

Section 8.9 Wireless Service Facilities

1) Purpose

- a) It is the express purpose of this Bylaw to minimize the visual and environmental impacts as well as any potential deleterious impact on property value, of wireless service facilities upon properties located within the Town or adjacent thereto. The Planning Board shall be the Special Permit Granting Authority for the issuance of a special permit to allow the placement, construction and modification of wireless service facilities within the town. This bylaw is intended to be used in conjunction with other regulations adopted by the Town, and other zoning and general bylaws designed to encourage appropriate land use, environmental protection, preservation of the rural character and the provision of adequate infrastructure development in North Andover.
- b) The regulation of wireless service ice facilities is consistent with the purpose of the North Andover Zoning Bylaw and planning efforts at the local government level to further the conservation and preservation of developed, natural and undeveloped areas, wildlife, flora and habitats for endangered species; protection of the natural resources of North Andover, enhancement of open space areas and respect for North Andover's rural character.
- c) This Bylaw is intended to be consistent with the Telecommunications Act of 1996 in that:
 1. it does not prohibit or have the effect of prohibiting the provision of Wireless Services;
 2. it is not intended to be used to unreasonably discriminate among providers of functionally equivalent Wireless Services;
 3. it does not regulate Wireless Services on the basis of the environmental effects of radio frequency emissions beyond requiring compliance with the Federal Communication Commission's regulations concerning such emissions.
- d) If the application of any of the provisions of this Bylaw results in a violation of the Federal Telecommunications Act of 1996, then the Federal Act shall supercede that particular provision of this Bylaw.

2) Definitions for Purposes of this Section 8.9:

- a) **Above Ground Level (AGL).** A measurement of height from the natural grade of a site to the highest point of the structure.
- b) **Above Mean Sea Level (AMSL).** A uniform point from which height above sea level (or zero elevation) can be measured.
- c) **Antenna.** The surface from which wireless radio signals are sent and received by a wireless service facility.
- d) **Camouflaged.** A wireless service facility that is disguised, hidden, part of an existing or proposed structure or placed within a preexistent or proposed structure is considered to be "camouflaged."
- e) **Carrier.** A company that provides wireless services.
- f) **Co-location.** The use of a single mount or monopole wireless service facility (monopole) by more than one carrier (vertical co-location) and/or the locating of

more than one carrier's wireless service facility in or on a preexistent building or structure.

- g) **Cross-polarized (or dual-polarized) antenna.** A low mount that has three panels flush mounted or attached very close to the shaft.
- h) **Distributed Antenna System (DAS).** A multiple antenna system including antennas and control boxes typically installed on utility poles interconnected via cable or fibers belonging to the access point/base station dispersed across a coverage area. The system shall be capable of co-locating multiple Wireless Service providers simultaneously.
- i) **Elevation.** The measurement of height above mean sea level.
- j) **Environmental Assessment (EA).** An EA is the document required by the Federal Communications Commission (FCC) and the National Environmental Policy Act (NEPA) when a wireless service facility is placed in certain designated areas.
- k) **Equipment Shelter.** An enclosed, structure, cabinet, shed or box at the base of the mount within which are housed batteries and electrical equipment.
- l) **Functionally Equivalent Services.** Cellular, Personal Communication Services (PCS), Enhanced Specialized Mobile Radio, Specialized Mobile Radio and Paging.
- m) **GPS.** Ground **Positioning** System by satellite location of antennas.
- n) **Guyed Tower.** A lattice tower that is tied to the ground or other surface by diagonal cables.
- o) **Lattice Tower.** A type of mount that is self-supporting with multiple legs and cross bracing of structural steel.
- p) **Licensed Carrier.** A Company authorized by the FCC to construct and operate a commercial mobile radio service system.
- q) **Monopole.** The type of mount that is self-supporting with a single shaft of wood steel or concrete or other material and a platform (or racks) for panel antennas arrayed at the top.
- r) **Mount.** The structure or surface upon or in which antennas are mounted, including but not limited to the following four types of mounts and each mount shall be low profile mounted:
 - (1) Roof Mounted: Mounted on the roof of a building.
 - (2) Side-mounted: Mounted on the side of a building
 - (3) Ground-mounted: Mounted on the ground.
 - (4) Structure-mounted: Mounted in or on a pre-existent building or structure.
- s) **Omnidirectional (whip) antenna.** A thin rod that beams and receives a signal in all directions.
- t) **Panel Antenna.** A flat surface antenna usually developed in multiples.
- u) **Preexisting Structure:** A preexisting wireless service facility or a preexisting building or structure. As used in Section 8.9 of this bylaw the term "structure" shall include buildings.
- v) **Radiofrequency (RF) Engineer.** An engineer specializing in electric or microwave engineering, especially the study of radio frequencies.
- w) **Radiofrequency Radiation (RFR).** The emissions from wireless service facilities as defined in the FCC Guidelines for Evaluating the 65 Environmental

Effects of Radiofrequency Radiation (FCC Guidelines) or any other applicable FCC guidelines and regulations.

