



Planning Board
754 North Groton RD, Groton NH 03241

The Town of Groton Zoning Ordinance

Adoption & Amendments	Date
Adopted by the voters of the Town of Groton	

ZONING ORDINANCE
Town of Groton, New Hampshire

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Article 1: Purpose

The Zoning Ordinance of the Town of Groton, New Hampshire is intended to regulate land use within the Town. It was designed to take into account the impacts of land uses and to encourage the most appropriate use of land to help Groton meet change responsibly by guiding growth in an orderly, constructive manner. This Ordinance is meant to promote the health, safety, and general welfare of all residents and visitors to Groton as set forth in Chapter 674, Sections 16 to 23, New Hampshire Planning and Land Use Regulations, as amended. The following ordinance is adopted by the voters of the Town of Groton in official Town Meeting convened March 12, 2019 and is effective immediately.

Article 2: Title

This ordinance shall be known and hereafter may be cited as “The Town of Groton Zoning Ordinance”, hereinafter referred to as “this Ordinance.”

Article 3: Administration

A. Enforcement and Penalties

1. Authority. It shall be the duty of the Board of Selectmen, and they are hereby empowered to administer and enforce the provisions of this Ordinance.
2. Penalties. Penalties shall be as set forth in RSA 676:15–19, as amended.
3. The Board of Selectmen shall be authorized to seek enforcement, conviction and injunction in the appropriate court and the violator shall, in addition to the fines, be liable for the Town's expenses in seeking said conviction and/or injunction.

B. Validity

1. Separability: If any section, subsection, paragraph, sentence, clause, provision, word or phrase of this Ordinance is held to be invalid or unconstitutional by any court or any competent authority, such holding shall not effect, impair or invalidate any other section, subsection, paragraph, sentence, clause, provision, word or phrase of this Ordinance.
2. Existing Ordinances: Nothing contained in this Ordinance shall be construed as repealing or modifying any other ordinance or regulation of this Town, except as may be specifically repealed or modified by enactment of this Zoning Ordinance.
 - a. Nor shall anything in this Zoning Ordinance be construed as repealing or modifying any private restrictions placed upon property by covenant, deed or other private agreement, or restrictive covenants running with the land, but shall be in addition thereto.
 - b. Whenever the provisions of this Ordinance differ from those prescribed by any statutes, other ordinance or other regulation or restriction, that provision which imposes greater restriction or the higher standard shall apply.
3. Amendments: This Ordinance may be amended in the manner provided in New Hampshire Planning and Land Use Regulations, Chapter 674, as amended.
4. Effective Date: This Ordinance is enacted by the voters of the Town of Groton, New Hampshire in official Town Meeting convened March 12, 2019. The Ordinance will take effect immediately upon passage.

Article 4: Zoning Districts and District Regulations

The Town of Groton shall be composed of the following districts and overlay districts:

- A. Rural Residential District
- B. Forestry and Conservation District
- C. Renewable Energy and Forestry District
- D. Floodplain Overlay District
- E. Aquifer Overlay District

The districts and overlay districts are shown in Appendix A and B, “Zoning Maps of the Town of Groton” which are part of this Ordinance. The Town of Groton Zoning Board of Adjustment (“ZBA”) shall have the authority to determine the location of such boundary subject to consultation with the Town of Groton Planning Board (“Planning Board”) and the intent of this ordinance and the zoning maps. Any determination of the boundaries of the Floodplain Overlay District and Aquifer Overlay District shall also be consistent with the Floodplain Management Ordinance together with the current Flood Insurance Rate Map (FIRM) published by the U.S. Federal Emergency Management Agency (FEMA), and any amendments and revisions.

A. Rural Residential District

I. Purpose Statement

The purpose of the **Rural Residential District** is to direct the majority of Groton's future development activity to the portions of the community that are most appropriate for development. This District is currently where the largest number of structures is located, provides access to existing private, town and state roads, and has the least area of steep slopes and/or wetlands that restrict development. However, this District is also the most densely populated and visible to residents and visitors alike and will require careful future development to protect Groton's rural character, environment and precious natural resources.

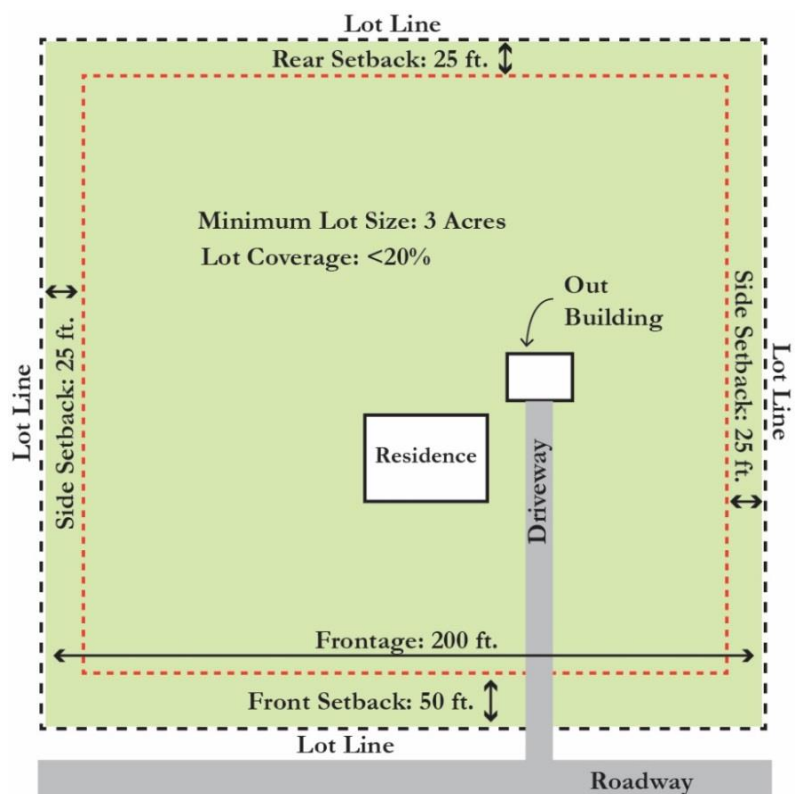
Subject to any necessary permit or other approval required by the Town of Groton, land in the Rural Residential District may be developed, and dwellings or other structures may be erected or altered, only for the following uses:

II. Permitted Uses (as defined in Article 11)

- Single Family Residential Dwelling and Accessory Dwelling Unit (ADU)
- Outbuildings
- Home Occupation and Home Business
- Forestry
- Agriculture
- Conservation

III. Dimensional Requirements

- Minimum Lot Size: 3 acres
- Frontage on public road, Class V or better, or with Town approval: 200 feet
- Front Setback: 50 feet
- Side and Rear Setbacks: 25 feet
- Lot Coverage: <20%
- Height Limit: 35 feet



Above is a diagram depicting dimensional requirements for properties within the Rural Residential District. This image is not to scale.

B. Forestry and Conservation District

I. Purpose Statement

The purpose of the **Forestry and Conservation District** is to encourage working forests, protect wildlife habitat, and protect water quality while requiring a very low density of development. This District is characterized by unfragmented areas and large single parcels, extensive conservation land, and historically, its use has centered on the wood-products industry and recreational opportunities. Access to these areas is challenging and the majority of the land is heavily constrained by the presence of steep slopes, wetlands and other critical natural resources.

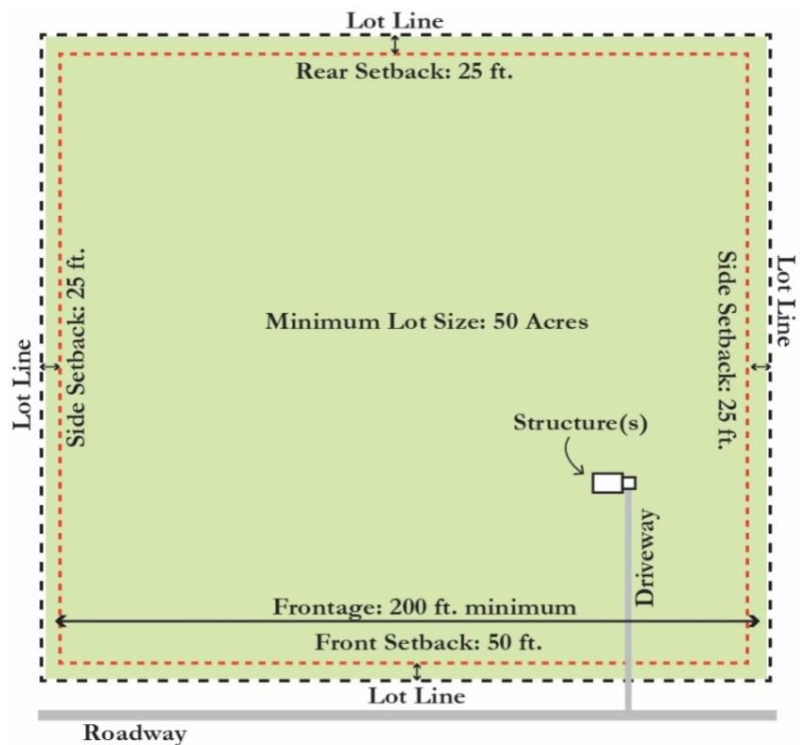
Subject to any necessary permit or other approval required by the Town of Groton, land in the Forestry and Conservation District may be developed, and dwellings or other structures may be erected or altered, only for the following uses:

II. Permitted Uses (as defined in Article 11)

- Single Family Residential Dwelling and Accessory Dwelling Unit (ADU)
- Outbuildings
- Home Occupation and Home Business
- Forestry
- Agriculture
- Conservation

III. Dimensional Requirements

- Minimum Lot Size: 50 acres Frontage on a public road, Class V or better, or by other Town approval: 200 feet
- Front Setback: 50 feet
- Side and Rear Setbacks: 25 feet
- Height Limit: 35 feet



Above is a diagram depicting dimensional requirements for properties within the Forestry and Conservation District. This image is not to scale.

C. Renewable Energy and Forestry District

I. Purpose Statement

The purpose of the **Renewable Energy and Forestry District** is to provide a location for the establishment of commercial wind and solar installation in a portion of the community that has the least number of residents and reasonable access to Route 25. This portion of the community is currently the location of a large commercial wind operation but does include land areas with additional development potential. Considering its location adjacent to the area developed as a business district for the Town of Rumney, proximity to Plymouth's Commercial District and limited access points from Groton or Route 25, it is likely to be best suited to forestry or commercial energy related businesses.

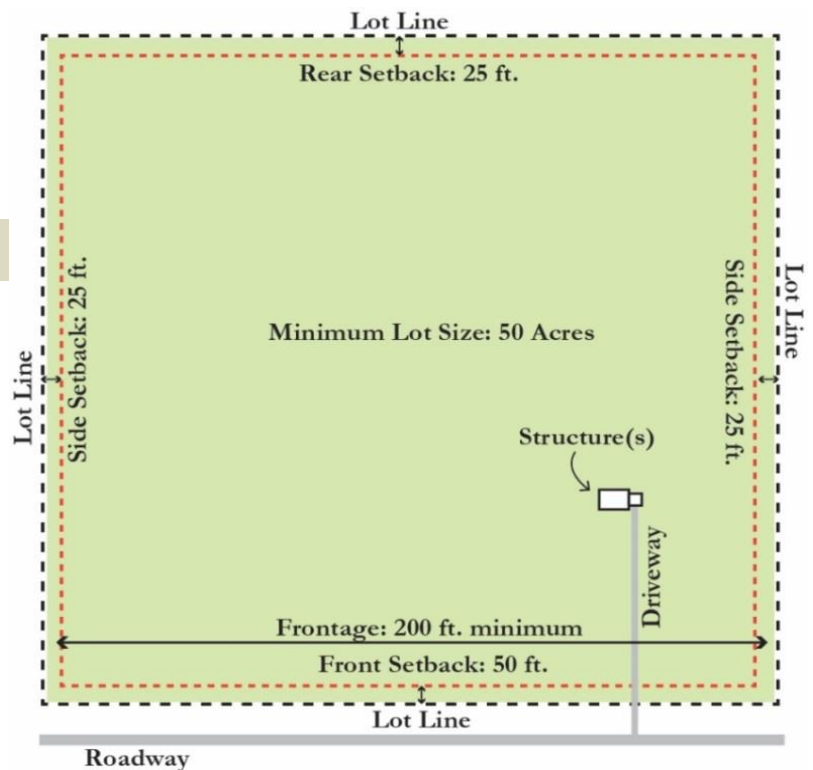
Subject to any necessary permit or other approval required by the Town of Groton, land in the Renewable Energy and Forestry District may be developed, and other structures may be erected or altered, only for the following uses:

II. Permitted Uses (as defined in Article 11)

- Commercial Wind and Solar Energy Facilities
- Forestry
- Agriculture
- Conservation

III. Dimensional Requirements

- Minimum Lot Size: 50 acres
- Frontage on a public road, Class V or better, or by other Town approval: 200 feet
- Front Setback: 50 feet
- Side and Rear Setbacks: 25 feet
- Building Height Limit: 35 feet



Above is a diagram depicting dimensional requirements for properties within the Renewable Energy and Forestry District. This image is not to scale.

Article 5: Overlay Districts

A. The Town of Groton has two overlay districts: Floodplain and Aquifer. These overlay districts add additional standards to the underlying zoning district. In all cases where the standards for the applicable overlay district conflict with those of the underlying district, the more restrictive requirement(s) will apply.

B. Floodplain Overlay District

1. Purpose: The Floodplain Overlay District's purpose is to promote the public health and general welfare; minimize hazards to persons and property from flooding; to protect watercourses from encroachment; and to maintain and carry off floodwaters.
2. Activities within the Floodplain Overlay District are governed by the Floodplain Management Ordinance, Article 8.
3. Groton's Floodplain Management Ordinance establishes a permit system and review procedure for development in the Floodplain Overlay District.
4. Such district is defined as all areas identified on the current version of U.S. FEMA's Flood Insurance Rate Map (FIRM) for Groton and associated amendments and revisions.
5. The Floodplain Management Ordinance, Article 8, controls the additional requirements and regulations in the Floodplain Overlay District.

