and protect access to energy sources by the regulation of orientation of streets, lots, and buildings; establishment of maximum building height, minimum set back requirements, and limitations on type, height, and placement of vegetation; and encouragement of the use of solar skyspace easements under RSA 477. Zoning ordinances may establish buffer zones or additional districts which overlap existing districts and may further regulate the planting and trimming of vegetation on public and private property to protect access to renewable energy systems.

II. Every zoning ordinance shall be made with reasonable consideration to, among other things, the character of the area involved and its peculiar suitability for particular uses, as well as with a view to conserving the value of buildings and encouraging the most appropriate use of land throughout the municipality.

III. Except as provided in RSA 424:5 or RSA 422-B or in any other provision of Title XXXIX, no city, town, or county in which there are located unincorporated towns or unorganized places shall adopt a zoning ordinance or regulation with respect to antennas used exclusively in the amateur radio service that fails to conform to the limited federal preemption entitled Amateur Radio Preemption, 101 FCC 2nd 952 (1985) issued by the Federal Communications Commission.”

**Q: Does Antrim have zoning?**

A: Yes.

**Q: When did Antrim adopt zoning ordinances?**

A: Antrim first adopted zoning ordinances in 1974.

**Q: Have amendments to the zoning ordinances been adopted since 1974?**

A: These ordinances have been amended twenty times since initial adoption.

**Q: What does the Antrim Zoning Ordinance cover?**

A: The sections of the Antrim Zoning Ordinance are:

ARTICLE I - GENERAL PROVISIONS

- 1 ARTICLE II - ZONING DISTRICTS
- 2 ARTICLE III - DEFINITIONS
- 3 ARTICLE IV - VILLAGE BUSINESS DISTRICT (VB)
- 4 ARTICLE V - HIGHWAY BUSINESS DISTRICT (HB)
- 5 ARTICLE VI - RESIDENTIAL DISTRICT (R)
- 6 ARTICLE VII - RURAL DISTRICT (RA)
- 7 ARTICLE VIII - LAKEFRONT RESIDENTIAL DISTRICT (LR)
- 8 ARTICLE IX - RURAL CONSERVATION DISTRICT
- 9 ARTICLE X - STEEP SLOPES DISTRICT
- 10 ARTICLE XI - WETLANDS DISTRICT
- 11 ARTICLE XI-A - SHORELAND PROTECTION DISTRICT
- 12 ARTICLE XI-B AQUIFER AND WELLHEAD PROTECTION DISTRICT
- 13 ARTICLE XII - FLOODPLAIN DEVELOPMENT DISTRICT (FDD)
- 14 ARTICLE XII-A - INSTITUTIONAL DISTRICT
- 15 ARTICLE XIII - SPECIAL EXCEPTION
- 16 ARTICLE XIV - SUPPLEMENTAL REGULATIONS
- 17 ARTICLE XIV-A HOME BASED BUSINESSES
- 18 ARTICLE XIV-B PERSONAL WIRELESS SERVICE FACILITY
- 19 ARTICLE XIV-C OPEN SPACE RESIDENTIAL DEVELOPMENT (OSRD)
- 20 ARTICLE XIV-D SMALL WIND ENERGY SYSTEMS
- 21 ARTICLE XV - OFF-STREET PARKING, LOADING AND UNLOADING REGULATIONS
- 22 ARTICLE XVI - NON-CONFORMING USES, STRUCTURES AND LOTS
- 23 ARTICLE XVII - SIGN ORDINANCE "Purpose and Intent"
- 24 ARTICLE XVIII - ADMINISTRATION AND ENFORCEMENT