- x) **Security Barrier.** A locked impenetrable wall, fence or berm that completely seals an area from unauthorized entry or trespass.
- y) **Separation.** The distances between one array of antennas and another array.
- z) **Stealth Antenna.** An antenna, dish or other facility--not including ground based support facilities—which is fully concealed inside a pre-existing structure such that no part of the stealth antenna is visible from street level. This definition shall only apply to antennae, monopoles and antenna-like devices and not to any equipment necessary for the operation of the antennae-like devices, which equipment may be located outside the pre-existing structure.
- aa) **Utility.** A system of wires or conductors and supporting structures that functions in the transmission of electrical energy or communication services (both audio and video) between generating stations, sub-stations, and transmission lines or other utility services.
- bb) **Wireless Service Facility.** Facilities used for the principle purpose of commercial or public wireless communications uses, such as cellular telephone services, enhanced specialized mobile radio services, microwave communications, wireless communications services, paging services and the like, as defined in Section 704 of the Federal Telecommunications Act of 1996, as amended. Such facilities shall include towers, monopoles, antennae, antennae support structures, panels, dishes and accessory structures.
- cc) **Wireless Services.** The three types of services regulated by this Bylaw: commercial mobile radio services, unlicensed wireless services, and common carrier wireless exchange access services as defined in the Telecommunications Act of 1996, as amended.

3) General Regulations

- a) **Use Regulations:** A wireless service facility shall require a building permit in all cases and may be permitted as follows:
 - i) The carrier must demonstrate that the facility is necessary in order to provide adequate service to the public.
 - ii) A wireless service facility may locate on any existing guyed tower, lattice tower, monopole or electric utility transmission tower for which a special permit issued under this Section 8.9 is in effect, provided that the new facility shall obtain a special permit from the Planning Board and, provided further that any new facility shall not exceed the terms and conditions of the special permit in effect for the existing facility on which it is to be located.
 - iii) No wireless service facility shall be located in the Town except upon issuance of a special permit in accordance with Section 10.3 of this Bylaw. Small scale wireless facilities which satisfy the conditions in order for the Federal Communications Commission’s Over-the-Air Reception Devices (“OTARD”) rules to apply and which are consistent with the OTARD rules are exempt from this bylaw..
 - iv) As required by the federal Telecommunications Act of 1996, there may be no regulation of a wireless service facility on the basis of the environmental

effects of radio frequency emissions, other than as required by the Federal Communications Commission.

- v) The installation, construction, or other placement of new lattice towers or guyed towers (as distinguished from those existing at the time of the inception of this Bylaw) shall not be permitted.

b) Location:

- i) The Wireless Telecommunications Overlay District (WTOD) is intended to protect the resources of the Town, while allowing adequate Wireless Telecommunications to be developed. The WTOD is an overlay district mapped over other districts. It modifies and where there is inconsistency, supersedes the regulations of such other districts. Except as so modified or superseded, the regulations of the underlying districts remain in effect. Any use of lands within the WTOD for purposes of placement, construction, modification or removal of Wireless Service Facilities shall be subject to the requirements of Section 8.9 of this Bylaw. The District includes the properties listed below. These properties are included by reason of their potential to provide technically feasible and accessible locations for the siting of facilities which can provide adequate wireless telecommunications services to the Town. Properties not currently in the WTOD can only be added to the WTOD by vote of Town Meeting.

- ii) Upon issuance of a Special Permit by the Planning Board, a Wireless Service Facility (including DAS and those with a monopole) may only be installed in the following districts and properties except as also provided in subsections (iii) and (iv):

- 1. All parcels within the following zoning districts: Business 2 and 3; Corridor Development Districts 1, 2 and 3; Industrial 1 and 2.

- 2. Map 108A, Parcel 3 (Commonwealth of Massachusetts)
Map 90B, Parcel 11 (Commonwealth of Massachusetts)
Map 106C, Parcel 17 (Commonwealth of Massachusetts)
Map 106C, Parcel 16 (Commonwealth of Massachusetts)
Map 106C, Parcel 7 (Commonwealth of Massachusetts)
Map 106C, Parcel 43 (Commonwealth of Massachusetts)
Map 106D, Parcel 5 (Commonwealth of Massachusetts)
Map 106B, Parcel 215 (Commonwealth of Massachusetts)
Map 106B, Parcel 214 (Commonwealth of Massachusetts)
Map 106C, Parcel 30 (Commonwealth of Massachusetts)
Map 106C, Parcel 32 (Commonwealth of Massachusetts)
Map 106D, Parcel 4 (Commonwealth of Massachusetts)
Map 106D, Parcel 14 (Commonwealth of Massachusetts)
Map 106D, Parcel 13 (Commonwealth of Massachusetts)
Map 106C, Parcel 3 (Commonwealth of Massachusetts)
Map 106C, Parcel 8 (Commonwealth of Massachusetts)
Map 106C, Parcel 9 (Commonwealth of Massachusetts)
Map 106D, Parcel 10 (Commonwealth of Massachusetts)
Map 106B, Parcel 217 (Commonwealth of Massachusetts)
Map 106B, Parcel 24 (Commonwealth of Massachusetts)

