

SECTION V. TELECOMMUNICATIONS/PERSONAL WIRELESS SERVICE FACILITIES

Purpose and Intent:

It is the express purpose of this Article to permit carriers to locate telecommunications/personal wireless service facilities within particular areas of the Town of Greenfield consistent with appropriate land use regulations that will ensure compatibility with the visual and environmental features of the Town. Compatibility with the visual features of Greenfield is measured based on the change in community scale and character in relation to the height, mass, materials, contrasts or proportion within the surroundings of a proposed wireless service facility. This Article enables the review of the locating and siting of telecommunications/personal wireless service facilities by the Town of Greenfield so as to eliminate or mitigate the visual and environmental impacts of telecommunications/personal wireless facilities. This Article is structured to encourage carriers to locate on existing buildings and structures whenever possible. New ground mounted telecommunications/personal wireless facilities are permitted, but only when the use of existing structures and buildings are found to be infeasible. Co-location is encouraged for all telecommunications/personal wireless service facility applications and the review of a telecommunications/personal wireless facility shall be on the basis of the site being built using all positions on the mount.

A. Applicability:

The terms of this Article and the Site Plan Review Regulations shall apply to telecommunications/personal wireless service facilities proposed to be located on property owned by the Town of Greenfield, on privately owned property, and on property that is owned by any other governmental entity that acts in its proprietary capacity to lease such property to a carrier.

B. Definitions:

For the purpose of this Article, the following terms shall have the meaning given herein:

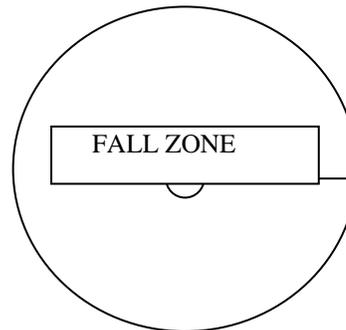
1. "Antenna" The surface from which wireless radio signals are sent and/or received by a telecommunications/personal wireless service facility.
2. "Antenna Array" An collection of antennas attached to a mount to send and receive radio signals.
3. "Average Tree Canopy Height" An average found by inventorying the height at ground level (AGL) of all trees over twenty (20') feet in height for a defined area, such as the area delineated in Section F (f).
4. "Camouflaged" A telecommunications/personal wireless service facility that is disguised, hidden, part of an existing or proposed structure, or placed within an existing or proposed structure.
5. "Carrier" A Company that provides telecommunications/personal wireless services, also sometimes referred to as a provider.
6. "Co-location" The use of a single mount on the ground by more than one carrier (vertical co-location) or the same carrier with multiple licenses, and/or the use of several mounts on an existing building or structure by more than one carrier or the same carrier with multiple licenses.
7. "Environmental Assessment (EA)" An EA is a document required by the Federal Communications Commission (FCC) and the National Environmental Policy Act (NEPA) when a telecommunications/personal wireless service facility is placed in certain designated areas.

8. "Equipment Shelter" An enclosed structure, cabinet, shed, vault or box near the base of the amount within which are housed equipment for telecommunications/personal wireless service facilities such as batteries and electrical equipment. Equipment shelters are sometimes referred to as base transceiver stations.

9. "Facility" See Telecommunications/Personal Wireless Service Facility

10. "Fall Zone" The area on the ground from the base of a ground mounted telecommunications/personal wireless service facility that forms a circle with a radius equal to the height of the facility, including any antennas or other appurtenances, as set forth in Figure 1. The fall zone is the area within which there is a potential hazard from falling debris (such as ice) or collapsing material.

Figure 1
Ground Mount Height = H
Radius=H



11. "Guyed Tower" A monopole or lattice tower that is secured to the ground or other surface by diagonal cables for lateral support.

12. "Height" The height above ground level (AGL) from the natural grade of a site to the highest point of the structure.

13. "Lattice Tower" A type of mount with multiple legs and structural cross bracing between the legs that is self-supporting and free standing.

14. "Mast" A thin pole that resembles a street light standard or telephone pole. A dual-polarized antenna is typically deployed on a mast.

15. "Monopole" A thicker type of mount than a mast that is self-supporting with a single shaft of wood, steel, concrete, or other material, that is designed for the placement of antennas and arrays along the shaft.

16. "Mount" The structure or surface upon which antennas are mounted, including the following four types of mounts:

- a. Roof-mounted. Mounted on the roof of a building.
- b. Side-mounted. Mounted on the side of a building.
- c. Ground-mounted. Mounted on the ground.
- d. Structure –mounted. Mounted on a structure other than a building.