1 ARTICLE XIX - ZONING BOARD OF ADJUSTMENT

2 ARTICLE XX - AMENDMENTS

3 ARTICLE XXI - APPEALS TO THE BOARD OF ADJUSTMENT

4 ARTICLE XXII - VALIDITY/SEVERABILITY

5 ARTICLE XXIII - REPEALER

6 ARTICLE XXIV - REMEDIES

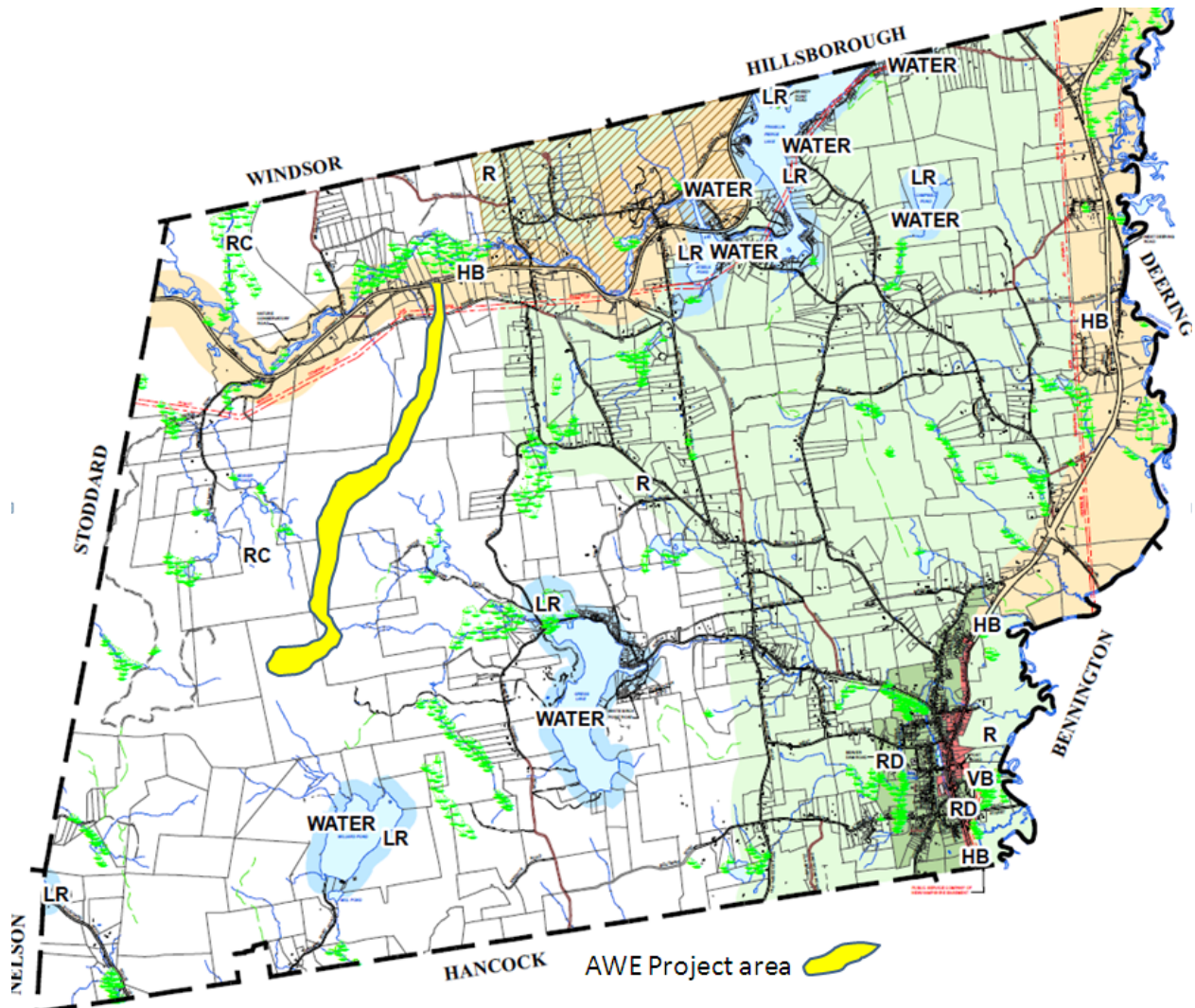
7 ARTICLE XXV - PENALTIES

8 ARTICLE XXVI - EFFECTIVE DATE

9 **Q: What are the zoning districts that cover the area of Antrim being proposed for wind**  
10 **developed by Antrim Wind Energy?**

11 A: Most of the wind development proposed by Antrim Wind Energy (i.e. approximately 17,200 feet  
12 of the 18,318 feet of access road – and all of the wind towers) is in the Rural Conservation Zone.  
13 The entrance of the access road from Route 9 (approximately 1,100 feet), including the proposed  
14 sub-station, is in the Highway Business District. The following zoning map shows an  
15 approximation of this:





**Q: What are the principal permitted uses, accessory uses and special exception uses in the Highway Business District?**

**A: The Highway Business District principal permitted uses, accessory uses and special exception uses are:**

**1. Principal permitted uses:**

- a. Single family dwellings
- b. Duplex dwellings
- c. Multi-family dwellings

- 1 d. Public and private schools
- 2 e. Churches
- 3 f. Public utilities
- 4 g. Home-based businesses
- 5 h. Retail businesses
- 6 i. Convenience stores
- 7 j. Restaurants
- 8 k. Business and professional office
- 9 l. Veterinary clinics
- 10 m. Kennels, boarding and/or breeding
- 11 n. Banks and financial institutions
- 12 o. ~~Personal services~~ (Deleted March 13, 2001)
- 13 p. Hospitals and nursing homes
- 14 q. Motels, hotels, motor inns, tourist homes and bed and breakfast
- 15 r. Funeral homes
- 16 s. Social clubs
- 17 t. Automotive sales, service and rental
- 18 u. Gasoline service stations
- 19 v. Laundromats and dry cleaning establishments
- 20 w. Wholesale, warehouse and storage facilities

- 1 x. Motor freight (truck) terminals, bulk storage, warehousing truck repair facilities, and outside
- 2 parking for tractor-trailers and employees
- 3 y. Truck, recreational vehicle, marine and heavy equipment sales and service
- 4 z. Mini-warehouse/storage facilities
- 5 aa. Beverage and bottling distribution
- 6 bb. Laboratories
- 7 cc. Industrial parks
- 8 dd. Printing and publishing establishments
- 9 ee. Building materials supply
- 10 ff. Recreational vehicle park
- 11 gg. Recreational facilities
- 12 hh. Farms and agricultural activities excluding pelt ranching and raising of more than (20) swine
- 13 ii. Roadside stands
- 14 jj. Stables and riding academies
- 15 kk. Condominiums and cluster housing developments
- 16 ll. Light manufacturing
- 17 mm. Farm employee housing
- 18 nn. Manufactured Housing Units
- 19 oo. Mixed Use (Any combination of residential, commercial, public, etc.) (as listed under primary
- 20 uses)
- 21 pp. Personal Wireless service Facility

2. Accessory uses:

- a. Any use accessory to a principal permitted use
- b. Signs as permitted in Article XVII.
- c. Fences as permitted in Article XIV.
- d. Parking and loading areas as permitted in Article XV.
- e. Storage and parking of major recreation equipment as permitted in Article XIV
- f. Private swimming pools, tennis courts and greenhouses.

3. Special Exception uses (as permitted in Article XIII):

- a. Conversion apartments
- b. Elderly housing
- c. Manufactured housing parks

**Q: What are the permitted uses in the Rural Conservation District?**

A: Rural Conservation District principal permitted uses, accessory uses and special exception uses are:

1. Principal permitted uses:

- a. Single-family dwellings.
- b. ~~Duplex dwellings~~ (Deleted March 10, 2005)
- c. Public and private schools (all levels)
- d. Churches (see Article XIV Supplemental Regulations)
- e. Public utilities
- f. Home-based businesses (see Article XIV Supplemental Regulations)

- 1 g. Kennels, boarding and/or breeding
- 2 h. Public and private recreational facilities
- 3 i. Farms and agricultural activities excluding pelt ranching and raising of more than twenty (20)
- 4 swine
- 5 j. Roadside stands
- 6 k. Stables and riding academies
- 7 1. Farm employee housing
- 8 m. Manufactured Housing Units
- 9 n. Personal Wireless Service Facilities
- 10 2. Accessory uses:
- 11 a. Any use accessory to a principal permitted use
- 12 b. Signs as permitted in Article XVII
- 13 c. Fences as permitted in Article XVI
- 14 d. Parking and loading facilities as permitted in Article XV
- 15 e. Storage or parking of major recreation equipment as permitted in Article XIV
- 16 f. Private swimming pools, tennis courts and greenhouses as permitted in Article XIV
- 17 g. Retail sales of antiques, arts and crafts, handiwork and garden produce when an accessory use
- 18 to a residence
- 19 3. Special Exception uses:
- 20 a. ~~Multi-family dwellings~~ (Site Plan Review required) (Deleted March 10, 2005)

- 1     b.     Bed and breakfast establishments
- 2     c.     Recreational vehicle park
- 3     d.     Manufactured housing parks
- 4     e.     Raising animals for their pelt or pelt ranches
- 5     f.     Accessory Living Units

6     **Q: Under the zoning ordinance in Antrim, is it possible to build an industrial scale wind**  
7     **farm in Antrim as being proposed by Antrim Wind Energy?**

8     A: If a variance is granted by the Zoning Board of Adjustment, yes. Once that occurs, then the  
9     project would undergo major site plan review before the Planning Board.