C. Aquifer Overlay District

1. Purpose: The Purpose of this Overlay is to preserve and maintain the existing groundwater supplies, aquifers, and groundwater recharge areas in the Town.
2. To accomplish the purpose of this overlay district uses identified as potential contamination sources that take place in the overlay district shall be regulated by the standards of the NH Green Yards program established by the State of New Hampshire Department of Environmental Services (DES) as applicable, all state regulations relating to Groundwater Protection, and Best Management practices for each potential contamination source.
3. Potential Contamination Sources: Development, human activities and/or other operations on the land shall be considered potential contamination sources if the activity or operation poses a reasonable risk that regulated contaminants may be introduced into the environment in such quantities as to degrade the natural groundwater quality. Such potential contamination sources are identified in New Hampshire's Groundwater Protection Act, RSA 485-C:7, II, as amended, including:
 - a. Vehicle service and repair shops, including but not limited to: automobile, truck, and equipment service or repair shops, autobody shops; and aircraft fueling, deicing, and maintenance areas.
 - b. General service and repair shops, including but not limited to: furniture stripping, painting, and refinishing; photographic processing; printing; appliance and small engine repair; boat repair, service, and refinishing; refrigeration, heating, ventilating and air conditioning shops.
 - c. Metalworking shops, including, but not limited to: machine shops; metal plating, heat treating, smelting and jewelry making shops.
 - d. Manufacturing facilities, including, but not limited to: electronics and chemical manufacturing, processing, and reclamation; paper, leather, plastic, fiberglass, rubber, silicon and glass making; a pharmaceutical

- production; pesticide manufacture; and chemical preservation of wood and wood products.
 - e. Underground and aboveground storage facilities for oil and hazardous substances, as defined in RSA 146-C, as amended.
 - f. Waste and scrap processing and storage, including, but not limited to: junkyards, scrap yards, and auto salvage yards; wastewater treatment plants; dumps, landfills, transfer stations and other solid waste facilities; and wastewater or septage lagoons.
 - g. Transportation corridors, including, but not limited to, highways and railroads.
 - h. Septic systems, including, but not limited to large septic systems which require a groundwater discharge permit under RSA 485-A:13, as amended.
 - i. Laboratories and professional offices, including but not limited to: medical, dental, and veterinary offices; and research and analytical laboratories.
 - j. Use of agricultural chemicals, including but not limited to: golf courses; feed lots, kennels, piggeries, and manure stockpiles; parks; nurseries and sod farms; and the usage of registered pesticides.
 - k. Salt storage and use for winter road and parking lot maintenance.
 - l. Snow dumps.
 - m. Stormwater infiltration ponds or leaching catch basins.
 - n. Cleaning services, including but not limited to: dry cleaners, laundromats; beauty salons; and car washes.
 - o. Food processing plants, including but not limited to: meat packing and slaughterhouses; dairies; and processed food manufacture.
 - p. Fueling and maintenance of excavation and earthmoving equipment.
 - q. Concrete, asphalt and tar manufacture.
 - r. Cemeteries.
 - s. Hazardous waste facilities regulated under the Resource Conservation and Recovery Act, as implemented by RSA 147-A, as amended.
4. In addition to the potential contamination sources identified in RSA 485-C:7, II, as amended, Groton also considers commercial earth excavation to be a potential contamination source.
 5. Uses which may significantly impair groundwater recharge in this overlay district are prohibited.

Article 6: Performance Standards

A. Agriculture Performance Standards

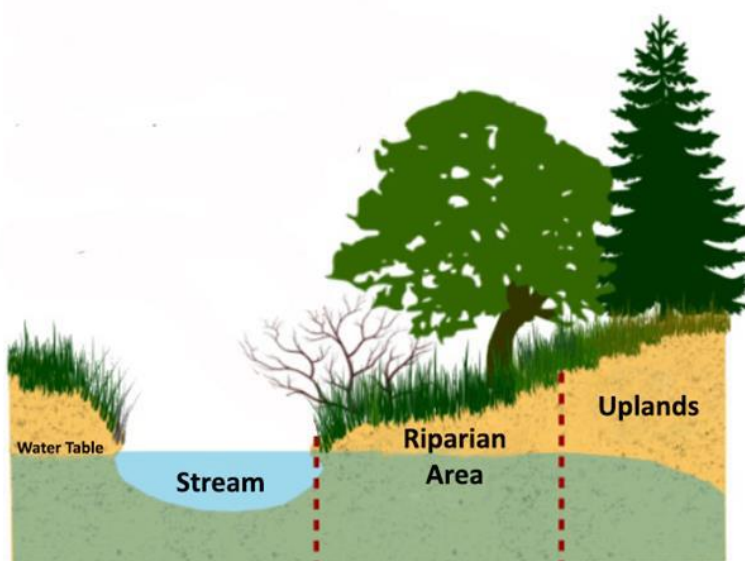
1. Purpose: The Town of Groton seeks to encourage agriculture, both as a primary use of property and as an accessory use to primary residential use.
2. All agriculture should be undertaken using Best Management Practices as defined by the Manual of Best Management Practices (BMPs) for Agriculture in New Hampshire (rev. July 2017), published by New Hampshire Department of Agriculture, Markets and Food. As of the passage of this ordinance, it could be found at <https://www.agriculture.nh.gov/publications-forms/documents/bmp-manual.pdf>.

3. All agricultural activities or uses of property must comply with all applicable Federal, State, and Local regulations, including:
 - a. RSA 431:33 through 431:35 regarding management of manure, agricultural compost and chemical fertilizer;
 - b. RSA 644:8 and RSA 436 regarding animal welfare, health and cruelty; and
 - c. RSA 485 and 483-B regarding water quality.
- B. Forestry Performance Standards
1. Purpose: Forestry, when practiced in accordance with accepted silvicultural principles, constitutes a beneficial and desirable use of New Hampshire's forest resource. Forestry contributes greatly to the economy of the state through a vital forest products industry, and to the health of the state's forest and wildlife resources through sustained forest productivity, and through improvement of wildlife habitats. New Hampshire's forests are an essential component of the landscape and add immeasurably to the quality of life for the Groton's citizens.
 2. All forestry activities shall be conducted in accordance with the following:
 - a. RSA 227-J:6 (Operations in Wetlands), as amended, and the best management practices in New Hampshire Best Management Practices for Erosion Control on Timber Harvesting Operations, 2016, NH Division of Forests and Lands and UNH Cooperative Extension found at: [https://www.nhdf.org/DRED/media/Documents/NH-BMP 2-3-16-\(1\).pdf](https://www.nhdf.org/DRED/media/Documents/NH-BMP%202-3-16-(1).pdf),
 - b. RSA 227-J:9 (Cutting of Timber Near Certain Waters and Public Highways of the State; Penalty), as amended,
 - c. RSA 79:10 (Notice of Intent to Cut), as amended,
 3. Groton recognizes Good Forestry in the Granite State: Recommended Voluntary Forest Management Practices for New Hampshire, (2nd ed., 2010), as a compendium of voluntary practices that can be used to guide forestry activities. At the time of passage of this Ordinance, it is available through University of New Hampshire Extension at: <https://extension.unh.edu/goodforestry/assets/docs/GoodForestry2010FINALreducedsizeSECURE.pdf>.
- C. Solar Performance Standards
1. Purpose: Solar installations arrays, or other developments, when properly permitted, sited, installed, maintained, and managed, assist in providing renewable energy to the grid in New Hampshire. The Town of Groton seeks to encourage responsible and sustainable installation of thoughtful and manageable solar installations.
 2. All solar installations, arrays, or other developments should be designed, sited, installed, maintained, and managed according to currently accepted Best Management Practices (BMPs).
- D. Environmental Performance Standards
1. Environmental performance standards have been developed to protect the long-term quality of the natural environment in Groton. The Town of Groton has chosen to regulate steep slopes and surface water buffers.
 - a. Steep Slopes Performance Standards
 - i. Restrictions in Steep Slope areas: To guard against potential hazards created by development of steep slope areas, development

within these areas shall be limited and shall be subject to the following restrictions:

- a. No portion of a steep slope area shall be used for the construction of leaching beds or trenches which are part of a subsurface sewage disposal system;
 - b. No temporary or permanent structures shall be erected on a steep slope area;
 - c. Not more than 25% of a steep slope area shall be cleared of healthy existing vegetation;
 - d. Any portions of a steep slope area affected by any construction activities shall be given special attention with regard to erosion control; and
 - e. No portion of a steep slope area shall be the receiving area for discharge from a stormwater management system.
- b. Surface Water Buffer Performance Standards
- i. Protective Surface Water Buffer:
 - a. The setback for surface waters shall be measured from the top of the bank of that water body.
 - b. All development activities shall require a 50' natural vegetative buffer from any surface water as defined in Article 11. This is illustrated in Figure 1 as the Riparian Area and Uplands. Any vegetation planted within the buffer area must be native species.
 - c. Nothing in this ordinance shall relieve any person of the obligation to comply with all applicable provisions of the Shoreland Water Quality Protection Act, (SWQPA) RSA 483-B: 1-22, as amended.

Figure 1. Example of a Surface Water Buffer



Article 7: General Provisions

A. Non-Conforming Parcels or Usage

1. Non-Conforming Uses. Any existing non-conforming use shall not be changed to a different non-conforming use or expanded.
2. Non-Conforming Lots. A non-conforming lot of record as of the effective date of this ordinance, or amendment thereto, may be built upon, without the need for a variance, provided that all provisions of this Ordinance except lot size and/or frontage can be met, and a building permit is otherwise lawfully issued.

B. Residential Dwelling Limit

1. Within the Town of Groton, only one single family residential dwelling and one Accessory Dwelling Unit (ADU) shall be allowed per one buildable lot. The ADU is subject to Article 7, Section C below.

C. Accessory Dwelling Units

1. An "accessory dwelling unit" (or "ADU"), as defined in Article 11, may be physically within or attached to the primary structure, or may be constructed as a standalone detached unit.
2. An accessory dwelling unit shall be permitted by conditional use permit in all zoning districts that permit single family dwellings. Subject to the provisions of RSA 674:21, II, the Planning Board is hereby authorized to issue a conditional use permit for an ADU in the Town of Groton if the proposed ADU meets the approval criteria of the zoning ordinance and planning review. Any application for a conditional use permit for an ADU shall be made to the Planning Board in writing.
3. A conditional use permit shall be issued by the Planning Board if the Planning Board decides that the applicant for conditional use permit meets all of the following criteria:
 - a. Only one (1) ADU shall be permitted for each single-family dwelling.
 - b. The ADU shall have an independent means of ingress and egress, or shall have ingress and egress through a common space such as a shared hallway to an exterior door.
 - c. Either the ADU or the principal dwelling unit shall be the principal residence and legal domicile of the owner of the property.
 - d. The ADU shall not exceed 900 square feet in habitable floor area.
 - e. The ADU shall be provided a minimum of two (2) off-street parking spaces.
 - f. The ADU shall make provision for adequate water supply and sewage disposal service in compliance with RSA 485-A:38, as amended, regulations adopted by the New Hampshire Department of Environmental Services and any other legal requirement.
 - g. All ADUs must meet lot area requirements required for the principal dwelling unit. This includes frontage and all lot setback requirements.

D. Home Occupation and Home Business Standards

1. Purpose: Home-based opportunities are important to the Town in order to provide tax diversity, employment prospects and to support the variety of service needs

characteristic of small towns. At the same time, the ordinance intends to ensure the Town and neighborhood character is not changed, property values are protected, class VI/private roads/easements are maintained and plowed equitably among neighbors, the Town's natural resources and environment are protected and the quiet, rural and scenic features of Groton are preserved.

2. Home Occupation

- a. A home occupation, as defined in Article 11, is permitted as an accessory use to the principal residential use in any district that permits single-family residential use.
- b. The home occupation must be conducted on-site, within the dwelling or an accessory structure to the dwelling, only by a member (or members) of the domiciled family that resides in or owns the dwelling as its primary residence. The use must be incidental and secondary to the use of the dwelling as a residence.

3. Home Business

- a. A home business, as defined in Article 11, may have 1 to 4 employees who are not family members or domiciled at the dwelling.
- b. A Site Plan Review Application for a Home Business must be submitted to the Planning Board for Site Plan Review and be approved before any business operations commence on or off the property, including the storage of materials, vehicles, or property on the residential property for a business that operates primarily or fully offsite, including, but not limited to, a landscaping company or a construction company.
- c. The Home Business must be conducted on-site, transacted within the dwelling or an accessory structure to the dwelling, or fully or in some part off-site, by at least one member of the domiciled family (in addition, up to four employees may work on-site or off-site).

4. The Home Occupation or Home Business use must comply with the following requirements/prohibitions:

- a. There shall be no external effects including noise, odor, vibration, dust, smoke, or emissions and there shall be no hazard to person or property.
- b. One non-obstructive, non-glaring outside light (directed down and away from neighbors) and one sign, non-flashing, not to exceed nine (9) square feet is allowed.
- c. There shall be no window displays or other characteristics or features normally associated with business use.
- d. There shall be no waste (liquid or solid) or any other trash/disposal issues on the property.
- e. There shall be no significant generation of traffic not normally associated with a residence. If the Home Occupation or Home Business is located on a class VI, private road or right-of-way easement, that access shall be maintained and plowed to maintain safety. The domiciled family must contribute a proportional share of the maintenance and plowing/sanding expenses, and may be required to sign an agreement describing his/her obligations, or must demonstrate an alternative arrangement agreed upon by the properties on the class VI road, private road, or right-of-way easement.

- f. There shall be no on-street parking.
- g. All septic and water systems must comply with state and local requirements of design, capacity and maintenance for the number of domiciled individuals and any full-time or full-time equivalent employees.
- h. There shall be no material accumulation, display of goods, or storage/parking of equipment and vehicles (associated with the Occupation or Business) unless satisfactorily screened from roads and neighboring properties by natural or structural means to the extent, and in such a manner, as may be specifically required and approved by the Planning Board.
- i. The Home Business or Home Occupation must comply with all applicable local, state, and federal laws and permits.
- j. The Home Business or Home Occupation must comply with reasonable requests by local, state, and federal officials to inspect the property, dwelling and accessory structures.
- k. There shall be no electrical interference, or a nuisance to the surrounding neighbors.

E. Junk Yards

- 1. Junk yards or other places for the storage, selling or transferring of discarded machines, motor vehicles, or other scrap materials are not permitted within the Town of Groton except for:
 - a. public facilities that are owned or operated by the Town and
 - b. those junk yards approved, properly licensed and fully compliant with all state and local requirements prior to the first legal notice of proposed changes for this Ordinance or amendment thereto.

F. Damaged Structures or Hazardous Conditions

- 1. Any structure suffering extensive or obvious damage by fire, wind or other casualty or any condition which constitutes hazardous condition shall be repaired or removed within one (1) year of the date of the damage or of the most recent event that added significantly to the damage, whichever is more recent. All debris shall be removed and cellar holes, abandoned wells or similar excavations shall be filled to ground level or guarded by covers, fences or other means in a manner acceptable to the Board of Selectmen.