17. "Telecommunications/Personal Wireless Service Facility" Telecommunications/Personal Wireless Service Facility for the provision of telecommunications/personal wireless services facilities include a mount, antenna, equipment shelter and other related equipment as defined by The Telecommunications Act of 1996, as amended.

18. "Personal Wireless Services" The three types of services regulated by this Ordinance: Commercial mobile radio services, unlicensed wireless services, and common carrier wireless exchange access services as described in the Telecommunications Act of 1996, as amended.

19. "Radio Frequency (RF) Engineer" An engineer specializing in electrical or microwave engineering, especially of radio frequencies.

20. "Radio Frequency (RFR) Radiation" The emissions from telecommunications/personal wireless service facilities.

21. "Security Barrier" A wall, fence, or berm that restricts an area from unauthorized entry or trespass.

22. "Separation" The distance between one carrier's array of antennas and another carrier's array.

C. District Regulations:

1. Location: Telecommunications/Personal wireless service facilities shall be permitted in all zoning districts. Special exception by the Zoning Board of Adjustment is required for all zoning districts except Rural/Agricultural and the General Residence district. Applicants seeking approval for telecommunications/personal wireless service facilities shall first evaluate existing structures for the siting of telecommunications/personal wireless service facilities. Only after finding that there are not suitable existing structures pursuant to Section C (4) herein, shall a provider propose a new ground mounted facility.

2. Existing Structures: Policy: Telecommunications/Personal wireless service facilities shall be located on existing structures, including but not limited to buildings, water towers, existing telecommunication facilities, utility poles or towers, and related facilities, provided that such installation preserves the character and integrity of those structures.

3. Existing Structures: Burden of Proof: The applicant shall have the burden of proving that there are no existing structures which are suitable to locate its telecommunications/personal wireless service facility and/or transmit or receive radio signals. To meet that burden, the applicant shall take all of the following actions to the extent applicable:

a. The applicant shall submit to the Planning Board a list of all contacts made with owners of potential sites regarding the availability of potential space for a telecommunications/personal wireless service facility. If the Planning Board informs the applicant that additional existing structures may be satisfactory, the applicant shall contact the property owner(s) of those structures.

b. The applicant shall provide copies of all letters of inquiry made to owners of existing structures and letters of rejection. If letters of rejection are not provided, at a minimum, unanswered "Return Receipt Requested" forms from the U.S. Post Office shall be provided for each owner of existing structures that was contacted.

c. If the applicant claims that a structure is not capable of physically supporting a telecommunications/personal wireless service facility, this claim must be certified by a licensed professional civil engineer. The certification shall, at a minimum, explain the structural issues and demonstrate that the structure cannot be modified to support the telecommunications/personal wireless service facility without unreasonable costs. The estimated cost shall be provided to the Planning Board.

4. Ground Mounted Facilities Policy: If the applicant demonstrates that it is not feasible to locate on an existing structure, ground mounted telecommunications/personal wireless service facilities

shall be designed so as to be camouflaged to the greatest extent possible, including, but not limited to: use of compatible building materials and colors, screening, landscaping and placement within trees.

D. Use Regulations:

A telecommunications/personal wireless service facility shall require a building permit in all cases and may be permitted as follows:

1. Existing Structures: Subject to the provisions of this Article and site plan review under RSA 674:43:III and except as otherwise permitted under Section D (1), a carrier may locate a wireless service facility on an existing structure, building, utility tower or pole or water tower. For the purposes of this section, new structures that are conforming to all other district zoning requirements shall be considered as existing structures.
2. Ground Mounted Facility: A telecommunications/personal wireless service facility involving construction of a ground mount shall require a site plan review and be subject to the provisions of this Article.
3. Completion Schedule: Any approval issued by the Planning Board will be in effect for nine (9) months from the date of approval to allow for completion of construction. After nine (9) months, if construction is not completed, a new application is required.