10    **Q: What are the criteria that must be met for the Zoning Board of Adjustment to grant a**  
11    **variance?**

12    A: Article XIX of the Antrim Zoning Ordinance is Zoning Board of Adjustment. The criteria for  
13    granting a variance in this section of the ordinance is (as authorized in RSA 674:33):

14    “Grant Variances: The Zoning Board of Adjustment may authorize, upon appeal in specific cases,  
15    such variance from the terms of the Zoning Ordinance as will not be contrary to the public interest.  
16    A Variance may be granted if, owing to special conditions, a literal enforcement of the provisions of  
17    the ordinance will result in unnecessary hardship, and so that the spirit of the ordinance shall be  
18    observed and substantial justice done. In granting any Variance, the Board may attach such  
19    reasonable conditions and safeguards as it may deem necessary to implement this Ordinance and to  
20    protect the public interest. The board may grant a Variance provided the following conditions have  
21    been satisfied:

- 22    a. No diminution in value of surrounding properties would be suffered.
- 23    b. Granting the permit would be of benefit to the public interest.
- 24    c. Denial of the permit would result in unnecessary hardship to the owner

1 seeking it.

2 d. By granting the permit substantial justice would be done.

3 e. The use must not be contrary to the spirit of the Ordinance.”

4 **Q: What does state law require of local zoning regulations relative to renewable energy?**

5 According to RSA 674:17(j), planning boards should, in their zoning ordinances, “...encourage the  
6 installation and use of solar, wind, or other renewable energy systems.” RSA 674:36(k) also  
7 encourages “the installation and use of solar, wind, or other renewable energy systems and protect  
8 access to energy sources by the regulation of orientation of streets, lots, and buildings...and  
9 encouragement of the use of solar skyspace easements under RSA 477.”

10 **Q: Does the Antrim zoning ordinance allow wind energy to be developed in town?**

11 A:Yes. The Antrim Zoning Ordinance includes Article XIV-D Small Wind Energy Systems. This  
12 ordinance, adopted in 2009, is designed to “...accommodate small wind energy systems in  
13 appropriate locations, while protecting the public’s health safety and welfare.” This ordinance is for  
14 wind energy system with a rated capacity of 100 kilowatts or less.

15 **Q: Didn’t the Antrim Planning Board develop an ordinance in 2011 and 2012 to allow large-**  
16 **scale wind energy in town (larger than 100 kilowatt rate capacity)?**

17 A: Yes. A Large Scale Wind Ordinance was put before the voters on November 8, 2011 and again  
18 on March 13, 2012. Voters failed to pass the ordinance each time. The March 13, 2012 proposed  
19 ordinance and the mailer sent to Antrim voters by the Planning Board at that time are included in  
20 the Appendices of this testimony.

21 **Q: As a result of the 2011 and 2012 votes, can large-scale wind energy be built in Antrim?**

22 A: Antrim voters chose in 2011 and 2012 to not approve the proposed large-scale wind ordinance  
23 proposals, which would have allowed this land use in the Town of Antrim. Instead, by choosing not  
24 to pass the proposed Large Scale Wind Ordinance, voters chose to keep the existing zoning which  
25 prohibits large-scale wind development in Antrim unless a variance is granted by the Zoning Board  
26 of Adjustment.

1

2   **Appendix - Exhibit List**

3   **CAL Exhibit A       Levesque Resume**

4   **CAL Exhibit B       Antrim Master Plan**

5   **CAL Exhibit C       Antrim Zoning Ordinance**

6   **CAL Exhibit D       Mailer from Antrim Planning Board to voters, March, 2012**

7   **CAL Exhibit E       March, 2012 proposed Antrim Large Scale Wind Ordinance**



## CAL Exhibit A

## CHARLES A. LEVESQUE

37 Old Pound Road  
Antrim, NH 03440  
603-588-3272  
levesque@inrslc.com

### SPECIAL SKILLS & EXPERTISE:

- \* Environmental auditing
- \* Working with diverse groups of people
- \* Leadership/project management
- \* Public speaking/writing - Public Relations
- \* Innovative public involvement strategies
- \* Fundraising, budgeting & expense control
- \* Facilitating group process to reach consensus
- \* Research & Advocacy

### PROFESSIONAL EXPERIENCE

- 1994- **President**, Innovative Natural Resource Solutions LLC, Antrim NH & Portland, ME. Founder and owner of consulting business focused on renewable energy, forest and natural resource policy, sustainable forest management certification/environmental auditing, forest products industry research, renewable energy (especially biomass related), government relations assistance, and land protection. Founded forest certification auditing partnership in 1999 – *The Plum Line*. Have managed many large-scale projects in the land conservation, public policy, auditing and other fields and have audited on over 6 million acres of private forestland in the US and Canada and over 125 Chain-of-Custody certificates. Company website at [www.inrslc.com](http://www.inrslc.com).
- 1991-94 **Executive Director**, Northern Forest Lands Council, Concord, NH. As top executive staffer of this regional, non-profit forest and land use policy advisory project, managed all facets of the process and organization. Developed long and short range work plans and implemented. Developed budgets and managed the project within budget restraints. Supervised employees. Oversaw a complex public policy building process centered on gathering good information and involving as wide a range of stakeholders as possible in order to seek common ground on the issues. Acted as lobbyist at federal level and as liaison to Congressional delegations. Responsible to a 17 member board.
- 1987-91 **Program Director**, Trust for New Hampshire Lands, Concord, NH. Top executive staffer responsible for overall administration of land protection organization including: budgeting and financial management, communications, lobbyist in NH legislature, fundraising, outreach and awareness, media relations, land protection/real estate negotiations and staff supervision (staff of 10). Liaison with state Land Conservation Investment Program. Responsible to Board of Trustees and Committees.
- 1983-87 **Executive Director**, New Hampshire Timberland Owners Association, Concord NH. As executive staff for 75 year old non-profit, forest landowner and forest industry organization, responsible for all functions including: fundraising, annual budgeting, lobbyist at local, state and federal level, publications, all communications and promotion requiring extensive writing and verbal skills. Also developed and coordinated educational programs and volunteer activities. Supervised staff and responsible to Board of Directors.
- 1981-83 **Greenstreets Project Director and Urban Forester**, City of Manchester, NH. Administered comprehensive urban forestry program for the city of Manchester (population 95,000). Responsible for annual budgeting, publicity and education. Worked with private landowners and supervised youth workers.