G. Obnoxious Use

- 1. Any use that may be obnoxious or injurious by reason of production and/or emission of odor, smoke, refuse matter, fumes, noise, vibration or similar conditions, or that is dangerous to the comfort, peace, enjoyment, health and safety of the community or leading to its disturbance or annoyance, is prohibited.

H. Setbacks

- 1. Setbacks apply to all structures regardless of the purpose of the structure.

Article 8: Floodplain Management Ordinance

Section A – Statutory Authority and Purpose

Section B – Findings of Fact and Applicability

Section C – Administrative Provisions

Section D – Floodplain Administrator Duties and Responsibilities

Section E – Flood Zone and Floodway Determinations

Section F – Substantial Improvement and Damage Determinations

Section G – Floodplain Permitting Requirements

Section H – Flood Elevation Determinations

Section I – Floodplain Development Requirements

Section J – Structure Requirements

Section K – Detached Accessory Structures

Section L – Manufactured Homes and Recreational Vehicles

Section M – Water Supply and Sewage Disposal Systems

Section N – Floodway Requirements

Section O – Watercourse Alterations

Section P – Variances and Appeals

A. Statutory Authority and Purpose

1. This ordinance, adopted pursuant to the authority of RSA 674:16, RSA 674:17, and 674:56, shall be known as the Groton Floodplain Management Ordinance (“Ordinance”). The regulations in this Ordinance shall overlay and supplement the regulations in the Town of Groton Zoning Ordinance, and shall be considered part of the Zoning Ordinance for purposes of administration and appeals under state law.
2. The purpose of this Ordinance is to promote the public health, safety, and general welfare; minimize hazards to persons and property from flooding; to protect watercourses from encroachment; and to maintain the capability of floodplains to retain and carry off floodwaters.

B. Findings of Fact and Applicability

1. Certain areas of the Town of Groton are subject to periodic flooding, causing serious damages to properties within these areas. Relief is available in the form of flood insurance as authorized by the National Flood Insurance Act of 1968. Therefore, the Town of Groton has chosen to become a participating community in the National Flood Insurance Program (NFIP), and agrees to comply with the requirements of the National Flood Insurance Act of 1968 (P.L. 90-488, as amended) as detailed in this Ordinance.
2. The following regulations in this Ordinance shall apply to all lands within Groton designated as special flood hazard areas by the Federal Emergency Management Agency (FEMA) in its "Flood Insurance Study (FIS) for Groton NH" dated February 20, 2008 together with the associated Flood Insurance Rate Map (FIRM) panels 978 E and 979 E dated February 20, 2008 and associated amendments and revisions, which are declared to be a part of this Ordinance and are hereby incorporated by reference.
3. This area is called the "Floodplain Overlay District."
4. This Ordinance establishes a permit system and review procedure for development in a special flood hazard area, Floodplain Overlay District, of the Town of Groton

C. Administrative Provisions

1. If any provision of this Ordinance differs or appears in conflict with any other ordinance or regulation, the provision imposing the greater restriction or more stringent standard shall be controlling.
2. Should any section or provision of this Ordinance be declared by the courts to be unconstitutional or invalid, such decision shall not affect the validity of the Ordinance as a whole, or any part thereof other than the part so declared to be unconstitutional or invalid.
3. In accordance with RSA 676, the Floodplain Administrator shall enforce and administer the provisions of this Ordinance.
4. The degree of flood protection required by this Ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur, and flood heights may be increased by man-made or natural causes. This Ordinance does not imply that land outside of a Floodplain Overlay District or uses that are permitted within such areas will be free from flooding or flood damage.

D. Floodplain Administrator Duties and Responsibilities

1. The Town of Groton Select Board or its designee is hereby appointed to administer and implement these regulations and is referred to herein as the "Floodplain Administrator."
2. The duties and responsibilities of the Floodplain Administrator shall include, but are not limited to:
 - a. Ensure that permits are obtained for proposed development in a Floodplain Overlay District.
 - b. Review all permit applications for completeness and accuracy, and coordinate with the applicant for corrections or further documentation, as needed.

- c. Interpret the Floodplain Overlay District and floodway boundaries and determine whether a proposed development is located in a Floodplain Overlay District, and if so, whether it is also located in a floodway.
- d. Provide available flood zone and base flood elevation information pertinent to the proposed development.
- e. Make the determination as to whether a structure will be substantially improved or has incurred substantial damage as defined in this Ordinance and enforce the provisions of this Ordinance for any structure determined to be substantially improved or substantially damaged.
- f. Issue or deny a permit based on review of the permit application and any required accompanying documentation.
- g. Ensure prior to any alteration or relocation of a watercourse that the required submittal and notification requirements in this Ordinance are met.
- h. Review all required as-built documentation and other documentation submitted by the applicant for completeness and accuracy and verify that all permit conditions have been completed in compliance with this Ordinance.
- i. Notify the applicant in writing of either compliance or non-compliance with the provisions of this Ordinance.
- j. Ensure the administrative and enforcement procedures detailed in RSA 676 are followed for any violations of this Ordinance.
- k. Submit to FEMA, or require applicants to submit to FEMA, data and information necessary to maintain FIRMs, including hydrologic and hydraulic engineering analyses prepared by or for the Town of Groton within six months after such data and information becomes available if the analyses indicate changes in base flood elevations, special flood hazard area and/or floodway boundaries.
- l. Maintain and permanently keep and make available for public inspection all records that are necessary for the administration of these regulations, including: local permit documents, flood zone and base flood elevation determinations, substantial improvement and damage determinations, variance and enforcement documentation, and as-built elevation and dry floodproofing data for structures subject to this Ordinance.
- m. Delegate duties and responsibilities set forth in these regulations to qualified technical personnel, inspectors, or other community officials as needed.

E. Flood Zone and Floodway Determinations

- 1. The Floodplain Administrator shall determine whether any portion of a proposed development is located in the Floodplain Overlay District and if so, whether it is also located in a floodway, using the effective FIRM. If the development is located wholly or partially in a Floodplain Overlay District, the Floodplain Administrator shall determine the flood zone and the applicable requirements in the Ordinance that shall apply to the development.
- 2. Where it is unclear whether a site is in the Floodplain Overlay District and/or in a floodway, the Floodplain Administrator may require additional information from the applicant to determine the development's location on the effective FIRM.
- 3. If any portion of a development including a structure and its attachments (e.g,

deck posts, stairs) is located in multiple flood zones, the flood zone with the more restrictive requirements documented in this Ordinance shall apply.

4. Where a conflict exists between the floodplain limits illustrated on the FIRM and actual natural ground elevation, the base flood elevation(s) in relation to the actual natural ground elevation shall be the governing factor in locating the regulatory floodplain limits.
5. Within a riverine Floodplain Overlay District designated as Zone A, the Floodplain Administrator shall obtain, review, and reasonably utilize any floodway data available from Federal, State, or other sources. If floodway data is available, the applicant shall meet the floodway requirements in Section 14 of this Ordinance.

F. Substantial Improvement and Damage Determinations

1. For all development in a Floodplain Overlay District that proposes to improve an existing structure, including alterations, movement, enlargement, replacement, repair, additions, rehabilitations, renovations, repairs of damage from any origin (such as, but not limited to flood, fire, wind or snow) and any other improvement of or work on such structure including within its existing footprint, the Floodplain Administrator, in coordination with any other applicable community official(s), shall be responsible for the following:
 - a. Review description of proposed work submitted by the applicant.
 - b. Use the community's current assessed value of the structure (excluding the land) to determine the market value of the structure prior to the start of the initial repair or improvement, or in the case of damage, the market value prior to the damage occurring. If the applicant disagrees with the use of the community's assessed value of the structure, the applicant is responsible for engaging a licensed property appraiser to submit a comparable property appraisal for the total market value of only the structure.
 - c. Review cost estimates of the proposed work including donated or discounted materials and owner and volunteer labor submitted by the applicant. Determine if the costs are reasonable for the proposed work, or use other acceptable methods, such as those prepared by licensed contractors or professional construction cost estimators and from building valuation tables, to estimate the costs.
 - d. Determine if the proposed work constitutes substantial improvement or repair of substantial damage as defined in this Ordinance.
 - e. Notify the applicant in writing of the result of the substantial improvement or damage determination. If the determination is that the work constitutes substantial improvement or substantial damage, the written documentation shall state that full compliance with the provisions of this Ordinance is required.
 - f. Repair, alteration, additions, rehabilitation, or other improvements of historic structures shall not be subject to the elevation and dry floodproofing requirements of this Ordinance if the proposed work will not affect the structure's designation as a historic structure. The documentation of a structure's continued eligibility and designation as a

historic structure shall be required by the Floodplain Administrator in approving this exemption.

G. Floodplain Permitting Requirements

1. All proposed development within a Floodplain Overlay District shall require a permit from the Floodplain Administrator prior to the commencement of any development activities. Development, as defined in this Ordinance, includes both building and non-building activities.
2. To obtain a permit, the applicant shall first submit a completed application in writing on a form furnished by the Floodplain Administrator for that purpose. Every application shall include, but is not limited to:
 - a. The name, address, and phone number of the applicant, owner, and contractor(s);
 - b. A map indicating the location of the proposed development sufficient to accurately locate property and structure(s) in relation to existing roads and waterbodies;
 - c. A description of the proposed development and the use or occupancy for which the proposed development is intended;
 - d. If the development involves proposed work on an existing structure, a description of the total costs of the proposed work including all materials and labor;
 - e. In a Zone A, for proposed developments either greater than 50 lots or greater than 5 acres, the base flood elevation(s) established for the area, including any data such as hydraulic and hydrologic analyses, used to determine the elevation(s);
 - f. Submittal of evidence that all necessary permits have been obtained from those Federal, State, or local government agencies from which prior approval is required; and
 - g. Such other material and information as may be requested by the Floodplain Administrator to determine conformance with, and provide enforcement of, this Ordinance.
3. The Floodplain Administrator shall review all permit applications for completeness and accuracy, and coordinate with the applicant for corrections or further documentation, as needed. If the proposed development will comply with this Ordinance, the Floodplain Administrator shall approve the application and issue a permit. If the proposed development will not comply with this Ordinance, the Floodplain Administrator shall deny the permit application and return to the applicant with a written explanation of denial.
4. Following completion of new construction of a structure or an existing structure that was substantially improved or replaced, or that incurred substantial damage, or the placement or substantial improvement of a manufactured home, the applicant shall submit the following to the Floodplain Administrator:
 - a. A completed and certified copy of an Elevation Certificate that includes the as-built elevation (in relation to mean sea level) of the lowest floor of the structure and whether the structure has a basement.
 - b. If a non-residential structure includes dry floodproofing, a completed and

certified copy of the Floodproofing Certificate for Non-Residential Structures that includes the as-built elevation (in relation to mean sea level) to which the structure was dry floodproofed and certification of floodproofing.

5. The Floodplain Administrator shall review all required as-built documentation and other documentation submitted by the applicant for completeness and accuracy and verify that all permit conditions have been completed in compliance with this Ordinance.

The Floodplain Administrator shall either:

- a. Issue a Certificate of Compliance to the applicant if it has been determined that full compliance with this Ordinance has been met; or
- b. Notify the applicant in writing of any violation of this Ordinance and the actions required to bring the development into compliance with this Ordinance if it has been determined that full compliance with this Ordinance has not been met.

H. Flood Elevation Determinations

1. The Floodplain Administrator shall determine the flood elevation for a structure as applicable for each permit application in the following flood zones:
2. For Zone AE, the base flood elevation is determined from the data provided in the community's FIS and accompanying FIRM.
3. For Zone A with no base flood elevation shown in the FIS or on the FIRM:
 - a. The Floodplain Administrator shall obtain, review, and reasonably utilize any base flood elevation data available from any Federal, State or other source including data submitted to the community for development proposals (i.e. subdivisions, site plan approvals).
 - b. Where a base flood elevation is not available or not known, the base flood elevation shall be determined to be at least 2 feet above the highest adjacent grade.
 - c. For a development either greater than 50 lots or greater than 5 acres, the applicant shall develop a base flood elevation for the site and provide it to the Floodplain Administrator with their permit application.
4. If a structure is affected by multiple base flood elevations, the highest base flood elevation shall apply.

I. Floodplain Development Requirements

1. All development located in a special flood hazard area shall be:
 - a. Reasonably safe from flooding;
 - b. Designed and constructed with methods and practices that minimize flood damage;
 - c. Designed (or modified) and adequately anchored to prevent flotation, collapse, or lateral movement (including structures and above ground gas or liquid storage tanks);
 - d. Constructed with flood damage-resistant materials;
 - e. Constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment, and other service facilities that are designed and/or located to prevent water from entering or accumulating within the

components during conditions of flooding;

- f. Adequately drained to reduce exposure to flood hazards; and
- g. Compliant with the applicable requirements of the State Building Code and the applicable standards in this Ordinance, whichever is more restrictive.

J. Structure Requirements

1. New construction of a residential structure, or an existing residential structure to be substantially improved or replaced, or that has incurred substantial damage, located in a Floodplain Overlay District shall have the lowest floor elevated at least three feet above the base flood elevation.
2. New construction of a non-residential structure, or an existing non-residential structure to be substantially improved or replaced, or that has incurred substantial damage, located in the Floodplain Overlay District shall:
 - a. Have the lowest floor elevated at least three feet above the base flood elevation; or
 - b. Together with attendant utility and sanitary facilities:
 - i. Be floodproofed at least three feet above the base flood elevation so that below this elevation the structure is watertight with walls substantially impermeable to the passage of water;
 - ii. Have structural components capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy; and
 - iii. Be certified by a registered professional engineer or architect that the dry floodproofing design and methods of construction are in accordance with accepted standards of practice for meeting the provisions of this section. Such certification shall be provided to the Floodplain Administrator in the form of a completed and signed Floodproofing Certificate for Non-Residential Structures.
3. A fully enclosed area for new construction of a structure, or an existing structure to be substantially improved or replaced, or that has incurred substantial damage located in a special flood hazard area that is below the lowest floor of a structure, below the base flood elevation, and therefore subject to flooding, shall meet the following requirements:
 - a. Be constructed with flood damage-resistant materials;
 - b. Be used solely for the parking of vehicles, building access, or storage;
 - c. Be constructed with the floor of the enclosed area at grade on at least one side of the structure; and
 - d. Be constructed with flood openings installed in the enclosure walls so that they are designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwater. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria:
 - i. A minimum of two flood openings on different sides of each enclosed area having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided;

- ii. The bottom of all flood openings shall be no higher on the enclosure wall than one foot above either the interior or exterior grade, whichever is higher; and
 - iii. Flood openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.
- 4. A fully enclosed area that has a floor that is below grade on all sides, including below-grade crawlspaces and basements are prohibited for new structures, existing structures to be substantially improved or replaced, or that have incurred substantial damage located in the Floodplain Overlay District.