E. Dimensional Requirements:

1. Telecommunications/Personal wireless service facilities shall comply with the following requirements:
 - a. Height, Maximum: In no case shall a telecommunications/personal wireless service facility exceed one hundred forty (140') feet in height, unless the mount for the facility was greater than one hundred forty (140') feet prior to the adoption of this Article.
 - b. Height, Existing Structures and Utility Poles: Carriers that locate new telecommunications/personal wireless service facilities on water towers, electric transmission and distribution towers, utility poles and similar existing utility structures, guyed towers, lattice towers, masts and monopoles may be permitted to increase the height of those structures no more than twenty (20') feet, or forty (40') feet at the discretion of the Planning Board, if the additional height will not materially impair the visual impacts of the site. This increase in height shall only be permitted once for each structure.
 - c. Height, Other Existing Structures: The height of a telecommunications/personal wireless service facility shall not increase the height of a structure by more than fifteen (15') feet, unless the facility is completely camouflaged: for example a facility completely within a flagpole, steeple, or chimney. The increase in the height of the structure shall be in scale and proportion to the structure as originally configured. A carrier may locate a telecommunications/personal wireless service facility on a building that is legally nonconforming with respect to height, provided that the provisions of the Article are met.
 - d. Height, Ground-Mounted Facilities: Ground mounted telecommunications/personal wireless service facilities shall not project higher than twenty (20') feet above the average tree canopy height within a fifty (50') foot radius of the mount, security barrier, or designated clear area for access to equipment, whichever is greater.

e. Setbacks: All telecommunications/personal wireless service facilities, equipment shelters and security barriers shall comply with the building setback provisions of the zoning district in which the facility is located.

f. Fall Zone for Ground Mounts: In order to ensure public safety, the minimum distance from the base of any ground-mount of a telecommunications/personal wireless service facility to any property line, public road, habitable dwelling, business or institutional use, or public recreational area shall be, at a minimum, the distance equal to the fall zone, as defined in this Article. The fall zone may cross property lines, so long as the applicant secures a fall zone easement from the affected property owner(s). The area of the easement shall be shown on all applicable plans submitted to the Town, and the terms of the easement shall be provided as part of the Site Plan Review.

g. Fall Zone for Non-Ground Mounts: In the event that an existing structure is proposed as a mount for a telecommunications/personal wireless service facility, a fall zone shall not be required, but the setback provisions of the zoning district shall apply. In the case of pre-existing non-conforming structures, telecommunications/personal wireless service facilities and their equipment shelters shall not increase non-conformities.

F. Height Simulations:

During the ninety (90) day period following formal acceptance of an application, the Board may, during its deliberations, require that the applicant erect a structure that would physically simulate the proposed tower, thus enabling the Board to better assess the impact of a tower at a particular location. As an example, a crane boom, extending one hundred (100') feet vertically, would simulate a one hundred (100') foot communications tower.

G. Performance And Design Standards:

1. Visibility:

a. Visual impacts are measured on the basis of:

- (1) Change in community scale, as exhibited in relative height, mass or proportion of the telecommunications/personal wireless service facility within their proposed surroundings.
- (2) New visible elements proposed on a contrasting background.
- (3) Different colors and textures proposed against a contrasting background.
- (4) Use of materials that are foreign to the existing built environment.

b. Enhancements are measured on the basis of:

- (1) Conservation of opportunities to maintain community scale, e.g. buffering areas and low-lying buildings should not be compromised so as to start a trend away from the existing community scale.
- (2) Amount and type of landscaping and/or natural vegetation.
- (3) Preservation of view corridors, vistas and view sheds.
- (4) Continuation of existing colors, textures and materials.

c. Visibility focuses on:

(1) Eliminating or mitigating visual impact.

(2) Protecting, continuing and enhancing the existing environment.

d. Camouflage for Facilities on Existing Buildings or Structures-Roof Mounts:

When a telecommunications/personal wireless service facility extends above the roof height of a building on which it is mounted, every effort shall be made to conceal or camouflage the facility within or behind existing or new architectural features to limit its visibility from public ways. Facilities mounted on a roof shall be stepped back from the front façade in order to limit their impact on the building's silhouette.

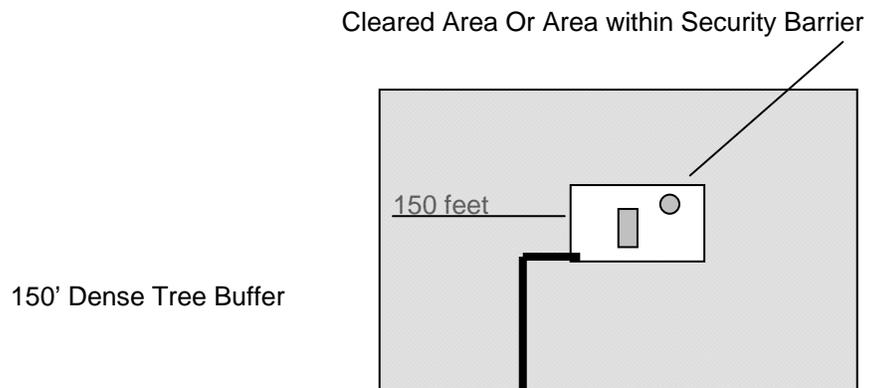
e. Camouflage for Facilities on Existing Buildings or Structures-Side Mounts:

Telecommunications/Personal wireless service facilities which are side mounted shall blend with the existing building's architecture and, if individual antenna panels are over five (5) square feet, the panels shall be painted or shielded with material consistent with the design and materials of the building.

f. Camouflage for Ground Mounted Facilities:

All ground mounted telecommunications/personal wireless service facilities shall be surrounded by a buffer of dense tree growth that extends continuously for a minimum distance of one hundred fifty (150') feet from the mount, a security barrier, or designated clear area for access to equipment, whichever is greatest, and screens views of the facility in all directions, as set forth in Figure 2. These trees must be existing on the subject property, planted on the site, or be within a landscape easement on an adjoining site. The Planning Board shall have the authority to decrease, relocate, or alter the required buffer based on site conditions. The one hundred fifty (150') foot vegetative buffer area shall be protected by a landscape easement or be within the area of the carriers lease. The easement or lease shall specify that the trees within the buffer shall not be removed or topped, unless the trees are dead or dying and present a hazard to persons or property.

Figure 2





2. Color:

To the extent that any telecommunications/personal wireless service facilities extend above the height of the vegetation immediately surrounding it, they shall be of a color which blends with the background or surroundings.

3. Equipment Shelters:

Equipment shelters for telecommunications/personal wireless service facilities shall be designed consistent with one of the following design standards:

- a. Equipment shelters shall be located in underground vaults; or
- b. Equipment shelters shall be designed so that the shelters are architecturally consistent, with respect to materials and appearance, to the buildings in the area of the telecommunications/personal wireless service facility; or
- c. Equipment shelters shall be camouflaged behind effective year-round landscape buffer, equal to the height of the proposed building, and/or wooden fence. The Planning Board shall determine the style of fencing and/or landscape buffer that is compatible with the neighborhood; or
- d. If mounted on a roof top, the equipment shelter shall be concealed or camouflaged so that the shelter either is not visible at grade or appears to be a part of the original structure.

4. Lighting, Signage, Security and Utilities:

- a. Lighting: The mounts of telecommunications/personal wireless service facilities shall be lighted only if required by the Federal Aviation Administration (FAA). Lighting of equipment structures and any other facilities shall be shielded from abutting properties and consistent with the Town of Greenfield Lighting Ordinance.
- b. Signage: Signs shall be limited to those needed to identify the property and owner and warn of any danger. All signs shall comply with signage requirements of the Town of Greenfield Zoning Ordinance.
- c. Security Barrier: The Planning Board shall have final authority on whether a ground mounted telecommunications/personal wireless service facility should be surrounded by a security barrier.
- d. Utilities: All utilities servicing a telecommunications/personal wireless service facility shall be placed underground.

5. Historic Buildings:

- a. A structure shall not alter the character or defining features, distinctive construction methods, or original historic materials of the building.

b. Any alteration made to an historic structure to accommodate a telecommunications/personal wireless service facility shall be fully reversible.

c. Telecommunications/Personal wireless service facilities authorized under this subsection shall be concealed within or behind existing architectural features, or shall be located so that they are not visible from public roads and viewing areas.

6. Scenic Landscapes and Vistas:

a. Ground mounted facilities shall not be located within open areas that are clearly visible from public roads, recreational areas, or abutting properties. All ground mounted telecommunications/personal wireless service facilities shall be surrounded by a buffer of dense tree growth as per Section F (1-f).

b. Ground mounted telecommunications/personal wireless service facilities shall not adversely impact the following vistas/views: Powder Mill Pond, The Contoocook River, Crotched Mountain, Otter Lake, Greenfield State Park, Oak Park, Blanchard Hill, Mount Monadnock, Sunset and Zephyr Lakes, the Wapak Trail, North Pack and Winn and Rose Mountains.