- 1980 **Night Park Manager**, Pawtuckaway State Park, Raymond, NH. Responsibilities included evening and night management of this heavily used southeastern New Hampshire state park.
- 1979 **Field Crew Supervisor**, U.S. Forest Service, Dillon, Montana. Responsibilities included supervision of timber sale survey crews in southwestern Montana's Beaverhead National Forest.
- 1977-78 **Forestry Inventory Coordinator**, Brown Company, Berlin, NH. As a forestry technician, coordinated Continuous Forest Inventory program and boundary location and maintenance programs on company lands. Additional duties included timber sale layout and land surveying. All work responsibilities occurred on lands in northwestern Maine, northern New Hampshire and the northeast kingdom of Vermont.

**EDUCATION****&****CERTIFICATIONS**

ISO 14001 Lead Auditor Training 2000  
 SAF Certified Forester®  
 RABQSA Certified EMS Lead Auditor #E052683  
 SAF Certified Sustainable Forest Management Auditor®  
 N.H. Licensed Professional Forester # 281, SAF Certified Forester®  
 Leadership New Hampshire Associate, Class of 1994-95  
 N.H. Town Moderator training 1994 & 1996  
 Institute for Participatory Management & Planning training 1992  
 B.S.F. 1979 Univ. of N.H., Forest Resources, Magna Cum Laude  
 President Xi Sigma Pi, Forestry Honor Society  
 Recipient of Ruth Farrington Scholarship

**MEMBERSHIPS AND AFFILIATIONS**

Member, Society of American Foresters; member, member, NH Timberland Owners Association; member, Society for the Protection of NH Forests; past member and vice-chair Board of Trustees, Deering Association; member, Audubon Society of New Hampshire; member, Concord Food Cooperative; NH Forestry Communications Council 1983-87, Treasurer 1986-87; Project Learning Tree Steering Committee and Treasurer 1985-87 and PLT Facilitator 1986-1993; Board of Directors, Statewide Program of Action to Conserve our Environment 1985-present; Board of Directors, NH Farm and Forest Exposition 1985-87; Chair, Program Committee 1986 and member 2000, 2005 and 2010 N.E. Society of American Foresters Winter Meeting and Technical Conference; N.E. Society of American Foresters Communications Committee 1985-86; N.E. Society of American Foresters Executive Committee 1996 – (elected); National Society of American Foresters Council 1998 –2001 (elected); NH Tree Farm Executive Committee and Inspecting Forester 1983-87; American Forest Council Communications Committee N.E. 1983-1992; Adjunct faculty Lincoln Institute of Land Policy 1993-1998; Governor Gregg appointee to Current Use Study Committee 1992; Ad-Hoc White Mountain National Forest Committee and later variations 1986-2004; NH Trails Advisory Committee 1983-87; Josiah Bartlett Center for Public Policy Judge 1995 – 97, Board of Directors 97-2003, Secretary 1999; Champions of NH Farms Board member 1997-2009; N.H. Forest Plan Steering Committee 1994-1996; Deering Conservation Commission 1986-1994, chair 1989-90; member, Deering Master Plan Commission, 1987-1990; Deering Quartet-tenor and Deering Community Church and choir 1985-1994; elected town moderator 1994 – 1998; member, Con Val School Board 2000; Member of Land and Community Heritage Investment Program Board of Directors 2000-2005, co-chair 2000-2002; Member, Board of Directors, Conservation New Hampshire 2009-10; Board member and Board President, Center for Northern Woodlands Education 2004-2009; Chair, Antrim Open Space Committee 2005-06; Antrim Planning Board 2011- .

**SPECIAL ACCOMPLISHMENTS AND AWARDS**

Bicycled across the United States, 1982  
 Special Recognition Award, American Forest Council, 1987;  
 New England Society of American Foresters Young Forester Award, 1989  
 Various recognition awards

**OUTSIDE INTERESTS**

Bicycling, running, backpacking, outdoor sports, music, photography, travel, local activism.

**PERSONAL**

Married, two children.

## Antrim Voters

The Antrim Planning Board is proposing 6 zoning amendments to be voted on March 13, 2012.

**We urge you to vote YES on all 6 amendments.**

Many of these amendments are housekeeping measures to correct errors in references in our existing zoning ordinance plus the much revised Large Scale Wind Ordinance approved unanimously by the Planning Board on February 6. The Planning Board has responded to public input and changed the ordinance to match standards and tighten the wording. Passage of this ordinance will allow wind projects in Antrim for Antrim. Please think about wind projects other than the Antrim Wind project, which is now under state jurisdiction and not affected by this ordinance.

### **Do not be misled.**

- A no vote on the ordinance is a yes vote for wind. **NOT TRUE.**  
The State Site Evaluation Committee (SEC) has jurisdiction over the Antrim Wind project. The proposed Large Scale Wind Ordinance will not have any effect on the Antrim Wind project unless the SEC wants it to.
- The Planning Board wants to prohibit large-scale wind. **NOT TRUE.** The Planning Board and the Ad hoc committee of the Planning Board have worked hard to assure that the ordinance provides for the development of large-scale wind facilities anywhere in town. (Current zoning does not allow large-scale wind facilities anywhere in town without a variance from the Zoning Board.)
- Some have claimed that portions of the ordinance are illegal. NH RSA 674:21 gives the Planning Board the authority to issue Conditional Use Permits, as is the case with the proposed Large Scale Wind Ordinance. The town's attorney and our professional planning consultant have favorably reviewed the proposed ordinance.

Remember, if the Large Scale Wind Ordinance does not pass, our current zoning, which prohibits large-scale wind power in all zones in Antrim without a variance from the Zoning Board, remains in place.

Please be sure to vote on March 13 and support local zoning protections by voting "YES" to all six amendments.

Antrim Planning Board

Please call any member of the Planning Board if you have questions.