K. Detached Accessory Structures

- 1. In a special flood hazard area, new construction or substantial improvement of a small, detached accessory structure of 400 square feet or less does not have to meet the elevation or non-residential dry floodproofing requirements as detailed in Section 10 of this Ordinance if the following wet floodproofing standards are met:
 - a. The structure has unfinished interiors and is not used for human habitation;
 - b. The structure is not located in the floodway;
 - c. The structure is not used for storage of hazardous materials;
 - d. The structure is wet floodproofed and designed to allow for the automatic entry and exit of flood water as detailed in Section 10 (C)(4);
 - e. The structure shall be firmly anchored to prevent flotation, collapse and lateral movement;
 - f. When possible, the structure shall be constructed and placed on the building site to offer the minimum resistance to the flow of floodwaters and be placed further from the source of flooding than the primary structure; and
 - g. Service facilities such as electrical, mechanical and heating equipment shall be elevated or dry floodproofed to or above the base flood elevation.

L. Manufactured Homes and Recreational Vehicles

- 1. A new manufactured home to be placed, or an existing manufactured home to be substantially improved or replaced, or that has incurred substantial damage, located in the Floodplain Overlay District shall:
 - a. Have the lowest floor elevated at least three feet above the base flood elevation;
 - b. Be on a permanent, reinforced foundation;
 - c. Be installed using methods and practices which minimize flood damage;
 - d. Be securely anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement. Methods of anchoring are authorized to include, but are not to be limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable state and local anchoring requirements for resisting wind forces; and
 - e. Comply with the requirements of Section 10(C) of this Ordinance in cases where fully enclosed areas are present below an elevated manufactured home, including enclosures surrounded by rigid skirting or other material attached to the frame or foundation. Flexible skirting and rigid skirting not attached to the frame or foundation of a manufactured home are not required to have

flood openings.

2. A recreational vehicle located within the Floodplain Overlay District shall meet one of the following requirements:
 - a. Be on a site for fewer than 180 consecutive days; or
 - b. Be fully licensed, on wheels or jacking system, attached to the site only by quick disconnect type utilities and security devices, and have no permanently attached additions; or
 - c. Meet the requirements for “manufactured homes” as stated in Section 12(A) of this Ordinance.

M. Water Supply and Sewage Disposal Systems

1. The following standards shall apply to all water supply, sanitary sewage, and on-site waste disposal systems located in a special flood hazard area:
 - a. All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the systems;
 - b. New and replacement sanitary sewage systems shall be designed and located to minimize or eliminate infiltration of flood waters into the systems and discharge from the system into flood waters; and
 - c. On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.

N. Floodway Requirements

1. Within a floodway, for any development, including fill, new construction, substantial improvements and other development or land disturbing-activity the applicant must, prior to a permit being issued by the Floodplain Administrator, submit certification prepared by a registered professional engineer, along with supporting technical data and analyses, that demonstrates that such development will not cause any increase in the base flood elevation at any location in the community.

If the analyses demonstrate that the proposed activities will result in any increase in the base flood elevation, the applicant must obtain a Conditional Letter of Map Revision (CLOMR) from FEMA prior to permit issuance by the Floodplain Administrator. The Floodplain Administrator reserves the right to deny a permit for the project if concerns about the development being reasonably safe from flooding remain following issuance of the CLOMR. If a permit is issued and the project completed, the applicant must also obtain a Letter of Map Revision (LOMR) from FEMA. CLOMR and LOMR submittal requirements and fees shall be the responsibility of the applicant.

2. Within a riverine special flood hazard area where a base flood elevation has been determined but a floodway has not been designated, for any development, including fill, new construction, substantial improvements and other development or land disturbing-activity, the applicant must, prior to a permit being issued by the Floodplain Administrator, submit certification prepared by a registered professional engineer, along with supporting technical data and analyses, that demonstrates that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the base flood elevation more

than one (1) foot at any point within the community.

If the analyses demonstrate that the proposed activities will result in more than a one (1) foot increase in the base flood elevation, the applicant must obtain a Conditional Letter of Map Revision (CLOMR) from FEMA prior to permit issuance by the Floodplain Administrator. The Floodplain Administrator reserves the right to deny a permit for the project if concerns about the development being reasonably safe from flooding remain following issuance of the CLOMR. If a permit is issued and the project completed, the applicant must also obtain a Letter of Map Revision (LOMR) from FEMA. CLOMR and LOMR submittal requirements and fees shall be the responsibility of the applicant.

O. Watercourse Alterations

1. Prior to a permit being issued by the Floodplain Administrator for any alteration or relocation of any riverine watercourse, the applicant shall:
 - a. Notify the Wetlands Bureau of the New Hampshire Department of Environmental Services and submit copies of such notification to the Floodplain Administrator, in addition to the copies required by RSA 482-A: 3; and
 - b. Submit to the Floodplain Administrator certification provided by a registered professional engineer, assuring that the flood carrying capacity of an altered or relocated watercourse can and will be maintained.
2. Prior to a permit being issued for any alteration or relocation of any riverine watercourse, the Floodplain Administrator shall notify adjacent communities and the State NFIP Coordinating Agency, and submit copies of such notification to FEMA's Federal Insurance Administrator.

P. Variances and Appeals

1. Any order, requirement, decision or determination of the Floodplain Administrator made under this Ordinance may be appealed to the Town of Groton Zoning Board of Adjustment as set forth in RSA 676:5.
2. If the applicant, upon appeal, requests a variance as authorized by RSA 674:33, I (b), the applicant shall have the burden of showing in addition to the variance standards under state law that:
 - a. The variance will not result in increased flood heights of any magnitude, additional threats to public safety, fraud on or victimization of the public; or extraordinary public expense;
 - b. The issuance of the variance will not conflict with other State, Federal or local laws or Ordinances;
 - c. If the requested variance is for activity within a floodway, no increase in flood levels during the base flood discharge will result; and
 - d. The variance is the minimum necessary, considering the flood hazard, to afford relief.
3. The Zoning Board of Adjustment shall notify the applicant in writing that:
 - a. The issuance of a variance to construct below the base flood elevation will result in increased premium rates for flood insurance up to amounts as high as \$25 for \$100 of insurance coverage; and

- b. Such construction below the base flood elevation increases risks to life and property.
 - c. Such notification shall be maintained with a record of all variance actions.
- 4. The community shall:
 - 2. Maintain a record of all variance actions, including their justification for their issuance; and
 - 3. Report such variances issued in its annual or biennial report submitted to FEMA's Federal Insurance Administrator.

Article 9: Large Wind Energy Systems Ordinance

- A. 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, property values, wildlife, and general welfare by preserving environmental, historic and scenic resources, controlling Sound Pressure Levels, and preventing electromagnetic interference.

This Ordinance regulates for Large Wind Energy Systems (LWES) between 100 KW and 30MW of which the New Hampshire Site Evaluation Committee (NH SEC) has only discretionary jurisdictional authority. This Ordinance also provides the NH SEC siting guidance which reflects town sentiment regarding any proposed LWES exceeding 30 MW over which the NH SEC has exclusive jurisdiction.

This Ordinance is adopted pursuant to the enabling provisions of RSA 674:1(V), RSA 674:16, RSA 674:17, I(j), and RSA 162-H. In addition, pursuant to the provisions of RSA 674:43, the Groton Planning Board is hereby granted the authority to require preliminary review of site plans for LWES and to review and approve or disapprove site plans and issue authorization for the construction or operation of LWES, including meteorological towers, in the Town of Groton, subject to these provisions.

If there is a conflict between provisions in this Ordinance, or between its provisions and those in any other Town ordinance or regulation, this Ordinance shall apply. 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.

- B. Large Wind Energy System Requirements:
 - 1. Design, Manufacture, Construction, and Maintenance Standards
 - a. Design: In order to minimize visual clutter, wind turbines shall use tubular towers of similar design, size, operation, and appearance throughout the project, which shall be painted a non-reflective, non-obtrusive color. Blades shall be coated or otherwise designed with a material to minimize blade glint.
 - b. Aesthetics: At LWES sites, the design of the buildings and related structures shall, to the extent reasonably possible, use materials, colors, textures, screening, and landscaping that will blend with the existing natural setting and environment.
 - c. Signs or advertising

- i. Wind turbines shall not be used for displaying any signs or advertising except for signs at ground level for reasonable identification of the manufacturer, owner, or operator of the LWES, the utility procuring the power, emergency contact information, and appropriate warnings as required by national, state, and local laws.
 - ii. Any such identification shall not be illuminated.
 - iii. All signage shall meet Groton's Site Plan Review Regulations.
 - iv. Any graffiti on LWES structures shall be removed as soon as practical.
 - d. Wiring: Control wiring and power lines shall be wireless or below ground except where collector wiring is brought together for connection to the transmission or distribution network adjacent to that network. The Planning Board may permit above-ground wiring, if in the opinion of the Planning Board, its impact, including but not limited to environmental and visual Impacts, is less than the Impact of below-ground wiring.
 - e. Blasting: The applicant for an LWES shall not undertake any blasting without specific approval of such blasting during Site Plan Review. Terms and conditions for the blasting, including any necessary notifications, shall be specified during Site Plan Review.
 - i. The applicant shall prepare an inventory of all structures, wells, bridges, and other seismically sensitive structures that could potentially be damaged by blasting.
 - a. Before each blasting event, the applicant shall notify all participating and non-participating landowners whose property can be potentially damaged of the time and date of the event. The applicant shall receive signature verification of such notice.
 - i. Flying rock traveling in the air or along the ground is not permitted to cross into the property of non-participating landowner(s).
 - ii. A blasting log for each blast shall be kept on site at the LWES office for not less than five (5) years, and copies of the required blasting log shall be promptly submitted to the Planning Board upon completion of construction of the LWES.
 - iii. Pre-blasting and post-blasting inspection and documentation may be required by the Planning Board.
- 2. Modification: If at any time during construction, operation, or maintenance of the LWES, the applicant wishes to modify the approved Site Plan, the applicant shall submit to the Planning Board an Amended Site Plan for review and approval.
- 3. Noise and Disturbance: Construction and maintenance activities shall be organized and timed to minimize impacts on residents and wildlife from noise, disruption (including disruption of wildlife habitat), and the presence of vehicles and people. Construction and maintenance, unless there is an imminent threat to life or property, shall be performed only on weekdays between the hours of 7 AM

and 6 PM. The Planning Board has the authority to waive this requirement if, in its opinion, there is good reason to do so.

4. Storage: Any construction equipment or parts (used or unused) kept on site shall be stored indoors except during periods of construction, maintenance, and repair.
5. Height
 - a. The total height of the wind turbines shall not exceed 400 feet.
 - b. Met towers must be less than 200 feet in height, and must be designed so as not to require lighting in compliance with FAA regulations. Guy wires are allowed on met towers, but must be designed so as to limit environmental hazards to wildlife, especially birds and bats.
6. Setbacks
 - a. All wind turbine tower bases in an LWES must be sited to be set back from adjacent property lines by at least two thousand (2,000) feet.
 - i. Waiver: An exception can be made to this requirement in the case of a participating landowner who waives his or her rights under this ordinance.
 - a. Such waiver shall exclude the ability of the owner of that property to have or build any structures within 2,000 feet of the closest LWES wind turbine tower and shall be recorded in the Grafton County Registry of Deeds.
 - b. In no case shall the setback be less than 1.5 times the maximum height of the wind turbine from the nearest property line.
 - ii. The applicant shall submit a graph of the required setback for each wind turbine tower as a circle for a single tower or as a series of connected arcs for multiple wind turbine towers centered on each turbine and submitted with the required setback graphically superimposed to scale on Town maps, including map and lot numbers, lot owners, structures, and lot property lines.
7. Communications Interference
 - a. Any LWES shall be sited and operated to avoid any interference with television, telephone (including cellular and digital), microwave, satellite (dish), navigational, or radio reception to neighboring areas. The applicant shall be responsible for the full cost of any remediation necessary to provide equivalent alternate service or to correct any problems.
 - b. Remedies may include relocation or removal of the LWES. The applicant of the LWES shall respond within thirty (30) business days to any request for a communications interference investigation by a property owner within the project boundary and a three-mile radius beyond the project boundary. Testing shall commence within thirty (30) business days. The applicant is responsible for mitigating the cause, within sixty (60) business days from the identification of interference attributed to the operation of the LWES or, failing an identification and attribution of interference, the applicant shall provide certification from a NH licensed Professional Engineer confirming that the proposed project did not or does not interfere with television, telephone (including cellular and digital), microwave, satellite (dish), navigational, or radio reception to neighboring areas.

8. Sound Pressure Level Limits and Measurement

- a. The intent of this section is to preserve the quiet rural environment of the Town of Groton and to provide protection from excessive sound pressure levels that cause adverse impacts to public health, welfare, and well-being.
- b. Annoyance due to noise, as measured by community surveys, is the measurement of activity interference.
- c. Sound pressure level limits are based on the recommended guidelines found in the United States Environmental Protection Agency's document Information On Levels Of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety, 550/9-74-004, March 1974 and include levels requisite to protect against activity interference.
- d. These sound pressure level limits are consistent with the World Health Organization (WHO) night-noise guidelines for exposure to noise during sleep, found in the following documents: Night Noise Guidelines (NNLG) For Europe, 2007 and ISBN 978 92 890 4173 7, 2009.
- e. Sound pressure levels produced by the LWES shall not exceed 33 dBA (Leq 10 minute) anywhere at any time on a non-participating landowner's property.
- f. Any model used to predict wind turbine noise shall use the following parameters:
 - i. Each wind turbine shall be considered as an individual and unique noise emitter.
 - ii. The prediction model shall use the manufacturer's highest sound-power levels, as measured using standard IEC 61400-11 (edition 2.1, dated November 2006), which shall be submitted in 1/3 octave band for frequencies 31.5 to 8000 Hz. Test reports performed for the same model(s) proposed for the LWES shall be submitted in full.
 - iii. The prediction model shall use a wind shear of no less than 0.50.
 - iv. There shall be zero attenuation for ground cover, because a wind turbine is an elevated noise emitter.
 - v. There shall be zero attenuation for foliage, because trees have no leaves from November to April.
 - vi. The model must add a plus-5-dB design margin to the predicted sound pressure levels to account for variations in atmospheric propagation due to refraction (the bending of sound waves in the atmosphere due to changes in air temperature or wind gradient).
 - vii. Ground absorption values used in the modeling software shall be set to 0 for water and hard concrete or asphalt surfaces and 0.5 for all other surfaces.
- g. Noise measurements shall be taken with the wind turbines turned on and turned off to determine any background noise to be accounted for. The applicant shall cooperate by shutting wind turbines off and turning them on during acoustic testing at times required by the acoustic monitoring personnel.