Map 104A, Parcel 21 (Commonwealth of Massachusetts)
 Map 108C, Parcel 43 (Commonwealth of Massachusetts)
 Map 109, Parcel 33 (Commonwealth of Massachusetts)
 Map 106C, Parcel 11 (Commonwealth of Massachusetts)
 Map 106C, Parcel 12 (Commonwealth of Massachusetts)
 Map 108C, Parcel 40 (Commonwealth of Massachusetts)
 Map 108C, Parcel 45 (Commonwealth of Massachusetts)
 Map 108C, Parcel 41 (Commonwealth of Massachusetts)
 Map 107B, Parcel 26 (Commonwealth of Massachusetts)
 Map 107B, Parcel 24 (Commonwealth of Massachusetts)
 Map 106D, Parcel 16 (Commonwealth of Massachusetts)
 Map 106B, Parcel 216 (Commonwealth of Massachusetts)
 Map 106B, Parcel 217 (Commonwealth of Massachusetts)
 Map 34, Parcel 21 (Commonwealth of Massachusetts)
 Map 108C, Parcel 42 (Commonwealth of Massachusetts)
 Map 104D, Parcel 47 (Manzi)
 Map 104D, Parcel 14 (Manzi)
 Map 61, Parcel 20 (Water Tower)
 Map 27, Parcel 16 (Petco/Walgreens)
 Map 25, Parcel 1 (Blockbuster)
 Map 24, Parcel 16 (Eaglewood)
 Map 25, Parcel 13 (Merrimack College)
 Map 105C, Parcel 12 (New England Power)
 Map 105C, Parcel 39 (New England Power)
 Map 104B, Parcel 28 (New England Power)
 Map 64, Parcel 20 (Town of North Andover – Town Forest)

- iii) In all zoning districts, a stealth antenna which is completely concealed within a preexisting structure which has no residences contained within it, may be installed, with necessary equipment located inside or outside the preexisting structure, upon issuance of a special permit by the Planning Board, if the applicant proves (1) there is a substantial gap in coverage, and (2) there is compliance with Federal Communications Commission regulations concerning radiofrequency emissions and (3) there is no alternative available site. The Planning Board may hire, at the applicant's expense, an independent engineer or other expert to review and report upon the application and related documents.
- iv) Notwithstanding the foregoing sections ii(1) and ii(2) no Wireless Service Facility shall be installed on or within any structure containing single-or multi-unit residences, or on or within any accessory structure to a residential use unless:
 1. There is a substantial gap in coverage, there is compliance with Federal Communications Commission regulations concerning radiofrequency emissions, and there is no alternative available site; or
 2. There is a variance granted by the Zoning Board of Appeals.
- v) Subject to the exemption in subsection 8.9.12 herein, prior Town Meeting

authorization is required before the Board of Selectmen or School Committee enters into an agreement or lease for a wireless service facility on Town property.

- c) **Dimensional Requirements:** Wireless service facilities shall comply with the following requirements:
- i) **Height,** The maximum allowed height of a wireless service facility shall not exceed 100 feet unless the applicant demonstrates that a greater height is required to allow for provision of the wireless communications services and the Planning Board finds that a height over 100 feet is desirable based on a balanced review of aesthetics, safety and wireless coverage for the area. Wireless service facilities may locate on a building that is legally non-conforming with respect to height, provided that the facilities do not project above the existing building height.
 - ii) **Height, Stealth Antennae.** Any stealth antenna that is located inside a pre-existing structure such that it is not visible from street level is exempt from the general height requirement in 3 (c) (i) above and the setback requirements in 3(c)(v)(1) and must conform to the setback requirement in 3 (c) (v) (2).
 - iii) **Height, Side-and Roof-Mounted Facilities** Side-and roof-mounted wireless service facilities shall not project more than ten (10) feet above the height of an existing building or structure nor project more than ten (10) feet above the height limit of the zoning district within which the facility is located. Wireless service facilities may locate on a building that is legally nonconforming with the respect to height, provided that the facilities do not project above the existing building height.
 - iv) **Height, Preexisting Structures (Utility)** New antennas located on any of the following structures existing on the effective date of this bylaw shall be exempt from the height restrictions of this bylaw provided that there is no increase in height of the existing structure as a result of the installation of a wireless service facility: Water towers, guyed towers, lattice towers, fire towers and monopoles.
 - v) **Setbacks** All wireless service facilities and their equipment shelters shall comply with the building setback provisions of the zoning district in which the facility is located. In addition, the following setbacks shall be observed.
 - (1) In order to ensure public safety, the minimum distance from the base of any ground-mounted wireless service facility (except a stealth antenna) to any property line, shall be 2x the height of the facility, including any antennas or other appurtenances. This set back is considered the "fall zone".
 - (2) In the event that a preexisting structure is proposed as a mount for a wireless service facility, the setback provisions of the zoning district shall apply. In the case of the preexisting non-conforming structures, wireless service facilities and their equipment shelters shall not increase any non-conformity

4) Design Standards

a) Visibility/Camouflage Wireless service facilities shall be camouflaged as follows

i) **Camouflage by Existing Buildings or Structures**

- (1) When a wireless service facility extends above the roof height of a building on which it is mounted, every effort shall be made to conceal the facility within or behind preexisting architectural features to limit its visibility from public ways. Facilities mounted on a roof shall be stepped back from the front facade in order to limit their impact on the building's silhouette.
- (2) Wireless service facilities which are side-mounted shall blend with the preexisting building's architecture and, if over 5 square feet, shall be shielded with material which is consistent with the design features and materials of the building.