Andrew Robblee, Chair - (603) 933-3136

Jesse Lazar, Vice-Chair - (603) 831-4157

David Dubois – (603) 588-4445

John Robertson – (603) 588-6106

Martha Pinello – (603) 588-3761

Charles Levesque – (603) 588-3272

**TOWN OF ANTRIM, NEW HAMPSHIRE**  
**LARGE SCALE WIND ORDINANCE**

- 1.0 **Title.** This ordinance shall be known as the Town of Antrim Large-scale Wind Ordinance.
- 2.0 **Purpose.** The purpose of this Ordinance is to provide for the development and use of wind power as an alternative energy source, benefiting both the economy and the environment, while protecting public health, safety and general welfare, preserving environmental, historic and scenic resources, controlling noise levels and preventing electromagnetic interference. This ordinance provides a permitting process to insure compliance with requirements and standards established therein.
- 3.0 **Authority.** This Ordinance is adopted pursuant to the enabling provisions of NH RSA 674:16 and NH RSA 674:1, V. In addition, pursuant to the provisions of NH RSA 674:21, the Antrim Planning Board is hereby granted the authority to issue Conditional Use Permits for the construction or operation of Large-scale Wind Energy Facilities, including meteorological towers within the Town of Antrim, subject to these provisions.
- 3.1 **Conflicts with Other Ordinances and Regulations.** If there is a conflict between provisions in this Ordinance or between a provision in this Ordinance and a provision of any other ordinance or regulation, this Ordinance shall apply.
- 3.2 **Validity and Severability.** Should any section or provision of this Ordinance be declared by the courts to be invalid, such a decision shall not invalidate any other section or provision of the Ordinance.
- 4.0 **Effective Date.** This Ordinance shall become effective on the date of its passage.
- 5.0 **Applicability.** Large-scale Wind Energy Facilities (LWEFs) and meteorological towers (met towers), as defined below are allowed to be constructed or operated in any district in the Town of Antrim after the effective date of this Ordinance, subject to all applicable federal, state, and local ordinances and regulations.
- 5.1 Meteorological towers, whose purpose are to analyze the environmental factors needed to assess the potential to install, construct or erect a LWEF, are subject to the same process as LWEFs if the intent is to leave the towers in place permanently . If the tower is intended to be temporary and will be removed within three years, only 7.1.1 (Design, Manufacture) 7.2.1 (Setbacks), 7.1.2.1 (Height), and 7.1.6 (Color) of this ordinance shall apply.
- 6.0 **Definitions.**
- 6.1 Ambient Noise – Intermittent noise events present for at least 90% of the time.
- 6.2 Blade Glint – The intermittent reflection of the sun off the surface of the blades of a wind turbine.
- 6.3 dBA – “A-Weighting” means a frequency response adjustment of a sound level meter with an American National Standards Institute (ANSI) defined A-weighting filter. The A-weighting filter approximates the human ear’s response to various frequencies. Measurements made with this weighting are designated dBA.
- 6.4 dBC – “C-Weighting” means a frequency response adjustment of a sound level meter with an ANSI defined C-weighting filter. The C-weighting filter analyses the signal with approximately equal weight to all frequencies. Measurements made with this weighting are designate dBC.
- 6.5 Large-scale Wind Energy Facility (LWEF) – An electricity-generating facility, with a generating capacity of over 100 kilowatts, consisting of one or more wind turbines, including

any substations, met towers, cables/wires, and other structures accessory to the facility.

- 6.6 Met tower – A meteorological tower used for the collection of wind data associated with a LWEF.
- 6.7 Occupied Structure – Any permanent structure adapted for overnight accommodation of persons or for carrying on business therein whether or not a person is actually present.
- 6.8 Repowering – To retrofit a LWEF to the latest technology in order to improve efficiency and capacity. Generally this involves the installation of a new generator or turbine.
- 6.9 Setbacks – The distance a LWEF is set back from abutting property lines, structures, or other features.
- 6.10 Shadow Flicker – The effect when the blades of an operating wind turbine pass between the sun and an observer, casting a readily observable, moving shadow on the observer and the immediate environment.
- 6.11 Total Height – When referring to a wind turbine or a LWEF, the height measured from the finished grade at its location to the top of the blade extended to its highest point.
- 6.12 Tower Shadowing – The outline created on the surrounding area by the sun shining on a wind turbine.
- 6.13 Wind Turbine – A wind energy conversion system that converts wind energy into electricity through the use of a wind turbine generator, including the turbine, blade, tower, base, and pad transformer, if any.

## **7.0 Standards.**

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

- 7.1.1 The design and manufacture of all meteorological towers, all wind turbines, and all other components of a LWEF shall conform to applicable national, state, and local standards for the wind industry, such as those established by the American National Standards Institute (ANSI), Underwriters Laboratories, and similar certifying organizations.
- 7.1.2 Height. Consideration shall be given to the scale of the turbines in relation to the surrounding landscape, but in no case shall the height of a LWEF tower exceed 450 feet, as measured from the finished grade at the tower base to the highest tip of turbine blade.
  - 7.1.2.1 The maximum height allowed for any Met tower is 200 feet, and the tower must be designed so as not to require lighting in compliance with FAA regulations. Guy wires are allowed, but must be designed so as to limit environmental hazards to wildlife, especially birds and bats.
- 7.1.3 All collector lines and interconnect lines shall be below the tree line except where tied into existing transmission lines. Underground power and transmission lines shall be buried at a depth consistent with State public utility engineering standards to prevent transient ground currents and stray voltage.
- 7.1.4 LWEFs shall be equipped with a redundant braking system that includes both aerodynamic over-speed controls (including variable pitch, tip, and other similar systems) and mechanical brakes. Mechanical brakes shall operate in fail-safe mode. Stall regulation shall not be considered a sufficient braking system for over-speed protection.

- 7.1.5 LWEF towers, not including met towers, shall be mounted on monopole towers with no guy wires.
- 7.1.6 The color of LWEF towers and met towers shall be off-white or grey or some other unobtrusive color approved by the Planning Board.
- 7.1.7 LWEFs shall not be used to display signs or advertising except for signs at ground level identifying the turbine manufacturer, the LWEF Owner/Operator, emergency contact information, and appropriate warnings as required by national, state, and local laws.
- 7.1.8 **Blasting.** All blasting shall be in accordance with the appropriate sections of “the New Hampshire Department of Transportation’s Standard Specifications for Road and Bridge Construction”.
- 7.1.9 **Modification During Construction.** If at any time it appears necessary or desirable to modify the approved plans before or during construction of the LWEF, the Planning Board’s designated agent is authorized to approve minor modifications due to unforeseen circumstances such as encountering hidden outcrops of bedrock or groundwater. The Board’s agent shall issue any approval under this section in writing and shall transmit a copy of the approval to the Planning Board. Revised plans shall be filed with the Planning Board for the record. For major modifications such as relocation of rights-of-way or of LWEF towers, changes in grade by more than 2% for roadways and 5% for other changes, the Applicant shall submit to the Planning Board an amended plan for review, approval, or ratification.