- h. The wind velocity at the sound measurement microphone shall not exceed 2 m/s (4.5 mph) during measurements of background sound pressure level, and the maximum wind speed at the microphone for noise measurements during wind turbine operation shall not exceed 4 m/s (9 mph).
- 9. Shadow Flicker, Tower Shadowing, and Blade Glint
 - a. The facility shall be designed such that shadow flicker or tower shadowing falling on or in any non-participating landowner's property or a public or private road shall be limited as follows:
 - i. The shadow flicker or tower shadowing shall not exceed thirty (30) hours per year in total.
 - ii. The traffic volumes of an effected road shall be fewer than 500 vehicles per day on the roadway.
 - iii. The shadow flicker or tower shadowing shall not fall onto an intersection.
 - b. Blades shall be coated or otherwise designed with a material to minimize blade glint.
 - c. At any time upon receipt of a verified complaint of shadow flicker, tower shadowing, and/or blade glint, the applicant shall submit to the Planning Board a shadow flicker, tower shadowing, and blade glint study certifying that shadow flicker, tower shadowing, or blade glint present no deleterious effects for any occupied structure located within a one-mile radius of any wind turbine.
 - d. If any existing shadow flicker and/or blade glint exceeds any of the conditions listed above, the source wind turbine(s) shall be shut down until the shadow flicker, tower shadowing, or blade glint problem is remedied.
- 10. Public Infrastructure: The applicant shall avoid, mitigate, or repair any and all adverse impacts to any public infrastructure occasioned by or in any manner related to the installation, operation, maintenance, and repair or decommissioning of the LWES. This includes reimbursement to the Town or State for any repairs or reconstruction reasonably deemed necessary by the Town or State.
- 11. Erosion and Storm Water Control: During the useful life of the LWES, the applicant shall maintain any erosion and storm-water control practices described in the Erosion and Storm-Water Control Plans and Life Cycle and Decommissioning Plans submitted with the Application for Site Plan Review.
- 12. Safety
 - a. Braking
 - i. Each wind turbine shall be equipped with both manual and automatic controls to limit the rotational speed of the blade within the design limits of the rotor.
 - ii. All wind turbines shall be equipped with redundant braking systems, including both aerodynamic (including variable pitch) over-speed controls and mechanical brakes.
 - iii. Mechanical brakes shall be operated in a fail-safe mode that will engage in the case of loss of load on the generator.
 - iv. Stall regulation shall not be considered a sufficient braking system for over-speed protection.

- v. A manual electrical and/or over-speed shutdown disconnect switch shall be provided and clearly labeled on/in the wind turbine structure.
 - b. Structure:
 - i. The blade tip of any wind turbine shall, at its lowest point, have ground clearance of at least 75 feet.
 - ii. Any wind turbine and/or accessory structure shall not be climbable above 15 feet above ground level.
 - iii. All structures shall be self-supporting. No guy-wire-supported structures shall be permitted, except for met towers.
 - c. Access and Signage:
 - i. The LWES shall be designed to prevent unauthorized access to electrical and mechanical components and shall have access doors that are kept securely locked at all times when service personnel are not present.
 - ii. Appropriate warning and safety signage shall be placed on any wind turbine, accessory structure, and/or electrical equipment, and posted at all LWES entrances.
 - iii. A sign bearing emergency contact information shall be posted near the tower(s) or operations and maintenance office building.
 - iv. All signage shall be placed at the road access to warn visitors about the potential danger of falling and thrown ice and other debris hazards.
 - d. Remedy: Any wind turbine that is found to present an imminent physical threat of danger to human life, wildlife, or property, or that is found to exceed the noise standards of this Ordinance, shall be immediately shut down. Following repair or redesign to comply with the noise standards of this Ordinance, the wind turbine shall be certified to be safe and to comply with this Ordinance by NH licensed Professional Engineer(s) prior to resumption of operation.
13. Rescue, Fire, and Hazard Protection
- a. The applicant shall assure that the LWES complies with the following fire control and prevention measures.
 - b. A plan acceptable to the Town of Groton Select Board, the Town of Groton Fire Chief, any contracted services secured by the Town of Groton and/or the New Hampshire State Fire Marshall for fire-fighting and rescue services, including water accessibility, any necessary equipment, and/or training for local fire protection and rescue personnel, shall be prepared and updated annually.
 - c. The full cost of implementing and maintaining the plan, including equipment, equipment maintenance, and staffing, shall be the responsibility of the applicant.
 - d. The applicant shall comply with all laws applicable to the generation, storage, clean-up, transportation, and disposal of hazardous wastes generated during any phase of the project's life.

14. Environmental Impact

- a. The applicant shall take appropriate measures to minimize, eliminate, or mitigate adverse impacts on the natural environment during the entire life cycle of the LWES and shall comply with all Federal, State and local laws regulating environmental impacts.
- b. Guidelines. In making its determination under this section, the Groton Planning Board, the New Hampshire Site Evaluation Committee and/or any other applicable State or Federal Regulatory Departments should consider the U.S. Fish and Wildlife Service “Wind Turbine Guidelines Advisory Committee Recommendations,” dated March 4, 2010, or subsequent updates, the “Proposed Wind Power Siting Guidelines–May 29, 2007” (developed by the Wind Energy Facility Siting Guidelines Working Group and forwarded to the NH Energy Policy Committee Wind Siting Subcommittee), and any recommendations of the New Hampshire Fish and Game Department and the Groton Conservation Commission.
- c. Environmentally Sensitive Areas. The plan for the LWES shall reflect the natural capabilities of the site to support development. Environmentally sensitive areas including, but not limited to, wetlands, vernal pools, seeps or springs, steep slopes (greater than 20%), watersheds, floodplains, significant wildlife habitats, fisheries, habitat for rare or endangered plants and animals, unique natural communities and natural areas, and sand and gravel aquifers will be maintained and preserved to the maximum extent possible. The applicant shall demonstrate appropriate measures for protecting these resources during the entire life cycle of the project.
- d. Wildlife.
 - i. The applicant shall demonstrate that the LWES will have no significant adverse impact on area wildlife and wildlife habitat.
 - ii. Such analysis shall include but not be limited to adverse impacts on birds, bats, raptors, animals, and habitat fragmentation.
 - iii. In addition, the applicant must demonstrate that the LWES will have no undue adverse impact on rare, threatened, or endangered wildlife.
 - iv. The wildlife and habitat analysis must include pre-construction field studies conducted by a qualified wildlife biologist selected by the Planning Board and paid for by the applicant. Such studies shall span at least two coincident migration cycles.
 - v. Avian and Bat Species. Development and operation of a LWES shall have no adverse impact on bird or bat species.
 - i. All above-ground lines, transformers, or conductors should comply with the Avian Power Line Interaction Committee (APLIC, <http://www.aplic.org/>) published standards to prevent avian mortality.
 - ii. The design and installation of the LWES shall avoid, to the extent practicable, the creation of artificial habitat for raptors or raptor prey; e.g., electrical equipment boxes on or near the ground that can provide shelter and warmth and

horizontal perching opportunities on the towers or related structures.

- iii. In order to minimize the detrimental impacts on bat and bird populations, all wind turbines shall be configured and or controlled so that the blades will not turn when wind velocity at hub height is less than 10 mph. In addition, there may be periods of time when the Wind Turbine operations must be curtailed to protect bats and raptors and other migratory birds.

e. Ground and Surface Water.

- i. The LWES will not adversely affect the quality or quantity of ground and surface waters.
- ii. The applicant shall demonstrate to the Planning Board's satisfaction that there are no unusual risks caused by the LWES
- iii. The Planning Board may require spill prevention and control measures be installed, and that all activities involving potentially permeable pollutants, including at delivery and transfer points, be conducted under cover and over an impervious surface surrounded by dikes.
- iv. Whenever sedimentation is caused by stripping vegetation or grading, it shall be the responsibility of the applicant to remove it from all adjoining surfaces, drainage systems, and watercourses and to repair any damage as quickly as possible at the applicant's expense.

15. Historical, Cultural, Archeological. Because the preservation of historic resources is important to the Town of Groton, the applicant shall be required to:

- a. Inventory and map all historically significant sites located within two thousand (2,000) feet of the proposed LWES project area, including but not limited to stone walls, structures, roadways, cellar holes, cemeteries and mines.
- b. Provide a plan outlining how the applicant proposes to minimize the impact of construction and ongoing operation of the LWES on those sites. As a condition of approving the Applicant's Historical, Cultural, Archeological protection plan, the Planning Board may require specific setbacks of LWES structures or roadways from significant sites and/or other actions that protect or restore items of historic significance.

16. Visual Impact

- a. An LWES shall be designed and located so as not to cause adverse visual impacts, including visual clutter and impacts caused by any lighting, and so as not to dominate views from residential areas, cultural resource areas, public recreational and scenic areas, trails used by the public open space within the Town, or any public road right-of-way.
- b. For the purposes of this section, dominance is determined by how an LWES will be seen within the greater visual context. Dominance occurs when the project would cause a change in the balance or feel of the character of the surrounding area or create a very dominant focal point that detracts from other important natural or cultural focal points.

- c. The Planning Board may use as a reference document: A Visual Impact Assessment Process for Wind Energy Projects, Vissering, Sinclair, and Margolis, May 2011.
 - d. Some of the factors to be considered in evaluating the degree of dominance are:
 - i. appearance of proximity,
 - ii. duration of view,
 - iii. expectation for natural or intact landscape setting,
 - iv. uniqueness of a scenic resource,
 - v. whether the view is directly ahead over extended distances, and
 - vi. whether large numbers of turbines are visible in many views.
 - d. All available mitigation techniques to reduce the visual impacts of the LWES shall be considered, including methods prescribed by the American Landscape Institute. The use of automatic obstruction lighting systems, such as those manufactured by DeTect and OCAS, is mandatory for wind turbines with FAA lighting.
 - e. Photographic Simulations.
 - i. Photographic simulations shall be provided from potentially sensitive public and private viewpoints.
 - ii. The Planning Board may request that particular viewpoints be illustrated. Such locations could include the center of Town, public recreation areas, historic sites, and scenic sections of Town or State roads.
 - iii. Simulation photographs shall be taken at 50mm (or digital equivalent) and illustrated on 11 x 17" printed copies for each simulation.
 - iv. If several photographic frames are required to illustrate the breadth of the project from a particular viewpoint, illustrations shall be provided of each 50mm frame, plus a combined panoramic view.
 - v. Any visible roads, site clearing, and all project infrastructure shall be depicted on the simulations.
 - vi. The photo simulations report shall employ a standard visual-impact-assessment methodology for detailing what the visual impacts of the project would be and explaining why these may be acceptable or unacceptable.
 - f. The report shall identify all mitigation methods proposed by the applicant, if any, to address the potential visual impacts of the LWES.
 - i. These methods may include turbine siting and distance between towers; reductions in turbine height or numbers; design and size; hazard lighting mitigation by employing automatic obstruction lighting systems; underground placement of collector lines; and other methods.
 - ii. The Planning Board may require additional mitigation measures to minimize the impact on scenic resources of the Town.
17. Financial, Technical, and Managerial Capability
- i. The applicant shall demonstrate to the Planning Board that it has adequate financial, technical, and managerial capability to assure

construction and operation of the facility in continuing compliance with the terms and conditions of this ordinance.

C. Application Procedure

1. Applications for new and replacement LWES shall be filed and processed in accordance with the Town of Groton Planning Board's Site Plan Review regulations.
2. An application for LWES is presumed to have regional impacts. Therefore, the procedure shall include notification per RSA 36:54–57.
3. Submission Requirements: In addition to standard Planning Board requirements, applicants for a LWES shall submit the following:
 - a. A demonstration satisfactory to the Planning Board that the Applicant has adequate financial, technical, and managerial capability to assure construction and operation of the facility in continuing compliance with the terms and conditions of this ordinance.
 - b. Plans prepared and stamped by a NH licensed Professional Engineer that show the location, shape, size, color, materials, textures, landscaping, design, and total height of all proposed components of met towers and LWES, including the proposed access to the project site (including Town and State roads) and associated transmission lines.
 - c. A location map to scale of current and planned land uses within the project boundary and a one-mile radius beyond the project boundary, showing the location of all proposed wind turbines and required setbacks for each, and identifies participating landowners. These maps must be prepared by a NH licensed land surveyor.
 - d. A site grading and clearing plan that shows all areas to be cleared and all grade changes.
 - i. 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.
 - ii. This plan should delineate environmentally sensitive areas.
 - e. Historical, Cultural, Archeological Inventory and Resource Map prepared by NH licensed land surveyor, and applicant's plan to minimize impact of LWES construction and operation on these sites.
 - f. Environmental Resource Map prepared by a qualified NH licensed land surveyor.
 - g. Intended period of data collection for the met tower.
 - h. Certification of the non-reflecting properties of the external surfaces of the LWES.
 - i. Calculations and supporting data for all setbacks for each turbine.
 - j. List of property owners whose property wholly or in part falls within the standard setback areas.
 - k. Any studies and reports as required by the Planning Board, including but not limited to those listed below. The cost of any required study, report, plan, mitigation effort, or any other work required to be done by the Planning Board, is the full responsibility of the applicant.

- i. Sound Pressure Level Study
 - ii. Rescue, Fire, and Hazard Protection Plan
 - iii. Road and Property Risk Assessment
 - iv. Wildlife and Bird Impact Study and Protection Plan
 - v. Groundwater and Surface Water Quality studies
 - vi. Visual Impact Assessment, including photographic simulations
 - vii. Communication Interference Certificate
 - viii. Shadow Flicker, Tower Shadowing, and Blade Glint study
 - ix. Safety Plan
 - v. A Complaint 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.
 - w. A Decommissioning and Site Restoration Plan as outlined in Section I (Decommissioning).
 - x. Storm Water Management Plan – pre- and post-decommissioning.
 - y. Erosion Control Plan.
 - z. Landscape Plan showing restoration of disturbed areas after completion of construction.
 - aa. Estimate of decommissioning costs prepared by a NH licensed Professional Engineer.
 - bb. Blasting plan, including inventory of all potentially affected structures.
 - cc. Any other information deemed necessary by the Board in order to make an informed decision.
4. Repowering. When an LWES is planned for a retrofit, the Applicant must apply to the Planning Board for approval before any portion of the LWES may be repowered.
5. Permit to Construct.
- a. The Planning Board has the authority to approve or deny the Site Plan application. In the case of denial, the Planning Board may do so either for failure to provide any of the required documentation or for any other reason allowed under the Site Plan Regulations.
 - b. After the Planning Board reviews and approves the Site Plan for an LWES, the Select Board may issue a Permit to Construct.
 - c. No LWES may be constructed without a Permit to Construct.
6. Permit to Operate.
- a. Following construction of an LWES, before commencing operation, the Applicant shall apply to the Select Board for a Permit to Operate. The application shall include the following:
 - i. An Inspection Report prepared and signed by a NH licensed Professional Engineer certifying the structural and operational integrity of the LWES, 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.
 - ii. A decommissioning fund, the sufficiency of which will be determined by the Select Board. See Section G(5) Decommissioning Costs.