ii) **Camouflage by Vegetation.** If wireless service facilities are not camouflaged from public viewing areas by existing buildings or structures, they shall be surrounded by buffers of dense tree growth and vegetation in all directions to create an effective year-round visual buffer. Ground-mounted wireless service facilities in excess of 50 feet shall provide year-round vertical evergreen vegetated buffer of 50 feet, or 75% of the overall height of the structure whichever is greater, in all directions. Trees and vegetation may be existing on the subject property or installed as part of the proposed facility or a combination of both. Vegetation should be natural in appearance and consistent with surroundings.

iii) **Color**

- (1) Wireless service facilities, which are side-mounted on buildings, shall be painted or constructed of materials to match the color of the building material directly behind them.
- (2) To the extent that any wireless service facilities extend above the height of the vegetation immediately surrounding it, they must be painted in a light gray or light blue hue which blends with sky and clouds

iv) **Equipment Shelters.** Equipment shelters for wireless service facilities shall be designed consistent with one of the following design standards:

- (1) Equipment shelters must be located in underground vaults; or
- (2) designed consistent with traditional materials, color and design of the area, or
- (3) camouflaged behind an effective year-round landscape buffer, equal to the height of the proposed building, and /or wooden fence acceptable to the permitting authority

b) **Lighting and signage**

- i) Wireless service facilities shall be lit only if required by the Federal Aviation Administration (FAA). Lighting of equipment structures and any other facilities on site shall be shielded from abutting properties. There shall be total cutoff of all light at the property lines of the parcel to be developed, and foot-candle measurements at the property line shall be 0.0 initial foot-candles when measured at grade.
- ii) Signs shall be limited to those needed to identify the property and the owner

and warn of any danger. No tower or other facility shall contain any signs or other devices for the purpose of advertisement. All signs shall comply with the requirements of Signs and Outdoor Lighting Regulations of this bylaw.

- iii) All ground mounted wireless, service facilities shall be surrounded by a security barrier and shall be protected against unauthorized climbing or other access by the public.

c) Historic Buildings

- i) Any wireless service facilities located on or within a historic structure shall not alter the character-defining features, distinctive construction methods, or original historic materials of the building.
- ii) Any alteration made to a historic structure to accommodate a wireless service facility shall be fully reversible.
- iii) Wireless service facilities within an historic district 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 within the district.
- iv) The Historic District Commission must review all applications for wireless service facilities to be located within a local historic district.

d) Environmental Standards

- i) Applicants must comply with all Conservation Commission regulations and procedures.
- ii) Applicant must comply with all federal, state and local regulations governing hazardous materials.
- iii) Storm water run-off as a result of the wireless facility shall be contained on-site and comply with the DEP Storm Water Management regulations as applicable.
- iv) Ground-mounted equipment for wireless service facilities shall not generate acoustic noise in excess of 50 dB at the security barrier.
- v) Roof-mounted or side-mounted equipment for wireless service facilities shall not generate noise in excess of 50 dB at ground level at the base of the building closest to the antenna.

e) Safety Standards

- i) **Radiofrequency Radiation (RFR) Standards.** All equipment proposed for a wireless service facility shall be authorized per the FCC *Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation* (FCC Guidelines) or any other applicable FCC guidelines and regulations.
- ii) **Structural Integrity.** As part of the application for special permit for a monopole or stealth antenna the applicant shall provide certification by a structural engineer that the wireless service facility is structurally sound for the proposed facility.

5) Application Procedures

- a) **Special Permit Granting Authority (SPGA).** The Special Permit Granting Authority (SPGA) for wireless service facilities shall be the Planning Board.
- b) **Pre-Application Conference.** Prior to the submission of an application for a Special Permit under this regulation, the applicant is strongly encouraged to meet with either the SPGA at a public meeting or with the town planner, to discuss the

proposed wireless service facility in general terms and to clarify the filing requirements.

c) Pre-Application Conference Filing Requirements. The purpose of the conference is to inform the SPGA as to the preliminary nature of the proposed wireless service facility. As such, no formal filings are required for the pre-application conference. However, the applicant is encouraged to prepare sufficient preliminary architectural and/or engineering drawings to inform the SPGA of the location of the proposed facility, as well as its scale and overall design.

d) Application Filing Requirements. The following shall be included with an application for a Special Permit for all wireless service facilities:

i) General Filing Requirements

- (1) Name, address and telephone number of applicant and any co-applicants as well as any agents for the applicant or co-applicants. A 24-hour emergency telephone contact number shall be included for use during construction as well as operation of the wireless communication facility.
- (2) Co-applicants may include the landowner of the subject property, licensed carriers and tenants for the wireless service facility
- (3) Every application for a wireless service facility Special Permit shall include at least one licensed carrier and the owner of the land as an applicant or a co-applicant.
- (4) Original signatures are required for the applicant and all co-applicants applying for the Special Permit. If an agent represents the applicant or co-applicant, an original signature authorizing the agent to represent the applicant and/or co-applicant is required. Photo reproductions of signatures will not be accepted. All other filing requirements in the Zoning Bylaw and the Rules and Regulations as applicable must be complied with.
- (5) The applicant shall submit documentation of the legal right to install and use the proposed facility at the time of application for a Special Permit under this bylaw and also at the time of application for a building permit.