## 7.2 Public Health and Safety Standards

- 7.2.1 **Setbacks.** LWEFs must be sited so as to satisfy the setbacks for the following: tower or turbine collapse, debris and ice throw, shadow flicker, and blade glint. Setbacks shall be no less than 1.5 times the maximum height of the wind turbine from the nearest property line. Wind turbines must be sited no less than five (5) times the turbine height from occupied buildings. The Planning Board shall waive this provision if the waiver request in 13.2.1 is supported by the affected property owner(s). The Planning Board shall waive the setback if it meets the acoustic standards set forth in section 7.2.2. Additional setbacks may be required to meet noise standards in 7.2.2.
  - 7.2.1.1 The applicant shall submit a graph of the required setback for each hazard as a circle for a single unit or as a series of connected arcs for multiple units centered on each turbine and submitted with the required setback graphically superimposed to scale on town maps identifying lot owners, structures, and lot property lines.
- 7.2.2 **Acoustics.** Sound pressure levels due to the operation of the LWEF shall not exceed levels set forth herein at occupied structures in the Town of Antrim identified through the application process; additional consideration may be given to day, night and summer levels, as well as impact on residences within the sound study area as determined in 7.2.2.2.
  - 7.2.2.1 Sound pressure levels at occupied structures shall not exceed 5 dBA above preconstruction ambient levels with a maximum of 45 dBA daytime, (6:00 am to 8:00 pm), and 43 dBA nighttime, (8:00 pm to 6:00 am). DBC levels shall not be more than 25 dB above the preconstruction ambient dBA level. Preconstruction ambient levels shall be assumed to be 25 dBA and 30 dBC if no pre-construction ambient sound testing is completed. The Planning Board shall waive this provision if it is supported by the affected property owner as per 13.2.1.

- 7.2.2.2 Prior to permit approval, a pre-construction sound measurement study shall be conducted at occupied structures within one (1) mile of any proposed wind turbine if requested by the property owner, owner/operator and/or the Planning Board. Testing outside of one(1) mile may be required by the Planning Board if unique conditions of the surrounding topography or other factors exist that reasonably appear to affect sound propagation. The Planning Board shall give consideration to a property owner's timely request as to where on the property the tests will be conducted. Tests shall be conducted using both A-weighted (dBA) and C-weighted (dBC) scales. A 5 dBA penalty shall be applied for tonal noise. This is a single tone or limited frequency noise (vs. broadband noise) associated with mechanical noise artifacts (i.e. high-pitched whining, screeching, buzzing).
- 7.2.2.3 All sound measurements shall be made by a professional acoustical engineer approved by the Planning Board who is a Full Member of the Institute of Noise Control Engineering (INCE) or who possesses some comparable qualification.
- 7.2.2.4 Except as specifically noted otherwise, sound measurements shall be conducted in compliance with the latest version of the American National Standards Institute (ANSI) Standard S12.18-1994 "Outdoor Measurements of Sound Pressure."
- 7.2.2.5 Sound level meters and calibration equipment shall comply with the latest version of ANSI Standard S1.4 "Specifications for General Purpose Sound Level Meters," and shall have been calibrated at a recognized laboratory within one (1) year before the sound measurements are carried out.

### 7.3 Environmental Standards

- 7.3.1 **Environmentally Sensitive Areas.** An application for a LWEF permit shall demonstrate appropriate measures for protecting, minimizing, and/or mitigating impacts to wetlands, vernal pools, seeps or springs, steep slopes (equal to or greater than 15%), watersheds, flood plains, significant habitat for wildlife, fish, and plants during both construction and operation of the LWEF.
- 7.3.2 **Ground Water Quality Protection.** LWEFs shall be designed, constructed, and maintained so as to avoid adverse impacts to groundwater, including sand and gravel aquifers.

### 7.4 Visual Impacts.

All available mitigation techniques to reduce the visual impacts of the wind energy project to neighboring residential, cultural resource areas, public recreational and scenic areas shall be considered using methods prescribed by Clean Energy States Alliance Clean Energy Program Guide Visual Impact Assessment Process for Wind Energy Projects, May 2011 or subsequent updates.

## 8.0 Requirements

- 8.1 **Hazardous Materials.** The Owner/Operator of any LWEF shall be responsible for compliance with all ordinances, regulations, and laws applicable to the generation, storage, cleanup, and disposal of hazardous materials resulting from the LWEF.
- 8.2 **Public Utility Impact.** The Planning Board may consult the New Hampshire Public Utility Commission, a transmission owner, and/or the regional grid operator concerning impacts on the existing infrastructure.

- 8.3 **Shadow Flicker.** LWEFs shall be designed and sited in a manner that does not result in shadowing or flicker impacts.
- 8.4 **Fire Prevention Plan.** The Application for a LWEF shall include a Fire Prevention and Firefighting Plan prepared by a licensed Fire Protection Engineer in consultation with the Antrim Fire Chief, and approved by the Planning Board.
- 8.4.1 The plan shall include the incorporation of self-contained fire protection system in the turbine nacelle.
- 8.4.2 The plan shall include a response plan to address all potential LWEF fire scenarios and include a list of hazardous materials that may be encountered, and provisions for any additional firefighting or rescue personnel, services, training, materials, and vehicles as may be required to deal with any emergency related to the LWEF that is beyond the current capabilities of the Antrim Fire Department. Any associated costs to meet identified needs shall be fully borne by the Owner/Operator.
- 8.5 **Road and Property Risk Assessment.** Applications for a permit to construct a LWEF shall include a Road and Property Risk Assessment prepared by a licensed engineer. The assessment shall document road conditions prior to the construction of the LWEF, and again within thirty (30) days after construction is complete. Any road damage determined by the engineer to have been caused by the Applicant or his contractors shall be promptly repaired at the Applicant's expense. The Town may bond the roads in compliance with state regulations, and the bond is to be paid by the Applicant prior to the transport of LWEF components.
- 8.6 **Wildlife Protection.** Applications for a LWEF shall include a Wildlife Protection Plan based on pre-construction field studies designed and carried out by a qualified wildlife biologist approved by the Planning Board. Such studies shall describe the possible adverse effects of the LWEF on birds, bats, animals and their habitats, and shall propose remedies for these effects, all consistent with the studies recommended in the US Fish and Wildlife Service's "Wind Turbine Guidelines Advisory Committee Recommendations," dated March 4, 2010 or subsequent updates. The Owner/Operator shall implement the Wildlife Protection Plan.
- 8.7 **Hazardous Wastes.** The Owner/ Operator shall be responsible for compliance with all state and federal regulations applicable to the use and disposal of hazardous wastes involved in or generated by the LWEF's construction and operation. This responsibility shall extend to safe and lawful disposal of the by-products of any Acid Rock Testing and Mitigation Plan.
- 8.8 **Hazardous Lighting Mitigation.** All LWEFs shall be designed and sited to minimize nighttime light pollution and shall not exceed the minimum requirements by the Federal Aviation Administration. Red lights shall be used in place of white whenever possible and shall be shielded to the greatest extent possible from viewers on the ground. The Applicant shall provide a lighting plan showing all exterior building and ground lighting pertaining to the LWEF project. At the time of turbine upgrade for any other reason, and at such time that better, less intrusive hazard lighting technology becomes available, the Planning Board may require the Owner or Operator to upgrade the LWEF to such standards.
- 8.9 **Visual Impact Assessment.** Whenever a LWEF is proposed for a site that is visible from any of Antrim's scenic or special resources as identified in the Town's Master Plan and Open Space Plan, the Applicant shall provide a Visual Impact Assessment as presented in the Clean Energy State Alliance Program Guide: A Visual Impact Assessment Process for Wind Energy Projects May 2011 or subsequent issues or replacement documents.
- 8.10 **Post Construction Studies.** Following completion of construction of a LWEF, studies to ascertain its actual effect on environmental resources shall be conducted by qualified