- iii. A signed statement that the applicant and project site landowner(s) have read this Ordinance, understand all its provisions, and agree to abide by them.
- b. The applicant shall complete decommissioning of the LWES or individual turbines within twelve (12) months after the end of the useful life of the LWES or any individual turbines.
- c. Applications for a Permit to Operate will be heard at the next regularly scheduled meeting of the Planning Board or Select Board, whichever is appropriate permitting board, for which adequate legal notice has been posted.
- d. Before a Permit to Operate is transferred to a new owner or operator, the holder of the permit must satisfactorily demonstrate to the Planning Board that the new owner or operator has adequate financial, technical, and managerial capability to assure construction and operation of the facility in continuing compliance with the terms and conditions of this Ordinance.
- e. If a Permit to Operate is transferred to a new owner or operator, the new owner or operator is bound by all conditions, requirements, and financial obligations of the original permit.
- f. All conditions of approval shall be reviewed annually for compliance by the Planning Board or Board of Selectman or their designee.
- g. A Permit to Operate may be revoked and the LWES required to cease operations, following lawful proceeding and court order or a revocation proceeding if the Select Board determines that there is a violation of any provision of this ordinance or other applicable regulations.

D. Administration and Associated Costs

- 1. At the time of acceptance of their application for the Site Plan Review by the Planning Board, the Applicant shall deposit into an escrow account the amount of \$25,000.
- 2. The purpose of this escrow account is:
 - a. To reimburse the Town of Groton for the costs incurred to hire consultants and experts as the Town, at its sole discretion, deems desirable to examine, evaluate, and verify the data and statements presented by the applicant.
 - b. To cover administrative and legal costs incurred by the Town of Groton in monitoring and enforcing the Applicant's ongoing compliance with this Article for the life of the LWES or any individual wind turbine.
- 3. The escrow account shall be managed as follows:
 - a. Funds may be withdrawn from this account only by the Select Board.
 - b. If the balance of this account shall fall below \$15,000 at any time, the Applicant shall deposit an amount sufficient to bring the account to a minimum value of \$25,000.
 - c. If the balance of this fund shall fall below \$15,000 for a continuous period of thirty (30) days, the application shall be considered to have been withdrawn, or the Site Plan approval for the LWES may be revoked.
 - d. The Select Board or its designee shall be charged with monitoring the escrow account and giving quarterly reports to the applicant.

- e. After the LWES has been completely removed and all site restoration as defined in Section I(2) has been completed, as defined in this Ordinance, any balance remaining in this account shall be returned to the applicant.

E. Easements and Leases

1. Any landowner may grant an easement to the applicant for any impacts of the LWES on his or her property. Any landowner that grants an easement shall advise all subsequent owners of the property that such easement runs with the land and is enforceable against future property owners. The terms of the easement must be consistent with the current application for an LWES.
2. Any leases or easements shall be recorded with the Registry of Deeds.
3. Nothing in this Ordinance shall be construed to restrict the rights of landowners.

F. Ongoing Requirements

1. Monitoring: Upon reasonable notice, Town of Groton officials or their designated representatives may enter any lot on which an LWES has been approved for the purpose of monitoring noise, impacts on the natural environment, and other impacts that may arise. Reasonable notice will be considered 24-hour advance telephone notice from the Town to the applicant, followed by e-mail notification for the record.
2. Post-construction Water-Quality Study:
 - a. Within six (6) months of the first wind turbine becoming operational, and every twelve (12) months thereafter for a period of three (3) years, a water-quality study of all wells, springs, and water resources specifically identified during the Site Plan Review shall be designed and carried out by a water-quality professional approved by the Select Board.
 - b. Upon receipt of a substantiated complaint regarding the integrity or water quality of any well having been damaged by any LWES construction, the Planning Board may require prompt investigation of the complaint by a water-quality professional approved by the Select Board, at the expense of the applicant.
 - c. If degradation or contamination of any well, spring, or water resource is found to have occurred, the applicant shall be considered in violation of this Section and subject to the provisions of the Enforcement Subsection of this Section.
 - d. The applicant is responsible for all costs associated with water-quality testing and corrective action if necessary.
3. Annual Power Production Report: The applicant shall submit an annual power production report to the Select Board and the Planning Board]. The annual power-production report shall cover the preceding calendar year (e.g. for January 1 to December 31, 2018 when submitted in 2019), and shall be submitted by February 15 of the following year. The report shall be in a form agreed to by the Select Board and shall include actual power production in kilowatt-hours for each wind turbine.
4. Environmental Impact Studies: Recognizing the importance of wildlife as described in Section C(11), continuing environmental impact studies shall be required.

- a. At least every 3 years, and more frequently if deemed appropriate by the Select Board, an environmental impact study shall be conducted by a qualified wildlife biologist selected by the Select Board and paid for by the applicant.
 - b. If the post-construction field studies demonstrate substantive harm to the natural environment on the project property and/or in the surrounding area, the applicant shall develop an appropriate mitigation plan acceptable to the Select Board and Conservation Commission. The applicant shall be responsible for the full cost of implementation of the mitigation plan.
 - c. In addition, the applicant shall submit a quarterly report to the Select Board and Conservation Commission identifying all dead birds and bats found within 500 feet of the LWES. Reporting shall continue for at least three (3) years after the first wind turbine becomes operational, or longer if required by the Planning Board during the Site Plan review, and/or by the Select Board at any time.
 - d. In the event of an avian or bat mortality kill of threatened or endangered species, or discovery of more than six (6) dead birds or bats of any species on site, the applicant shall notify the Select Board, Conservation Commission and the New Hampshire Department of Fish and Game within twenty-four (24) hours.
 - e. Within thirty (30) days of the occurrence, the applicant shall submit a report to the Select Board describing the cause of the occurrence and the steps taken to avoid future occurrences. During migration seasons, the Select Board reserves the right to request video surveillance as part of environmental impact studies.
5. Decommissioning Costs. An estimated total cost of decommissioning, prepared at the applicant's expense by an independent NH licensed Professional Engineer(s) approved by the Select Board, shall be submitted to the Select Board at the time of application and again after every five years of operation. Funds required under Section I of this ordinance shall be updated within 90 days of acceptance by the Select Board.
6. Noise Compliance Report. Within four (4) months of the first wind turbine becoming operational and again within two (2) months after all wind turbines have become operational, and at any time the Select Board deems it necessary due to the number and/or severity of complaints received, the applicant shall submit to the Select Board a noise-compliance report certifying compliance with the noise regulations set forth herein. The report shall be prepared under the direction of a Professional Engineer or a Board Certified member of the Institute of Noise Control Engineering (INCE). The report shall be signed or stamped by this person. This person shall be selected by the Select Board, and the report paid for by the applicant. The report shall comply with the following:
 - a. Except as specifically noted otherwise in this Ordinance or in any approval of an application, sound measurements shall be conducted in compliance with the most recent version of the American National Standards Institute (ANSI) Standard S12.18-1994 "Outdoor Measurements of Sound Pressure." Sound data shall be recorded with both

dB(A) filtering and unfiltered down to 0.5Hz. Wind speeds shall be logged simultaneously with sound pressure level data.

- b. Sound pressure level meters and calibration equipment shall comply with the most recent version of ANSI Standard S1.4 "Specifications for General Purpose Sound Pressure Level Meters," and shall have a calibration traceable to the National Institute of Standards and Testing (NIST) performed within the preceding twenty-four (24) months.
- c. Noise measurements shall be taken at locations and times when the wind turbine is clearly audible and dominating the acoustical environment. All unattended measurements shall consider the wind turbine as dominating the acoustical environment.
- d. Noise measurements shall be taken with the wind turbines both on and off to determine the existence and level of any background noise. The applicant shall cooperate by shutting wind turbines off and turning them on during acoustic testing at times required by the acoustic-monitoring personnel.
- e. The acoustic-monitoring personnel shall determine if extraneous sounds such as those made by insects, frogs, or other wildlife are contributing to the measured Leq sound pressure level and remove their contributions either by relocating the measurement microphone to a spot not affected by such sounds or conducting testing at dates and times when such sounds are not present. The acoustic-monitoring personnel may correct the Leq sound pressure level using full or 1/3 octave band analysis to subtract wind turbine "off" levels from wind turbine "on" levels, and by removing data in 1/3 octave bands from the Leq computation that are contaminated by extraneous sounds.
- f. The wind velocity at the sound-measurement microphone shall not exceed 2 m/s (4.5 mph) during measurements of background sound pressure level, and the maximum wind speed at the microphone for noise measurements during turbine operation should not exceed 4 m/s (9 mph).
- g. During wind turbine testing the atmospheric profile shall be Pasquill Stability Class E or F preferred, Class D as alternate. Wind turbine acoustic testing shall be conducted with hub-height wind speeds varying between cut-in and cut-out speeds.
- h. The wind turbine shall be fully engaged blades-to-generator and running the standard power output program and producing the maximum power output for the incoming hub-height wind speed. Feathering or other blade angle manipulations that are not part of the normal wind turbine program to obtain maximum power output shall be prohibited during acoustic testing. If the wind turbine must be feathered due to a high wind condition for safety purposes, the testing shall be rescheduled.
- i. Wind turbine power output and hub-height wind speed data at 10- minute or shorter intervals shall be provided to the acoustic-monitoring personnel by the applicant for the entire sound-measurement period.
- j. Noise measurements shall be taken at locations specified by the Planning Board, which shall also set the direction of noise monitoring. The Planning Board may employ a NH licensed Professional Engineer, whose

fees shall be paid by the Applicant, for advice regarding these measurements.

7. If the Applicant intends to assign or transfer the ownership, control, or authority of the LWES, the Applicant must give the Select Board 30 days' advance notice. Applicant shall also provide notice of any change in name or contact information.

G. Public Inquiries and Complaints

1. Throughout the life of the project, including the decommissioning phase, the LWES applicant shall maintain a phone number and identify a responsible person for the public to contact with inquiries and complaints. The Complaint Resolution Plan submitted with the initial application shall be used to resolve complaints. However, this process shall not preclude the local government from acting on a complaint, and local provisions for complaint resolution shall prevail and supersede all applicant complaint resolution processes.
 - a. Any individual, group of individuals, or reasonably-identifiable entity may file a signed-and-dated written complaint with the applicant of any LWES. If a complaint is received by phone, the applicant shall inform the complainant that complaints must be submitted in writing. Any complaints received directly by the Select Board shall be referred to the applicant.
 - b. The applicant shall report to the Select Board all complaints received concerning any aspect of LWES construction, operation, or decommissioning as follows:
 - i. Complaints received by the applicant shall be reported to the Select Board or its designee within five (5) business days, except that complaints regarding activities that endanger public health and/or public safety shall be reported to Town of Groton and/or State of New Hampshire public safety personnel immediately, and the Select Board or its designee by the following business day.
 - ii. The applicant shall document each complaint by maintaining a record of all complaints that includes, but is not limited to, the following information:
 - a. Name of the LWES and the applicant
 - b. Name of complainant with address and phone number
 - c. A copy of the written complaint
 - d. Specific property description (if applicable) affected by complaint
 - e. Nature of complaint (including weather conditions if germane)
 - f. Name of person receiving complaint, date received
 - g. Date reported to the Select Board or its designee
 - h. Initial response, final resolution, and date of resolution
 - c. The applicant shall maintain a chronological log of all complaints received, including the above information. A copy of this log, and a summary of the log by type of complaint, shall be sent quarterly to the Select Board on or before January 15, March 15, July 15, and October 15. An annual summary shall accompany the January 15 submission.

- d. The Select Board shall forward copies of any health-related complaints to the Groton Health Officer and the State of New Hampshire Board of Health.
- e. The Select Board may designate a person to seek a complaint resolution that is acceptable to the complainant, the Select Board, and the applicant. If such a resolution cannot be obtained, the Select Board may act as authorized by Section I: Enforcement and Penalties.
- f. The Select Board may at any time determine that a complaint shall be subject to enforcement and penalties as defined in Section I: Enforcement and Penalties.

H. Enforcement and Penalties

- 1. The enforcement of this Ordinance shall be the responsibility of the Groton Select Board or its duly-authorized agent or designee. The Groton Select Board or its duly-authorized agent or designee is hereby authorized to cause any LWES, building, place, premises, or use to be inspected, and to order in writing the remedying of any condition found to exist in violation of this Section.
- 2. Any applicant not responding to the following conditions in the manner specified shall be considered to be in violation of this Section.
 - a. Unsafe. If any one wind turbine, multiple wind turbines, or the LWES presents an imminent physical threat of danger to life or significant threat to property, as determined by the Planning Board, the Select Board, or one of their duly-authorized agents, it shall be deemed unsafe and be required to immediately shut down. It shall then be repaired or otherwise made safe and certified as safe by a NH licensed Professional Engineer selected by the Planning Board prior to resumption of operation. Costs for the NH licensed Professional Engineer shall be the responsibility of the applicant. The Select Board, or its duly-authorized designee, shall have the right to access the LWES site to verify conditions and/or repair progress.
 - b. Serious Violations. The applicant is responsible for mitigating any serious violations of the standards in this Ordinance within ten (10) business days of receipt of written notification of any violation by the LWES. A serious violation is defined as any of the following:
 - i. Sound pressure level exceeding the levels specified in Section C(5) of this ordinance, for anything other than a single, accidental and unpredictable occurrence.
 - ii. The occurrence of shadow flicker, tower shadowing, or blade glint exceeding the standards specified in Section C(6) of this Ordinance.
 - iii. Degradation or contamination exceeding U.S. Environmental Protection Agency standards for any surface or subsurface water resource.
 - a. In the case of degradation or contamination of a well, the obligation for mitigation shall be deemed satisfied if the applicant provides the affected well owner with a reasonable emergency water supply within two (2) days of the determination of violation and within thirty (30) days

commences implementation of corrective measures to the satisfaction of the well owner and subject to the approval of the Planning Board.