ii) Location Filing Requirements:

- (1) Identify the subject property by including the name of the nearest road or roads, street address, and Assessors Map and Parcel number of subject property
- (2) Identify the Zoning District designation for the subject parcel. Submit a copy of Town zoning map with parcel identified.
- (3) A locus map at a scale of 1" = 1500' showing the subject property.
- (4) A map showing the other preexisting and approved wireless service facilities in North Andover and outside North Andover within one mile of its boundary.
- (5) GPS all equivalent systems locating by latitude and longitude wireless service facilities.
- (6) A report by a qualified Radio Frequency Engineer relating to (1) a claimed substantial gap in coverage and (2) the proposed facility's compliance with applicable Federal Communications Commission,

- Massachusetts Aeronautics Commission and Federal Aviation Commission requirements, and (3) coverage maps that include all of the applicant's existing and planned towers, antennas, micro-cells, and repeaters in the coverage area and abutting municipalities.
- (7) Evidence that there is no alternative site that is available and technically feasible in North Andover or an abutting municipality. Such evidence shall include an analysis by a qualified Radio Frequency Engineer of the gaps in coverage if other sites were to be used. If there is an alternative site which would provide a location to close the purported substantial gap in coverage, then the applicant must document all efforts, and results thereof, to evaluate, and obtain rights to use, the alternative site.
 - (8) Evidence that the applicant has analyzed the feasibility of using DAS, "repeaters", micro-cells, or other available technology to provide coverage to the intended service area.
 - (9) A description of the capacity of the Facility, including, in the case of a monopole, the number and types of antennas that it can accommodate and the basis for calculation of capacity. Description of the proposed equipment should include data as to noise, certified by an acoustical engineer, and the beam widths at ground level for the energy outputs from each Antenna sector and degree of down-tilt of each Antenna.
 - (10) A listing of the state and/or federal permits, licenses or approvals acquired or needing to be acquired for the proposed installation.
 - (11) A description of the terms of any co-location agreements between the Applicant and any Personal Wireless Service provider.
 - (12) A copy of the most recently recorded plan and deed for the property on which the Facility will be placed and specific documentation which shows that the applicant has the legal authority by way of ownership, purchase and sale agreement, lease or otherwise, to use the subject property for the intended purpose.
- iii) **Siting Filing Requirements:** A one-inch-equals-40 feet plan prepared by a Registered Professional Engineer or Registered Land Surveyor in the Commonwealth of Massachusetts showing the following:
- (1) Property lines for the subject property and property lines of all properties within 300 feet of the proposed location.
 - (2) Tree cover on the subject property and all properties directly abutting the subject property, by dominant species and average height.
 - (3) Outline of all existing buildings, including purpose (e.g. residential buildings, garages, Accessory structures, etc.) on subject property and all properties adjacent to the subject property.
 - (4) Location of all roads, public and private, on the subject property and on all adjacent properties within 300 feet including driveways proposed to serve the wireless service facility.
 - (5) Proposed location of antenna, mount and equipment shelter(s).
 - (6) Proposed security barrier, indicating type and extent as well as point of controlled entry.
 - (7) Distances, at grade, from the proposed wireless service facility to each

- building on the vicinity plan.
- (8) Contours at each 2 feet AMSL for the subject property and adjacent properties within 300 feet.
 - (9) All proposed changes to the preexisting property, including grading, vegetation removal and temporary or permanent roads and driveways.
 - (10) Representations, dimensioned and to scale, of the proposed mount, antennas, equipment shelters, cable runs, parking areas and any other construction or development attendant to the wireless service facility.
 - (11) Lines representing the sight line showing viewpoint (point from which view is taken) and visible point (point being viewed) from "Sight Lines" subsection below.
 - (12) Location of all wetlands on the subject property and within 100' of the proposed facility as approved by the Conservation Commission, only if a filing with the Conservation Commission is required.
 - (13) Antennas and related equipment shall be camouflaged, that is, disguised, shielded, hidden or made to appear as an architectural component of the structure, provided however, antennas installed on utility poles, signs or flag poles as part of a DAS shall not be required to be camouflaged.

iv) Sight lines and photographs:

- (1) Sight line representation. A sight line representation shall be drawn from any public road within 300 feet and the closest facade of each residential building (viewpoint) within 300 feet to the highest point (visible point) of the wireless service facility. Each sight line shall be depicted in profile, drawn at one-inch equals 40 feet scale. The profiles shall show all intervening trees and buildings. In the event there is only one (or more) residential building within 300 feet there shall be at least two sight lines from the closest habitable structures or public roads, if any.
- (2) Preexisting (before condition) photographs. Each sight line shall be illustrated by one four-inch by six-inch color photograph of what can currently be seen from any public road and any residential building within 300 feet.
- (3) Proposed (after condition) photographs. Each of the preexisting condition photographs shall have the proposed wireless service facility superimposed on it to show what will be seen from public roads and residential buildings if the proposed wireless service facility is built.
- (4) Siting elevations or views at-grade from the north, south, east and west for a 50-foot radius around the proposed wireless service facility plus from all preexisting public and private roads that serve the subject property. Elevations shall be at either one-quarter inch equals one foot or one-eighth inch equals one foot scale and show the following:
 - (a) Antennas, mounts and equipment shelter(s), with total elevation dimensions and average ground level (AGL) of the highest point. All future proposed antennas, mounts and equipment shelters if any must be shown in order to be included in the Special Permit.
 - (b) Security barrier. If the security barrier will block views of the

wireless service facility, the barrier drawing shall be cut away to show the view behind the barrier.

