

# **AQUINNAH ZONING BY-LAW**

## **ARTICLE IX**

### **PERSONAL WIRELESS SERVICE FACILITIES**

Approved at Special Town Meeting

May 23, 2000

As Part of the Aquinnah District of Critical Planning Concern

# ARTICLE IX: PERSONAL WIRELESS SERVICE FACILITIES

## SECTION 9.1 Purpose and Intent

**9.1-1** The specific purpose of this By-Law is to minimize the visual and environmental impacts of Personal Wireless Service Facilities/Wireless Communication Facilities (WCF) in order to preserve the historic, cultural, and archeological values of the Town of Aquinnah. The By-Law allows for the review and Special Permit process for WCF including all new technology attendant to it as it develops. The By-Law sets forth guidelines for their operation, consistent with the Telecommunications Act of 1996 and Aquinnah's existing zoning, which will protect Aquinnah's unique community character and ensure that the public health, safety, and welfare is safeguarded. The intent of this By-Law is that any WCF installed, operate or modified in the Town of Aquinnah will be the smallest (in height and size), most adequate equipment that is available to the carrier. Any appeals or variances to this regulation may be by Special Permit form the Planning Board Plan Review (PB/PR).

## SECTION 9.2 Special Permit District Regulations

**9.2-1** No WCF of any kind which radiate radio frequencies shall be erected, constructed, installed or modified without first obtaining a Special Permit form the Aquinnah PB/PR. Modification of existing or newly permitted WCF includes: the addition of personal wireless services(s) as defined in the Federal Communication Act of 1996; the addition of personal wireless service(s) that involves changing the physical appearance of a WCF; the addition of tenant(s) by collocation, regardless of the type of service; change(s) in the physical appearance, physical characteristics or dimensions of the WCF; change(s) in equipment which will increase the level of radio frequency emission. The Special Permit granting authority for all WCF shall be the PB/PR.

**9.2-2** For construction of WCF and for modification of an/or installation on an existing or newly permitted tower or structure, the PB/PR will consider the following in making its determination of approval:

- A. Communications needs served by the facility,
- B. Visual impacts of such facilities on residential districts and scenic areas,
- C. Impact on neighborhood character, including aesthetics and property values,
- D. Impacts on the natural environment,
- E. Potential fiscal impact, including impact on Town services, tax base, and employment,
- F. Potential human health hazard due to radio-signal radiation from the proposed facility, to the extent not contrary to federal law,
- G. Traffic flow and safety, including parking and loading.

**9.2-3 All WCF** in the Town of Aquinnah shall adhere to performance and designs standards and conditions related to notice, siting, dimensions, design, noise, maintenance and inspection requirements, abandonment and discontinuation of use.

### **SECTION 9.3 Site Plan Review: Siting Criteria**

**9.3-1 Site Plan Review** before the Aquinnah Planning Board Plan Review shall be required with a public hearing. Applicants shall detail the number, location, power output, and coverage of any proposed repeaters in their systems and provide engineering data to justify their use. The use of repeaters to assure adequate coverage while minimizing the number of required towers or antennas is encouraged.

- A. **Areas Prohibited:** No WCF will be permitted on any scenic ridge line, scenic vista/viewshed (as determined by the Planning Board/Plan Review), wetlands, or wetland buffer areas, or within any Aquinnah Coastal District (including Menemsha Pond) or Roadside District (Moshup Trail) District or Cliff District. No WCF shall be located on the property on which schools, daycare facilities, parks and recreational areas or playgrounds are sited.
- B. **Primary Coverage:** If primary coverage, as defined greater than 50%, from a proposed WCF is outside the Town of Aquinnah, the permit may be denied.
- C. **Minimum Lot Size:** The minimum lot size for the location of a WCF shall be two (2) acres.
- D. **Site Periphery:** Existing on-site vegetation shall be preserved to the maximum extent practicable. All ground-mounted WCF shall be surrounded by a security barrier. Fencing and clear cutting are to adhere to Aquinnah zoning.

### **SECTION 9.4 Siting Criteria; Height**

**9.4-1** Regardless of the type of mount the WCF shall not project above the average tree canopy height within a three hundred and fifty (350) foot radius of the support structure. All WCF shall be surrounded by dense tree growth to shield views of the facility in all directions. The PB/PR may permit an increase in the height of up to thirty four feet above pre-construction natural grade if it determines that no material increase in visual impacts will result from the increased height. To clarify this means the height of a WCF shall not exceed by more than ten feet the height limits of the zoning district in which the facility is proposed to be located.