- iv. Any hazardous substance spill.
 - v. Communication/electromagnetic interference (other than emergency communication).
 - c. Emergency Communication. Interference with emergency communications must be mitigated within 24 hours.
 - d. Other Violations. If the Select Board determines that a violation of this Section has occurred, and the violation is determined to not endanger public health and/or welfare, a serious violation, or an interference with emergency communications, the Select Board shall provide written notice to the applicant, and the applicant shall be responsible for mitigating the problem within thirty (30) days. Mitigation involving significant construction or physical modification may take up to ninety (90) days to be completed, with prior approval of the extended deadline by the Select Board.
3. Any applicant that fails to comply with any provision of this Section by failing to resolve a violation before the expiration of the mitigation periods defined in Section I(2)(d) may be subject to the following penalties:
- a. Revocation of Site Plan approval, requiring immediate shutdown and removal of any wind turbine(s) and restoration of the site as described under Subsection I;
 - b. Fines pursuant to RSA 676:17;
 - c. Reimbursement to the Town of Groton for any and all expenses incurred in obtaining relief, including but not limited to reasonable attorney fees.

I. Decommissioning

- 1. The applicant shall, at its expense, complete decommissioning (including full site restoration as required in Section I(2) and by the Select Board and Planning Board in any approvals) of the LWES, or individual wind turbine(s), within twelve (12) months after it is deemed unsafe, abandoned, or at the end of its useful life.
- 2. Site Restoration shall include:
 - a. Removal of any and all wind turbines, buildings, cabling, electrical components, foundations, structures, and any other associated facilities to a depth of four (4) feet below the ground surface. Conduits buried deeper than four (4) feet below the ground surface may remain in place, but all cables must be removed, and any pull boxes, junction boxes, transformer vaults, and other structures within four (4) feet of the surface must be removed and any remaining conduit ends permanently sealed and capped.
 - b. Removal from the property of all items in outdoor storage.
 - c. On-site road and open work area removal, if any, to preconstruction conditions, excepting portions of roads useful for the proposed use post-restoration of the site. If any roads are retained, excess paving and gravel shall be removed back to an appropriate width approved by the Planning Board and the areas from which paving and/or gravel has been removed shall be loamed and seeded.

- d. Regrading and revegetation necessary to return the subject property to the condition existing prior to establishment of the LWES. The restoration shall reflect the site-specific character including topography, vegetation, drainage, and any unique environmental features. If, in the opinion of the Planning Board, grades and vegetation existing at the time of decommissioning are sufficiently stable and well established, they may be allowed to remain.
- e. Implementation of the post-decommissioning stormwater runoff plan.

J. Financial Assurance

1. As a condition precedent to Site Plan approval, the applicant must submit an acceptable form of financial assurance such as cash, performance bond, or certificate of deposit to the Town of Groton. The amount of the financial assurance required shall be established by the Planning Board and be based on a reasonable estimate of the cost to repair public infrastructure, decommission the LWES and reclaim the site in the event the applicant fails to do so.
2. The amount of financial assurance shall be reviewed periodically by the Select Board to ensure that it equals all outstanding costs for decommissioning and reclamation under Section K(1). Financial assurance may be adjusted, upwards or downwards, when required by the Select Board. For instance, the Select Board may adjust financial assurance based upon prevailing or projected inflation rates, or the latest cost estimates for decommissioning and reclamation.
3. Such financial assurance shall be kept in full force and effect during the entire time the relevant LWES facility exists or is in place. Such financial assurance shall be irrevocable and non-cancelable until such time as the Select Board certifies that decommissioning and reclamation are complete and releases the obligation. If the applicant fails to fully remove the LWES and reclaim the site as required under Section I, the Town of Groton may remove or cause the removal of the LWES and the reclamation of the site. The Town may recover the cost of decommissioning and reclamation from any financial assurance provided by the applicant. Any decommissioning and reclamation costs incurred by the Town not recovered from the applicant will become a lien on the property from which the LWES was removed or any land reclaimed. Any shortfall in decommissioning and/or reclamation costs may be collected from the landowner in the same manner as property taxes.
4. If the applicant fails to complete decommissioning within the periods prescribed in Section I, then the Town may take such any measures necessary to complete decommissioning. The entry into and submission of evidence of a participating landowner agreement to the Town shall constitute agreement and consent of the parties to the agreement, and of their respective heirs, successors, and assigns, that the Town may take such action as necessary to implement the decommissioning plan.
5. The escrow agent shall release the financial assurance funds when the applicant has demonstrated that decommissioning and reclamation has been satisfactorily completed and the Select Board approves of the completion of decommissioning and/or reclamation, or upon written approval of the Town in order to implement the decommissioning plan.

- K. Law: All references to the New Hampshire Revised Statutes Annotated (RSAs) refer to the statute in effect at the time of enactment of this section, as subsequently amended or revised.
- L. Warning and Disclaimer of Liability: This Section shall not create a duty or liability on the part of or a cause of action against the Town of Groton, its officers, or employees thereof, for any damages that may result from administration of or reliance on this section.

Article 10: Board of Adjustment

- A. Groton's Board of Adjustment shall consist of five (5) members conforming in duties to the provisions of Chapter 674:33 of the New Hampshire Planning and Land Use Regulations. In addition to the general powers granted said Board of Adjustment by said Chapter 674, it may, in harmony with its general purposes and intent, grant a variance from the terms of the ordinance if the Board finds:
 - 1. The variance will not be contrary to the public interest;
 - 2. The spirit of the ordinance is observed;
 - 3. Substantial justice is done;
 - 4. The values of surrounding properties are not diminished; and
 - 5. Literal enforcement of the provisions of the ordinance would result in an unnecessary hardship.
- B. "Unnecessary hardship" means that, owing to special conditions of the property that distinguish it from other properties in the area:
 - 1. No fair and substantial relationship exists between the general public purposes of the ordinance provision and the specific application of that provision to the property; and
 - 2. The proposed use is a reasonable one.
- C. If the criteria in subparagraph (B) are not established, an unnecessary hardship will be deemed to exist if, and only if, owing to special conditions of the property that distinguish it from other properties in the area, the property cannot be reasonably used in strict conformance with the ordinance, and a variance is therefore necessary to enable a reasonable use of it.
 - 1. The definition of "unnecessary hardship" set forth in subparagraphs (B) and (C) shall apply whether the provision of the ordinance from which a variance is sought is a restriction on use, a dimensional or other limitation on a permitted use, or any other requirement of the ordinance.
- D. Any variance approving a use, which use has not commenced within one year from the granting of said variance, shall lapse and be invalid.

Article 11: Definitions

Accessory Dwelling Units ("ADU"): A residential living unit that is within, attached to a single-family dwelling or detached, and that provides independent living facilities for one or more persons, including provisions for sleeping, eating, cooking, and sanitation on the same parcel of land as the principal dwelling unit it accompanies.

Accessory Structure: a structure which is: 1) detached from and clearly incidental and subordinate to the principal use or structure on a lot, 2) located on the same lot as the principal structure or use, 3)

clearly and customarily related to the principal structure or use, and 4) only used for vehicle parking, storage, or primarily building access. Examples include, but are not limited to, garages, garden and tool sheds, and playhouses.

Adverse noise impacts: any disturbances that interfere with customary speech and communications both indoors and outdoors, telephone conversations, reading, tasks requiring concentration, listening to music or television, and sleep.

Agriculture: the growing, production, processing, marketing and other activities associated with any agricultural product.

Applicant: The person, firm, corporation, company, or other entity who applies for approval under this section, as well as the applicant's successor(s), assign(s) and/or transferee(s) as to any approved LWES or testing facility.

Automatic Obstruction Lighting System: a lighting system that provides continuous 360-degree surveillance of the airspace around an LWES from the ground level to above aircraft flight altitudes, automatically activating obstruction lighting when aircraft are detected at a defined outer perimeter and course of travel.

A-weighted decibels (dBA): The unit of measurement for the human response to noise, using an electronic filter as specified by ANSI, approximating the frequency response of the human ear from 20 Hz to 20 kHz.

Background Sound Pressure Level: the sound pressure level without any wind turbines operating and when other man-made and natural intrusive sounds are at a minimum. This excludes sound pressure level contributions from intermittent noises such as traffic and emergency vehicles, and from seasonal natural sounds such as tree frogs and crickets that are not present year round.

Base Flood or 1 Percent Annual Chance Flood: means the flood having a one-percent possibility of being equaled or exceeded in any given year.

Base Flood Elevation (BFE): means the elevation of the base (one-percent annual chance) flood referenced to a specified vertical datum (National Geodetic Vertical Datum of 1929 or North American Vertical Datum of 1988).

Basement: means any area of a structure having its floor subgrade (below ground-level) on all sides.

Blade Glint: the intermittent reflection of the sun off the surface of the blades of a single wind turbine or multiple turbines.

Building: A structure enclosed within exterior walls, built, erected and framed of a combination of materials, whether portable or fixed, having a roof, to form a structure for the shelter of persons, animals, or property.

Conditional Letter of Map Revision (CLOMR): means FEMA's comment on a proposed project that would, upon construction, affect the hydrologic and/or hydraulic characteristics of a flooding source and thus result in the modification of the existing floodway, base flood elevation, or the Floodplain Overlay District. CLOMRs do not revise an effective FIRM since they do not reflect as-built conditions.

Conservation: The management of natural resources to prevent waste, destruction, or degradation.

Conservation Easement: A legal agreement between a landowner and the easement holder that restrict future activities on the land to protect the land's conservation values.

Debris Hazard: any hazard from the possibility that the parts of a LWES, or any material (ice or other debris) accumulated on its rotating elements, could be dislodged and fall or be thrown some distance.

Development: any man made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavating or drilling operations or storage of equipment or materials.

Dwelling Unit: A building or structure or portion thereof containing living, sleeping, housekeeping accommodations, and sanitary facilities for occupancy by one family for residential purposes as a single unit.

Elevation Certificate: means a form developed by FEMA to collect surveyed elevations and other information about a building, which can be used for the purposes of compliance with a community's floodplain regulations, flood insurance rating, and Letters of Map Amendment applications.

Enclosed Area: means an area created by a crawlspace or solid walls that fully enclose an area below an elevated building.

FAA: means the Federal Aviation Administration.

FEMA: means the Federal Emergency Management Agency.

Flood or Flooding: means a general and temporary condition of partial or complete inundation of normally dry land areas from:

- a. the overflow of inland or tidal waters, or
- b. the unusual and rapid accumulation or runoff of surface waters from any source.

Flood Boundary and Floodway Map (FBFM): means the official map on which FEMA has delineated the Regulatory floodway. This map should not be used to determine the correct flood hazard zone or base flood elevation. The FIRM will be used to make determinations of flood hazard zones and base flood elevations.

Flood Damage-Resistant Materials: means any building product (material, component or system) capable of withstanding direct and prolonged contact with floodwaters without sustaining significant damage. See FEMA "Technical Bulletin 2, Flood Damage-Resistant Materials Requirements."

Flood Insurance Rate Map (FIRM): means the official map incorporated with this Ordinance, on which FEMA has delineated both the special flood hazard areas and the risk premium zones applicable to the community. The FIRM is a graphic representation of the data contained in the accompanying Flood Insurance Study.

Flood Insurance Study (FIS): means a compilation and presentation of flood risk data for specific watercourses, lakes, and coastal flood hazard areas within a community. The FIS report contains detailed flood elevation data in flood profiles and data tables.

Flood Opening: means an opening in a foundation or enclosure wall that allows automatic entry and exit of floodwaters. See FEMA "Technical Bulletin 1, Openings in Foundation Walls and Walls of Enclosures."

Floodplain or Flood-prone Area: means any land area susceptible to being inundated by water from any source (see definition of "Flooding").

Floodplain Administrator: means a person responsible for administering and implementing the community's local floodplain ordinance and ensuring that the community is complying with minimum NFIP standards and enforcing any locally imposed higher standards.

Floodproofed or Floodproofing: means any combination of structural and non-structural additions, changes, or adjustments to structures that reduce or eliminate flood damage to real estate or improved real property, water and sanitation facilities, structures and their contents.

Floodproofing Certificate for Non-Residential Structures: means the form developed by FEMA for use in the certification of non-residential dry floodproofing designs.

Floodproofing, Dry: means making a structure watertight below the level that needs flood protection to prevent floodwaters from entering.

Floodproofing, Wet: means permanent or contingent measures applied to a structure and/or its contents that prevent or provide resistance to damage from flooding by allowing flood waters to enter the structure.

Floodway: means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.

Forestry: The management of forest and timberlands when practiced in accordance with sound forest management practices through developing, cultivating, harvesting, transporting, and selling trees for commercial purposes, which does not involve any existing, proposed, or future land development.

Frontage: The horizontal distance between the side lot lines measured at the point where the side lot lines intersect the street right-of-way. The street with frontage shall be a street conforming to RSA 674:41, as amended. All sides of a lot that abuts a street shall be considered frontage.

Hazardous Conditions: Conditions that are likely to cause death or serious personal injury to persons exposed.

Health: a state of complete physical, mental and social well-being, not merely the absence of disease or infirmity.

Highest Adjacent Grade: means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

Historic Structure: means any structure that is:

- a. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
- b. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
- c. Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or
- d. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:
 - (i) by an approved state program as determined by the Secretary of the Interior; or
 - (ii) directly by the Secretary of the Interior in states without approved programs.

Home Business: A business which is conducted on-site, transacted within the dwelling or an accessory structure to the dwelling, or fully or in some part off-site with storage of materials, vehicles, or other property of the business at a dwelling, by at least one member of the domiciled family with up to four full-time employees unrelated to the domiciled family and who are not domiciled at the dwelling.

Home Occupation: An occupation conducted on-site, within the dwelling or an accessory structure to the dwelling, by a member or members of the domiciled family.

Impact(s): any effect on the environment, including but not limited to sound and visual impacts such as changes in sound pressure, noise and light.

Impervious Surface: a surface that limits or does not allow water or other liquids to pass through. Examples include, but are not limited to, buildings, rooftops, decks, patios, and asphalt, concrete, and compacted gravel driveways, parking areas, and walkways.

Infrasound: sound energy below 20 Hz.

Junk Yard: Means a place used for storing and keeping, or storing and selling, trading, or otherwise transferring old or scrap copper, brass, rope, rags, batteries, paper, trash, rubber debris, waste, or junked, dismantled, or wrecked motor vehicles, or parts thereof, iron, steel, or other old or scrap ferrous or nonferrous material.

Large Wind Energy System (LWES): an electricity-generating facility with a generating capacity of over 100 kilowatts, including but not limited to one or more wind turbines, any substations, meteorological towers, cables/wires, and/or other buildings accessory to such facility.