7. Driveways:

If available, existing entrances and driveways to serve a telecommunications/personal wireless service facility shall be utilized, unless the applicant can demonstrate that a new entrance and driveway will result in less visual, traffic and environmental impact. New driveways to serve a telecommunications/personal wireless service facility shall not exceed twelve (12') feet in width. A gravel or crushed stone surface is encouraged.

8. Antenna Types:

Any antenna array placed upon an existing or proposed ground mount, utility pole, or transmission line mount shall have a diameter of no more than four (4') feet, exclusive of the diameter of the mount. A larger diameter antenna array may be permitted after a finding by the Planning Board that the visual impacts of a large antenna array are negligible.

9. Ground and Roof Mounts:

All ground mounts shall be of a mast type mount. Lattice towers, guyed towers and roof mounted monopoles are expressly prohibited, unless constructed as part of a reconstruction project permitted under Section D (2).

10. Hazardous Waste:

No hazardous waste shall be discharged on the site of any telecommunications/personal wireless service facility. If any hazardous materials are to be used on site, there shall be provisions for full containment of such materials. An enclosed containment area shall be provided with a sealed floor, designed to contain at least one hundred ten (110%) percent of the volume of the hazardous material stored or used on the site.

11. Noise:

Telecommunications/Personal wireless service facilities shall not generate noise in excess of that permitted under the Greenfield Noise Ordinance.

12. Radio Frequency Radiation (RFR) Standards:

All equipment proposed for a telecommunications/personal wireless service facility shall be fully compliant with the FCC Guidelines for Evaluating the Environmental Effects of Radio Frequency Radiation (FCC Guidelines), under *Report and Order*, FCC 96-326, published on August 1, 1996, and all subsequent amendments.

H. Monitoring and Maintenance:

1. Maintenance:

The owner of the facility shall maintain the telecommunications/personal wireless service facility in good condition. Such maintenance shall include, but not be limited to, painting, structural integrity of the mount and security barrier and maintenance of the buffer areas and landscaping.

2. Monitoring:

As part of the issuance of the site plan approval or building permit, the property owner shall agree that the Town of Greenfield may enter the subject property to obtain RFR measurements at the expense of the carrier. The Town shall provide reasonable written notice to the carrier and landowner and provide them the opportunity to accompany Town representatives when the measurements are conducted.

3. Security for Removal:

Recognizing the hazardous situation presented by abandoned and unmonitored telecommunications facilities, the Planning Board shall set the form and amount of security that represents the cost for removal and disposal of abandoned telecommunication facilities in the event that a facility is abandoned and the owner is unwilling or unable to remove the facility in accordance with Section H (2). The amount of the security shall be based upon the removal costs plus fifteen (15%) percent provided by the applicant and certified by a structural engineer licensed in New Hampshire. The owner of the facility shall provide the Planning Board with a revised removal cost estimate and structural evaluation prepared by a professional structural engineer licensed in New Hampshire every five (5) years from the date of the Planning Board's approval of the site plan. If the cost has increased more than fifteen (15%) percent the owner of the facility shall provide additional security in the amount of the increase.

I. Abandonment Or Discontinuation Of Use:

1. Notification:

At such time that a carrier plans to abandon or discontinue operation of a telecommunications/personal wireless service facility, such carrier will notify the Town by certified U. S. mail of the proposed date of abandonment or discontinuation of operations. Such notice shall be given no less than thirty (30) days prior to abandonment or discontinuation of operations. In the event that a carrier fails to give such notice, the telecommunications/personal wireless service facility shall be considered abandoned upon such discontinuation of operations.

2. Removal:

Upon abandonment or discontinuation of use, the owner of the facility shall physically remove the telecommunications/personal wireless service facility within ninety (90) days from the date of abandonment or discontinuation of use. "Physically remove" shall include, but not be limited to:

- a. Removal of antennas, mount, equipment shelters and security barriers from the subject property.

b. Proper disposal of the waste materials from the site in accordance with local and state Solid Waste Disposal regulations.

c. Restoring the location of the telecommunications/personal wireless service facility to its natural condition, except that any landscaping and grading shall remain in the after-condition.

3. Failure to Remove:

If the owner of the facility does not remove the facility upon the Code Enforcement Officer's order, then the Board of Selectmen shall, after holding a public hearing with notice to the owners and abutters, issue a declaration of abandonment. The owner of the facility shall dismantle and remove the facility within ninety (90) days of receipt of the declaration of abandonment by the Board of Selectmen. If the abandoned facility is not removed within ninety (90) days, the Town may execute the security to pay for this action.