professionals, approved by the Planning Board, including but not limited to those described below. The Planning Board may waive these requirements according to 13.2.1.

**8.10.1 Wildlife Protection Field Study.** Within three (3) years of completion of a LWEF, a field study to ascertain any actual effects on wildlife shall be conducted by a qualified wildlife biologist, approved by the Planning Board, consistent with the US Fish and Wildlife Service's "Wind Turbine Guidelines Advisory Committee Recommendations," dated March 4, 2010, or subsequent updates. If these studies demonstrate adverse effects on wildlife caused by the LWEF, the Owner/Operator shall design and implement an appropriate mitigation plan to be approved by the Planning Board.

**8.10.2 Groundwater Quality Study.** Within two (2) years after completion of construction of a LWEF, a Water Quality study shall be designed and carried out by a water quality professional licensed by the State of New Hampshire. If degradation or contamination is found to have occurred, the Owner/Operator shall design and implement an appropriate mitigation plan to be approved by the Planning Board. The study shall include groundwater, including sand and gravel aquifers, , and public water sources identified during the Application process.

**8.11 Communication Interference.** LWEF's shall be designed and sited to prevent the disruption or loss of emergency or private radio, telephone, television, microwave, or similar signals. Any property owner in Antrim who believes that they are experiencing interference from the LWEF shall present their concerns to the Planning Board, who will meet with all parties in an effort to resolve the issues, based on the Resolution Plan submitted with the Application.

**8.12 Notification of Extraordinary Event.** The Owner/Operator of the any LWEF shall notify the Select Board and Planning Board of any "extraordinary event" immediately or at the latest within 24 hours after that event. Extraordinary events shall include but not be limited to tower collapse, catastrophic turbine failure, fires, leakage of hazardous materials, unauthorized entry into a tower base, thrown blade or hub, injury caused by the LWEF, and any other event that affects public health and safety.

**9.0 Decommissioning.** The Owner/Operator of the LWEF shall be fully responsible for the complete decommissioning of the LWEF within twelve (12) months after it ceases to generate electricity or its permit to operate has been revoked, subject to the following, unless the Owner/Operator continues to pay its financial obligations to the Town and fully maintains the LWEF in such a way that will allow the LWEF to begin operation again in the future, as determined by an engineer approved by the Planning Board.

**9.1** Decommissioning shall include removal and disposal off-site of all parts of the LWEF (including foundations to two feet below grade) in accordance with local, state and federal laws and regulations, and the re-vegetation with native vegetation of the area according to a Site Restoration Plan.

**9.2** A New Hampshire-licensed Professional Engineer approved by the Planning Board and paid by the Applicant shall estimate the total cost to decommission the LWEF without consideration of the salvage value of the parts, materials, or equipment. The amount of this estimate shall be the dollar amount of the bonding required at or prior to the date of issuance of formal approval by the Planning Board.

**9.3** No approval will be granted nor permit issued for a LWEF until such time as a Decommissioning Fund, in form and amount acceptable to the Planning Board and Select Board, has been established. Decommissioning Funds may take the form of cash, a Reclamation Bond issued by an insurance company with a Best Rating acceptable to the above

stated municipal boards, or an Irrevocable Letter of Credit issued by a bank authorized to conduct business in the State of New Hampshire and acceptable to the above stated municipal boards.

- 9.4 Estimates of decommissioning expense shall be updated at least every five years subsequent to the anniversary date of the granting of a LWEF Permit, and the Owner/Operator of the LWEF shall be required to maintain Decommissioning Funds that are at least equal to the most recent estimate. Failure to update the cost of decommissioning shall constitute a default under the terms of approval.
- 9.5 If the Owner/Operator of the LWEF does not complete Decommissioning within the timeframe prescribed, the Town of Antrim may institute such legal action as may be allowed (including court action) to gain control of the Decommissioning Fund and to ensure to the extent that the Fund balance may allow, to complete or substantially complete, the Decommissioning requirement.
- 9.6 The Select Board and Planning Board, as joint Escrow Agents, may not release or reduce the amount of an established Decommissioning Fund where the Town is listed beneficiary of said Fund, without an affirmative vote, properly conducted and noticed, by both Boards. A detailed written request with a well-defined justification must be submitted by the Owner/Operator prior to the vote. The decision on the request will be provided to the Owner/Operator in writing within sixty (60) days of receipt of said request.