Legal Domicile: The place where a person has his/her permanent principal home to which he/she returns or intends to return.

Leq: the equivalent continuous sound pressure level that has the same acoustic energy for a constant sound pressure level as a fluctuating or intermittent level in the same period of time.

Letter of Map Change: means an official document issued by FEMA that revises or amends the flood hazard information shown on the FIRM without requiring the FIRM to be physically revised and/or re-published. Letters of Map Change can include Letters of Map Amendment, Letters of Map Revision, and Letters of Map Revision Based on Fill.

Letter of Map Revision (LOMR): means FEMA's modification to an effective FIRM, usually as a result of physical changes to the flooding source and floodplain that result in the modification of the existing Regulatory floodway, base flood elevations, or special flood hazard area. LOMRs are a cost effective way to keep FIRMs up to date without republishing an entire map panel or panels. The LOMR is generally accompanied by an annotated copy of the affected portions of the FIRM and/or FIS report.

Lot Coverage: percentage of the area of the lot covered by an impervious surface.

Lowest Floor: means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage in an area other than a basement area is not considered a building's lowest floor; provided, that such an enclosure is built in compliance with the applicable non-elevation design requirements in this Ordinance.

Manufactured Home: means a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For floodplain management purposes the term "manufactured home" includes park trailers, travel trailers, and other similar vehicles placed on site for greater than 180 consecutive days. This includes manufactured homes located in a manufactured home park or subdivision.

Manufactured Home Park or Subdivision: means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

Mean Sea Level: means the National Geodetic Vertical Datum (NGVD) of 1929, North American Vertical Datum (NAVD) of 1988, or other vertical datum to which base flood elevations shown on a community's FIRMs are referenced.

Met tower: any meteorological tower used for the measurement of wind speed.

Natural environment: any navigable waters, ocean waters, and any other surface water, groundwater, drinking-water supply, land surface or subsurface strata, ambient air within the United States or under the jurisdiction of the United States, wildlife, ecosystems, and habitat, and historical, cultural, recreational and archeological resources.

National Flood Insurance Program (NFIP) means the program created by the Congress of the United States in 1968 through the National Flood Insurance Act of 1968 (P.L. 90-448). The program enables property owners in participating communities to purchase insurance protection, administered by the government, against losses from flooding.

Natural Grade: means the grade unaffected by construction techniques such as fill, landscaping or berming.

Neighboring area: Town of Groton and abutting towns.

New Construction means structures for which the *start of construction* commenced on or after the effective date of a floodplain management regulation adopted by a community and includes any subsequent improvements to such structures.

Noise: any unwanted sound or any sound that is not part of the natural environment.

Non-conforming Use: A permitted use of a building, structure or land which in whole or in part does not conform to the regulations of the district in which it exists, but which is legally existing at the time of the adoption of this Ordinance, or which is allowed to exist pursuant to a special exception or variance of the Board of Adjustment. Outbuilding: A separate accessory building or structure not physically connected to the principal building.

Non-participating landowner: any landowner who is not a participating landowner as defined.

Octave band: a band of sound covering a range of frequencies such that the highest frequency is twice the lowest frequency, as defined in ANSI Standard S1.11.

One-third octave band: a band of sound covering a range of frequencies such that the highest frequency is the cube root of two times the lowest frequency, as defined in ANSI Standard S1.11.

Participating landowner: any landowner on whose property all or a portion of a LWES is located pursuant to an agreement with the applicant, or any landowner who has waived his or her rights for protection under this Ordinance.

Permit to construct: a permit to construct a project issued by the Groton Board of Selectmen after the application has been reviewed, approved and the site plan is authorized by the Planning Board.

Permit to operate: a written approval issued by the Groton Board of Selectmen to operate a LWES once such project has been approved and authorized by the Planning Board.

Project boundary: a continuous line that encompasses all wind turbines and related equipment for a Large Wind Energy System.

Prosperity: a state that often encompasses wealth but also includes other factors which can be independent of wealth to varying degrees, such as happiness and health.

Public infrastructure: any roadways, culverts, and bridges maintained by the Town of Groton or State of New Hampshire.

Recreational Vehicle: means a vehicle:

- a. built on a single chassis;
- b. 400 square feet or less when measured at the largest horizontal projection;
- c. designed to be self-propelled or permanently towable by a light duty truck; and
- d. designed primarily **not** for use as a permanent dwelling but as temporary living quarters (less than 180 consecutive days) for recreational, camping, travel or seasonal use.

Refraction: the bending of sound waves in the atmosphere due to changes in air temperature or wind gradient.

Residential Dwelling: A building regularly used by its occupants as a permanent place of abode, is made one's home as opposed to one's place of business, and has housekeeping, sleeping, sanitation, and cooking facilities for its occupants.

Setback: The minimum distance by which any building or structure must be located from a legal boundary (right-of-way, lot line, or property line), measured from the legal boundary to any part of the structure, including decks and roofs, as measured from the drip line.

Setback for purposes of LWES: the distance a LWES tower base is located from abutting property lines, structures, or other features.

Shadow flicker: the visual effect that occurs 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 his/her immediate environment.

Single-Family Residential Dwelling: A Residential Dwelling that is occupied or intended to be occupied as the home or residence of one family.

Solar Installation: A device or combination of devices that use direct sunlight as a source of energy for generating electricity.

Sound power level (L_w): ten times the logarithm to the base ten of the ratio of the sound power radiated by the source to a reference sound power, expressed in decibels (dB). The reference sound power is 1 picowatt (pW).

Sound pressure level: twenty times the logarithm to the base ten of the ratio of a given sound pressure to a reference sound pressure of 20 microPascals (uPa), expressed in decibels (dB).

Start of Construction: includes substantial improvements, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, placement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or part of the main structure.

State Building Code: means the current codes adopted by the state of New Hampshire.

State NFIP Coordinating Agency: means the agency of the state government (or other office designated by the Governor of the state or by state statute) that, at the request of the Federal Insurance

Administrator, assists in the implementation of the National Flood Insurance Program (NFIP) in that state.

Steep Slope: A naturally existing, continuous area of land with a contiguous area of 0.25 acre or more which has an average slope of 20% or greater.

Structure: any walled and/or roofed construction, decks, stairs, gas or liquid storage tanks, manufactured homes and travel trailers, or other erected objects, which requires location on the ground or attached to something having location on the ground.

Substantial Damage: means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred. The market value of the structure should equal the appraised value of the structure prior to the damage occurring.

Substantial Improvement: means any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the “start of construction” of the improvement. This term includes structures which have incurred “substantial damage”, regardless of the actual repair work performed. The term does not, however, include either:

- a. Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions; or
- b. Any alteration of a “historic structure,” provided that the alteration will not preclude the structure's continued designation as a “historic structure”.

Surface Water: Any river, stream, pond, lake, and/or wetland larger than 0.25 acre.

Surface Water Buffer: A vegetated area containing various species of native trees, shrubs, and ground covers.

Total height: when referring to a wind turbine, the distance measured from ground level to the blade extended at its highest point.

Tower shadowing: the shadow created on the surrounding area by the sun shining on a wind turbine.

Useful life: the period of time in the existence of an LWES or individual wind turbine(s) before the point when no electricity is generated for a continuous period of twelve (12) months.

Visual clutter: any accumulation of diverse, built elements on a site, especially elements that contrast with their surroundings in form, color, texture, or pattern.

Welfare: a state of well-being.

Well-being: a good or satisfactory condition of existence; a state characterized by health, happiness, and prosperity.

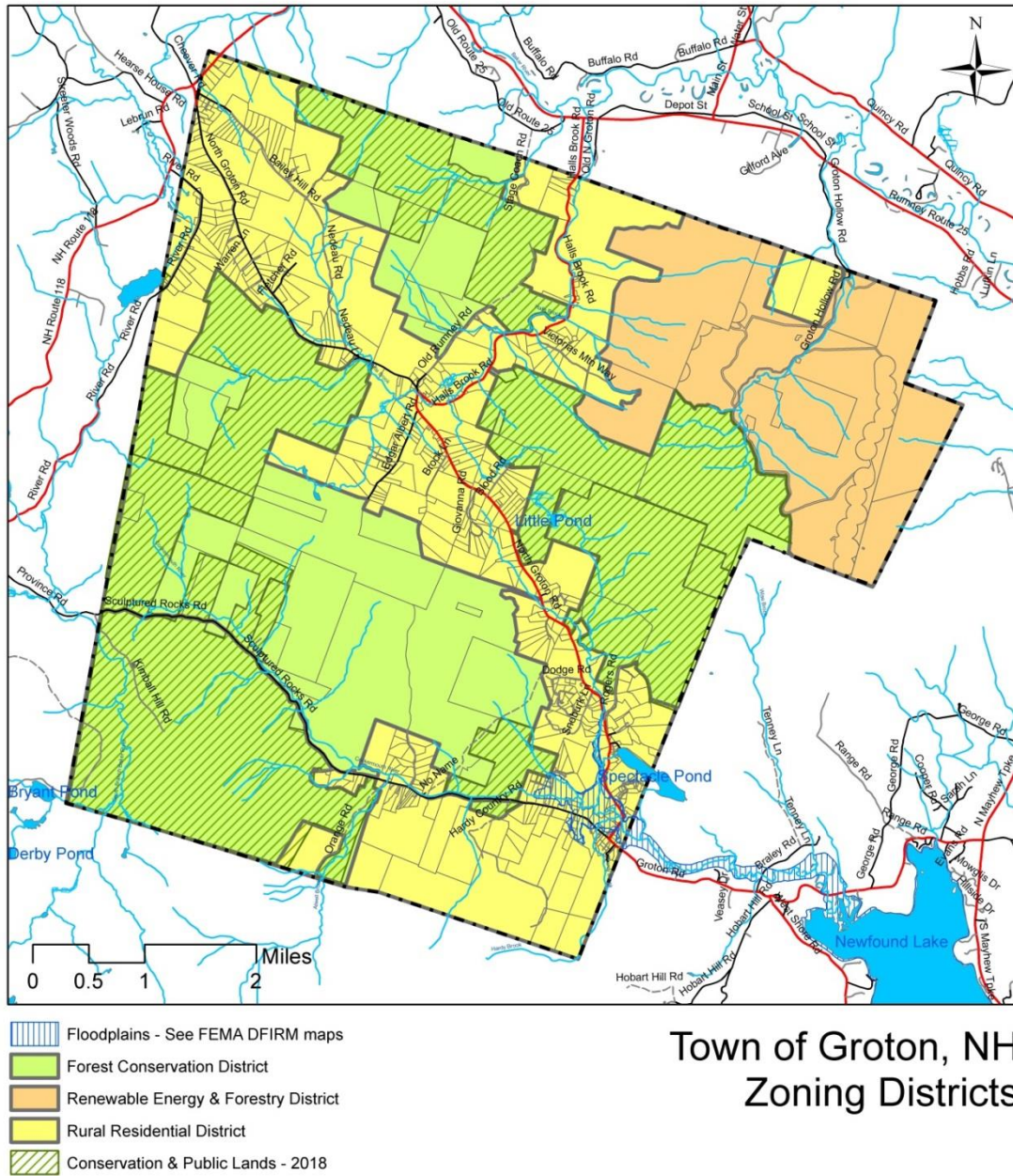
Wetlands: An area inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal conditions does support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Wind shear: the difference in atmospheric wind speed and direction occurring over relatively small increases in altitude.

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.

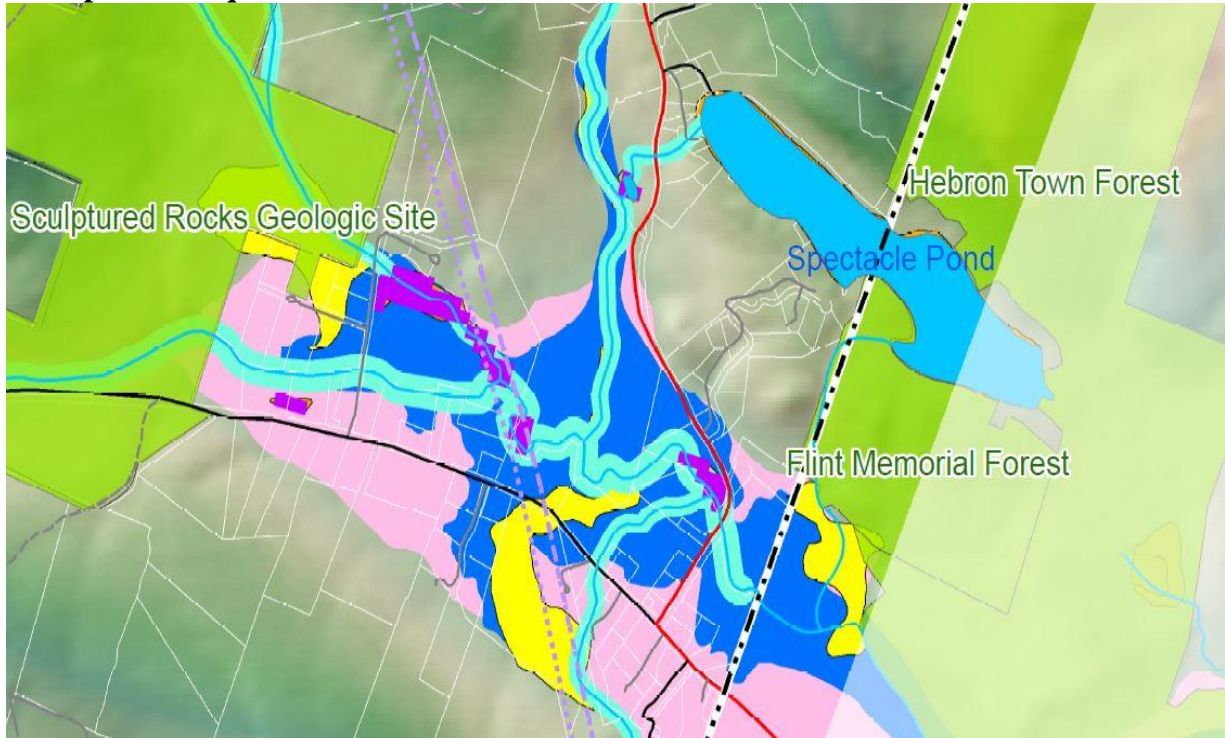
Violation: the failure of a structure or other development to be fully compliant with the ordinances of the Town of Groton.

Appendix A:



Appendix B:

Floodplain & Aquifer



Key: Blue – Flood Plain
Pink – Aquifer
Yellow – Hydric Soils
Light Blue – Surface Waters
Purple – Marsh/Wetland