- (c) Any and all structures on the subject property.
- (d) Preexisting trees and shrubs at current height and proposed trees and shrubs at proposed height at time of installation, with approximate elevations dimensioned.
- (e) Grade changes, or cuts and fills, to be shown as original grade and new grade line, with two-foot contours ANISL.

v) **Design Filing Requirements for Co-Location:**

- (1) Equipment brochures for the proposed wireless service facility such as manufacturer's specifications or trade journal reprints shall be provided for the antennas, mounts, equipment shelters, cables as well as cable runs, and security barrier, if any.
- (2) Materials of the proposed wireless service facility specified by generic type and specific treatment (e.g. anodized aluminum stained wood, painted fiberglass, alloys, etc.). These shall be provided for the antennas, mounts, equipment shelters, cables as well as cable runs, and security barrier, if any.
- (3) Colors of the proposed wireless service facility represented by a color board showing actual colors proposed. Colors shall be provided for the antenna mounts, equipment shelters, cables as well as cable runs, and security barrier, if any.
- (4) Dimensions of the wireless service facility specified for all three directions: height, width and breadth. These shall be provided for the antennas, mounts, equipment shelters and security barrier, if any.
- (5) Appearance shown by at least two photographic superimpositions of the wireless service facility within the subject property. The photographic superimpositions shall be provided for the antennas, mounts, equipment shelters, cables as well as cable runs, and security barrier, if any, for the total height, width and breadth.

vi) **Design Filing Requirements for Monopole Facilities:**

- (1) Equipment brochures for the proposed wireless service facility such as manufacturer's specifications or trade journal reprints shall be provided for the antennas, mounts, equipment shelters, cables as well as cable runs, and security barrier, if any.
- (2) Materials of the proposed wireless service facility specified by generic type and specific treatment (e.g. anodized aluminum stained wood, painted fiberglass, alloys, etc.). These shall be provided for the antennas, mounts, equipment shelters, cables as well as cable runs, and security barrier, if any.
- (3) Colors of the proposed wireless service facility represented by a color board showing actual colors proposed. Colors shall be provided for the antenna mounts, equipment shelters, cables as well as cable runs, and security barrier, if any.
- (4) Dimensions of the wireless service facility specified for all three directions: height, width and breadth. These shall be provided for the

- antennas, mounts, equipment shelters and security barrier, if any.
- (5) Appearance shown by at least two photographic superimpositions of the wireless service facility within the subject property. The photographic superimpositions shall be provided for the antennas, mounts, equipment shelters, cables as well as cable runs, and security barrier, if any, for the total height, width and breadth.
 - (6) Landscape plan including preexistent trees and shrubs and those proposed to be added, identified by size of specimen at installation and species.
 - (7) During the public hearing process the applicant shall schedule with the Planning Board a balloon or crane test at the proposed site, at the expense of the applicant, to illustrate the height of the proposed facility. Upon notice that such a test will be required, the Applicant is responsible for making arrangements with the Board's staff so that notice of the test may be included in a newspaper of local circulation, which notice shall be paid by the applicant. Photographs of the actual test from a suitable number of locations so as to depict the visual impact of the proposed facility on the Town shall be submitted to the Board at the public hearing.
 - (8) If lighting on the site is required by the FAA, the applicant shall submit a manufacturer's computer generated point-to-point printout, indicating the horizontal foot-candle levels at grade, within the property to be developed and twenty-five (25) feet beyond property lines. The printout shall indicate the locations and types of luminaries proposed.
 - (9) No commercial signage or advertising may be affixed to any monopole or other wireless service facility.
 - (10) The applicant shall provide design details for the foundation of a proposed monopole, the connection of the proposed monopole to the foundation and the break away points of the proposed monopole.
 - (11) The Town may retain a technical expert or experts to review, and report upon, the application. The cost for such technical experts will be paid at the expense of the applicant.

vii) **Structural Integrity Filing Requirements**

- (1) At the time of application for a special permit for a monopole or stealth antenna the applicant shall provide certification by a structural engineer that the wireless service facility is structurally sound for the proposed facility.
- (2) Monopoles must at all times be maintained in good and safe condition. The Personal Wireless Service provider shall arrange for a professional structural engineer licensed in Massachusetts to inspect and review a monopole and all accessory buildings upon completion of construction to certify these structures are in sound condition. A report of the engineer's findings shall be filed with the Town Building Commissioner at the completion of construction of the monopole. The SPGA may require such an engineer's report to be filed after the fifth year of operation of the monopole facility and every five years thereafter. All

costs for the inspection shall be borne by the carrier. Should the engineer or the Town Building Commissioner deem the monopole not to be sound, the owner of the monopole shall submit to the Town, within ten (10) business days, a plan to remedy the structural defect(s). Upon approval of the plan by the Building Commissioner, the remediation plan shall be completed as soon as is reasonably possible.