#### **10.0 Application Procedure.**

- 10.1 Applications for new and replacement LWEFs shall be filed and processed in accordance with the Town of Antrim Subdivision and Site Plan Review Regulations. The application for a Conditional Use Permit may be filed and processed concurrently with the Site Plan Review.
- 10.2 A LWEF is deemed to have regional impacts, therefore the procedure shall include notification as per NH RSA 36: 54-57.
- 10.3 Submission Requirements. In addition to the submission requirements for a Site Plan Review, applicants for a LWEF shall submit the following:
  - 10.3.1 Plans prepared and stamped by a New Hampshire-licensed professional engineer showing the location, shape, size, design and height of all proposed components of met towers and LWEF, including the proposed access to the project site and associated transmission lines.
  - 10.3.2 A location map to scale of current and planned land uses within the project boundary; and a line denoting a one-mile radius beyond the project boundary prepared by a New Hampshire-licensed land surveyor.
  - 10.3.3 A site grading and clearing plan that shows all areas to be cleared and all grade changes; the plan shall include details on the collector lines, locations and heights of poles, clearing limits for above-ground lines, substations, transmission line details, and upgrades or changes to existing power lines.
  - 10.3.4 Historical, Cultural, Archeological Resource Map prepared by New Hampshire-licensed land surveyor.
  - 10.3.5 Environmental Resource Map prepared by a qualified New Hampshire-licensed land surveyor.
  - 10.3.6 Intended period of data collection for the met tower.
  - 10.3.7 Manufacturer's certification of the non-reflecting properties of the external surfaces

of the LWEF.

- 10.3.8 Calculations and supporting data for all setbacks for each turbine.
- 10.3.9 List of property owners whose property wholly or in part falls within the setback areas.
- 10.3.10 Studies and reports as required by the Planning Board, including but not limited to the following. The cost of any required study, report, plan, mitigation effort, or other work required to be done by the Planning Board is the full responsibility of the applicant.
  - 10.3.10.1 Ambient Noise Level Study
  - 10.3.10.2 Fire Protection Plan
  - 10.3.10.3 Road and Property Risk Assessment
  - 10.3.10.4 Wildlife Protection Plan
  - 10.3.10.5 Groundwater Quality Studies
  - 10.3.10.6 Visual Impact Assessment
- 10.3.11 A Resolution Plan to address any complaints from affected parties during construction and over the life of the operation. The Plan shall identify a contact person and a process for mediation.
- 10.3.12 A Site Restoration Plan.
- 10.3.13 Any other information deemed necessary by the Board in order to make an informed decision.

11.0 **Repowering.** When a LWEF is planned for a retrofit, the Owner/Applicant must apply to the Planning Board for approval before the LWEF may be repowered.

12.0 **Permit to Operate.**

- 12.1 Following construction of a LWEF, before commencing operation, the Owner/Operator shall apply to and receive approval from the Planning Board for a Permit to Operate. The application shall include the following:
  - 12.1.1 An Inspection Report prepared and signed by a New Hampshire licensed structural engineer certifying the structural and operational integrity of the LWEF, and completion of construction in accordance with all submitted and approved building, road, and lighting plans, and any other plans submitted to the Planning Board as required.
  - 12.1.2 Decommissioning Bond.
  - 12.1.3 A signed statement that the Applicant has read this Ordinance, understands all its provisions, and agrees to abide by them.
- 12.2 A Permit to Operate shall be valid for twenty (20) years. Application for renewal requires Planning Board review and approval at a public hearing.
- 12.3 Applications for a Permit to Operate or a Renewal Permit will be heard at the next regularly-scheduled Planning Board meeting for which adequate legal notice has been posted.
- 12.4 A Permit to Operate is not transferable to a new Owner/Operator. Prior to or upon transfer of the property/LWEF, the new Owner or Operator shall apply to the Planning Board for a new Permit to Operate.

- 12.5 All conditions of approval shall be reviewed by the Planning Board annually.
- 12.6 A Permit to Operate shall be revoked and the LWEF required to cease operations if the Select Board determines that there is a violation of any provision of this ordinance or other applicable regulations. The Permit shall not be reinstated until the Select Board is assured at a duly-noticed public hearing that all violations have been corrected.

### 13.0 Administration and Enforcement

- 13.1 This ordinance shall be administered by the Planning Board and enforced by the Select Board or its designated agent(s).
  - 13.2 In the issuance of the Conditional Use Permit, the Planning Board may attach reasonable conditions to an approval that it deems necessary, or to minimize any burden on any person affected by the proposed LWEF. The Planning Board also may waive or modify the standards or requirements of this Ordinance only if the Board finds by majority vote following the public hearing that specific circumstances relative to the proposal or peculiar conditions pertaining to the land in question indicate that the waiver will not be contrary to the public interest and will properly carry out the spirit and intent of this Ordinance.
    - 13.2.1 Any landowner may grant a permanent easement or waiver to the Owner/Operator for any impacts of the LWEF on their property that is inconsistent with this ordinance (for example, setbacks, shadow flicker, etc.). The terms of the easement or waiver shall be part of the public hearing process, and shall be recorded in the Registry of Deeds. Upon receipt of the permanent easement or waiver, the Planning Board shall review such instrument and no construction shall begin until the Planning Board approves the easement or waiver.
  - 13.3 Third Party Review. Pursuant to NH RSA 676:4-b, the Planning Board is authorized to require an applicant to reimburse the Board for expenses reasonably incurred by obtaining third party review for review and consultation during the review process, or for inspections during the construction phase, or for any post-construction inspections.
  - 13.4 Inspections and Monitoring. The Planning Board and/or its designee may enter the site of a completed LWEF for the purpose of assuring compliance, investigating complaints, or assessing potential future occurrences or hazards that could arise. In such a case, the Board will provide the Owner/Operator with 48-hour telephone notice, followed by email notification for the record.
  - 13.5 Violations and Penalties. Upon receipt of any convincing information, either written or verbal, the Select Board or its designated agent may institute appropriate corrective action. The Board or its designated agent will notify the Owner/Applicant in writing of the violation, the action needed to correct it and the timeframe for correction. If the violation is not corrected, the Select Board or its designated agent is authorized to take any action it deems appropriate by the authority provided under NH RSA 676:17.
  - 13.6 Grievances. In the event an Antrim citizen has a grievance resulting from the construction or operation of a permitted LWEF, the citizen may bring the issue before the Select Board for redress.
- 14.0 **Appeals.** Any person aggrieved by any decision made by the Planning Board in administering this Ordinance may appeal to the New Hampshire's superior court system, as provided in RSA 677:15.

The other 2 exhibits may be obtained at:

- [http://www.antrimnh.org/Pages/AntrimNH\\_Planning/Master\\_plan\\_update](http://www.antrimnh.org/Pages/AntrimNH_Planning/Master_plan_update)
- [http://www.antrimnh.org/Pages/AntrimNH\\_ZoneOrdinance/toc](http://www.antrimnh.org/Pages/AntrimNH_ZoneOrdinance/toc)