viii) **Noise Filing Requirements**

- (1) The applicant shall provide a statement listing the preexisting and maximum future projected measurements of noise from the proposed wireless service facilities, measured in decibels Ldn (common logarithmic scale, accounting for greater sensitivity at night), for the following:
 - (a) Preexisting or ambient: the measures of preexisting noise
 - (b) Preexisting plus proposed wireless service facilities: maximum estimate of noise from the proposed wireless service facility plus the preexistent noise environment.
 - (c) Such statement shall be certified and signed by an acoustical engineer, stating that noise measurements are accurate and meet Department of Environmental Protection requirements and Section 8.9(4)(d).

ix) **Radiofrequency Radiation (RFR) Filing Requirements**

- (1) All telecommunications facilities shall be operated only at Federal Communications Commission (FCC) designated frequencies, power levels and standards, including FCC Radio Frequency Emissions standards. The applicant shall provide certification demonstrating that the maximum allowable frequencies and power levels will not be exceeded. Certifications shall include technical specifications, a written explanation of those specifications, and, if necessary, field verification.
- (2) In order to determine compliance with applicable FCC regulations, the applicant shall provide a statement listing the preexistent and future projected measurements of RFR from the proposed wireless service facility, including all co-locators, for the following situations:
 - (a) Preexisting or ambient: the measurement of preexistent RFR.
 - (b) Preexisting plus proposed wireless service facilities: estimate of RFR from the proposed wireless service facility plus the preexisting RFR environment.
 - (c) Certification, signed by an engineer, stating that RFR measurements are accurate and meet FCC Regulations and Guidelines and the Radiofrequency Radiation Standards subsection of this Bylaw.

x) **Federal Environmental Filing Requirements**

- (1) At the time of application filing, an Environmental Assessment (EA) that meets FCC requirements shall be submitted to the Town for each wireless service facility site that requires such an EA to be submitted to the FCC
- (2) The applicant shall list location, type and amount (including radiation trace elements) of any materials proposed for use within the wireless

service facility that are considered hazardous by the federal, state or local government.

- xi) **Waiver.** The SPGA may waive one or more of the application filing requirements of this section if it finds that such information is not needed for a thorough review of a proposed wireless service facility.

6) Co-location

- a) If feasible, wireless service facilities shall be located on or in preexisting structures, (whether or not they have existing wireless facilities) including but not limited to buildings or structures, preexisting telecommunications facilities, utility poles and towers, and related facilities, provided that such installation preserves the character and integrity of those structures. In particular, applicants are urged to consider use of preexisting telephone and electric utility structures as sites for one or more wireless service facilities. The applicant shall have the burden of proving that there are no feasible preexisting structures upon which to locate. If the applicant demonstrates to the satisfaction of the Planning Board that it is not feasible to locate on a preexisting structure, wireless service facilities shall be camouflaged to the greatest extent possible, including but not limited to: use of compatible building materials and colors, screening, landscaping, with natural and/or artificial plantings, and placement within trees.
- b) Licensed carriers shall share wireless service facilities and sites where feasible and appropriate, thereby reducing the number of wireless service facilities that are standalone facilities. Applicants are encouraged to locate within a preexisting structure having wireless facilities when feasible and when such a co-location does not interfere with structural integrity and does not result in a major change to the appearance of the structure. Applicants for a Special Permit for a wireless service facility shall demonstrate a good faith effort to co-locate with other carriers. Such good faith effort includes:
 - i) A survey of all preexisting structures that may be feasible sites for co-locating wireless service facilities;
 - ii) Contact, with all other licensed carriers for commercial mobile radio services operating in the Commonwealth of Massachusetts; and
 - iii) Sharing information necessary to determine if co-location is feasible under the design configuration most accommodating to co-location.
- c) The Planning Board may retain a technical expert in the field of RF engineering and/or a structural engineer to verify if co-location at the site is not feasible or is feasible given the design configuration most accommodating to co-location. The cost for such a technical expert will be at the expense of the applicant. The Planning Board may deny a Special Permit to an applicant who has not demonstrated a good faith effort to provide for co-location,
- d) If the applicant does intend to co-locate or to permit co-location, the Planning Board shall request drawings and studies that show the final appearance and operation of the drawing service facility at full build-out.
- e) If the Planning Board approves a co-location for a wireless service facility site, the Wireless Facilities Special Permit shall indicate how many facilities and of what type shall be permitted on that site. Facilities specified in the original

Special Permit approval shall not require another Wireless Facility Special Permit, however, the addition of any facilities not specified in the original approved Special Permit shall require a new Special Permit. This allows a carrier to "pre-permit" a site for additional facilities so that the original carrier will not have to apply for an additional Special Permit.

- f) In order to determine compliance with all applicable FCC Regulations, estimates of RFR emissions will be required for all facilities, including proposed and future facilities both for the applicant and all co-locators.

7) Modifications

A modification of a wireless service facility may be considered equivalent to an application for a new wireless service facility and will require a Special Permit when the following events apply:

- i) The applicant and/or co-applicant want to add any equipment or additional height not specified in the original design filing.
- ii) The applicant and/or co-applicant want to alter the terms of the Special Permit by changing the wireless service facility in one or more of the following ways:
 - (1) Change in the number of facilities permitted on the site;
 - (2) Change in technology used for the wireless service facility.

8) Monitoring and Maintenance

- a) After the facility is in operation, the applicant shall submit to the SPGA, within 90 days of beginning operations, preexisting and current RFR measurements. Such measurements shall be signed and certified by an RF engineer, stating that RFR measurements are accurate and are in compliance, or why the measurements fail to comply with, all applicable FCC Guidelines and Regulations. The measurements shall be submitted for both the applicant and all co-locators.
- b) After the wireless service facility is in operation the applicant shall submit to the SPGA, within 90 days of the beginning of operation, preexisting and current measurements of acoustic noise from the wireless service facility. Such measurements shall be certified and signed by an acoustical engineer, stating that noise measurements are accurate and meet the Noise Standards sub-section 8.9.4.d of this Bylaw.
- c) The applicant and co-applicant or their successor in interest shall maintain the wireless service facility in good condition. Such maintenance shall include, but shall not be limited to, painting, structural integrity of the mount and security barrier and maintenance of the buffer and landscaping.

9) Abandonment or Discontinuation of Use

- a) At such time that a licensed carrier plans to abandon or discontinue operation of a wireless service facility, such carrier will notify the Planning Board by certified US mail of the proposed date of abandonment or discontinuation of operations. Such notice shall be given no less than 30 days prior to abandonment or discontinuation of operations. In the event that a licensed carrier fails to give such notice, the wireless service facility shall be considered abandoned upon discontinuation of operations.

- b) Upon abandonment or discontinuation of use, the carrier shall physically remove the wireless service facility within 90 days from the date of abandonment or discontinuation of use. "Physically remove" shall include, but not be limited to:
 - i) Removal of antennas, mount, equipment shelters and security barriers from the-subject property.
 - ii) Proper disposal of the waste materials from the site in accordance with local and state solid waste disposal regulations.
 - iii) Restoring the location of the wireless service facility to its natural condition, except that any landscaping and grading shall remain the after-condition.
- c) As a condition of any special permit for the placement, construction or modification of a wireless service facility, the SPGA may require a carrier to place into escrow a sum of money to cover the costs of removing the facility from the subject property. Said amount shall be certified by an engineer, architect or other qualified professional registered to practice in the Commonwealth of Massachusetts. Said funds shall be held by an independent escrow agent to be appointed by the carrier and the SPGA. The carrier shall authorize and, as necessary, shall obtain the authorization of the owner of the property to allow the escrow agent to enter upon the subject property to remove the facility when the facility has been abandoned or discontinued. In the event the posted amount does not cover the cost of demolition and/or removal the Town may place a lien upon the property covering the difference in cost.
- d) A facility shall be deemed to be abandoned or discontinued if it has not been used for the purpose for which it was originally constructed for a period of six (6) months or more. Once abandonment or discontinuance has occurred, the carrier shall remove the facility from the subject property within ninety days. In the event that the carrier fails to remove the facility, the town shall give notice to the carrier and the independent escrow agent that the facility shall be, removed by the escrow agent forthwith and the escrow agent, after affording written notice seven days in advance to the carrier, shall remove the facility.

10) Reconstruction or Replacement of Existing Towers and Monopoles

Guyed towers, lattice towers, utility towers and monopoles in existence at the time of adoption of Section 8.9 of this Bylaw may be reconstructed, altered, extended or replaced on the same site by Special Permit, provided that the SPGA finds that such reconstruction, alteration, extension or replacement will not be substantially more detrimental to the neighborhood and/or the Town than the preexistent non-conforming structure. In making such a determination, the SPGA shall consider whether the proposed reconstruction, alteration, extension or replacement will create public benefits such as opportunities for co-location, improvements in public safety, and/or reduction in visual and environmental impacts.

11) Performance Guarantees

- a) The SPGA may require insurance in a reasonable amount determined and approved by the SPGA, after consultation at the expense of the applicant with one (1) or more insurance companies, to be in force to cover damage from the structure, or damage from transmissions and other site liabilities and may require

annual proof of said insurance to be filed with the SPGA.

- b) Annual certification, if required by the standards of the Federal Communications Commission, or Federal Aviation Administration or the American National Standards Institute, shall also be filed with the SPGA by the Special Permit holder.

12) Exempt Facilities: Municipal Emergency Wireless Service Facility

Wireless service facilities necessary to provide and ensure adequate town-wide coverage for public safety communications to include Police, Fire, Ambulance, Emergency Medical Services, and Emergency Management shall be exempt from the provisions of this bylaw. Commercial or private wireless service facilities, unless they are under contract with the Town of North Andover to provide public safety communication, shall not co-locate on or utilize a municipal emergency wireless service facility and shall not be exempt under this section. Further, if said municipal emergency wireless service facility is to be located on private property, the Town must obtain the permission of the landowner.

13) Public discussion of litigation settlement

At least ten (10) days prior to each public hearing of the Planning Board where a public discussion is to occur regarding any proposed settlement of litigation commenced by an applicant under this section, the Planning Board shall send notice at the applicant's expense of such public discussion by first class mail to all abutters within 300 feet of the proposed Facility.

Or to take any other action relative thereto