### **SECTION 9.5 Siting Criteria; Setbacks**

**9.5-1** All WCF 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 will be observed:

- A. A WCF must be at least five hundred (500) feet from any residence, and must be at least fifteen hundred (1500) feet from any historic district, school, playground, day care facilities, recreational area and parks. Any guy wires, anchors, or other adjunct of the structure will be considered as part of the WCF and must meet all setbacks. No ground-mounted WCF shall be located closer than the height of the tower plus fifty (50) feet to an existing non-residential building. No ground mounted WCF shall be located on the property on which a school, playground, day care facilities, recreational area and parks are sited.
- B. No side or roof-mounted tower/antenna shall be located closer than five hundred (500) feet of an existing dwelling, and no closer than fifteen hundred (1500) feet to a school and/or playground, day care facilities, recreational area and parks are sited. No side or roof-mounted WCF shall be located on the property on which a school and/or playground, day care facilities, recreational area and parks are sited.
- C. A side-mounted WCF shall not project more than forty-two (42) inches from a building's facade, and in not case shall project into an easement, driveway, or setback.

## **SECTION 9.6 Design Standards**

### **9.6-1 Accessory Building Design**

Equipment shelters and accessory buildings shall be designed to be consistent with traditional Aquinnah architectural styles and materials (wood clapboard or shingle siding). Equipment shelters shall be camouflaged behind an effective year your landscape buffer equal to the height of the proposed structure. The PB/PR shall determine the landscape buffer. Buildings shall be no more than ten (10) feet high and shall be used only for housing equipment related to this particular site.

### **9.6-2 Fencing**

All WCF shall have a fence surrounding the perimeter of a WCF which is an antenna support structure, which fence shall also be included in the setback requirements. Access to the WCF shall be through a locked gate. The fence must be shielded with vegetation. The PB/PR shall determine the style of fencing that is compatible with the site.

### **9.6-3 Visibility/Camouflage**

The Planning Board/Plan Review (PB/PR) shall require the WCF to be painted inn natural tones or otherwise camouflaged or screened by vegetation to create an effective year round visual buffer in order to minimize adverse visual impact. The PB/PR shall determine the types of trees and plant materials and depth of the needed buffer based on site conditions.

#### **9.6-4 Posted Signs**

A sign no greater than two (2) feet square indicating the name of the facility's owner(s) and a 24-hour emergency telephone number shall be posted adjacent to the entry gate. IN addition, "No Trespassing" or other warning signs are to be posted on the fence.

#### **9.6-5 Lighting**

Lighting must be in compliance with the Aquinnah Lighting zoning bylaw. Unless required by the Federal Aviation Administration, no night lighting of towers or antennas of the WCF is permitted except for manually operated emergency lights for use when official operating personnel are on site.

### **SECTION 9.7 Safety Standards**

**9.7-1** Radio frequency Radiation RFR Standards. All equipment proposed for a WCF shall be authorized per the FCC Guidelines for Evaluation of the Environmental Effects of Radio Frequency Radiation.

### **SECTION 9.8 Environmental Standards**

**9.8-1** WCF shall not be located in wetlands or wetland buffer areas. No hazardous waste shall be discharged on the site of any WCF. If any hazardous materials are to be used on site, there shall be provisions for full containment. Storm water run-off shall be contained on-site.

#### **9.8-2 Clear Cutting of Vegetation**

Clear cutting must be in compliance with the Aquinnah Zoning By-Law on clear cutting of vegetation. No cutting of trees or other vegetation shall occur within two hundred (200) feet of the facility without prior written approval of the PB/PR, and all supplemental landscaping required by the PB/PR shall be fully maintained.

### **SECTION 9.9 Application filing & Documentation Requirements for Special Permit by the Planning Board Plan Review**

#### **9.10-1 Pre-application Conference**

A pre-application conference between the proposed applicants(s) and the PB/PR shall be scheduled a minimum of twenty one (21) days prior to submission of the application for a WCF Special Permit. The purpose of said conference is to foster preliminary discussion regarding planning, design, and siting of the proposed facility among the applicant(s), the PB/PR, and the residents of the Town of Aquinnah.

#### **9.10-2 Public and Abutter Notification**

Following the pre-application conference, the required public and abutter notification shall be at least twenty-one (21) days prior to the public hearing by the PB/PR.

### **9.12-3 Independent Consultants**

- A. Upon submission of an application for a Special Permit under the Article the PB/PR shall hire independent consultants whose services shall be paid for by the applicant(s). These consultants shall each be qualified professionals with a record of service to municipalities in one of the following fields: telecommunications engineering, structural engineering; monitoring of electromagnetic fields; and, if determined necessary by the PB/PR, other consultants. Upon submission of a complete application for a Special Permit the PB/PR shall provide its independent consultants with the full application for their analysis and review.
- B. Applicants for any Special Permit for WCF shall grant permission for the Town's independent consultant(s) to conduct site visits, as the consultants deem necessary.

### **9.10-4 Filing Requirements; Adequate Coverage, Capacity, and Justification of Need**

Applicants shall submit the following to the PB/PR:

- A. Written documentation of any WCF sites in Aquinnah and in the other towns on Martha's Vineyard in which it has a legal or equitable interest, whether by ownership, leasehold or otherwise.
- B. Regarding each such facility site, written documentation that these facility sites are not already providing, or do not have, by adjusting the site, the potential to provide adequate coverage and/or adequate capacity to the Town of Aquinnah.
- C. Written documentation which specifies potential adjustments to these existing facility sites, including changes in antenna type, orientation, gain height or power output.
- D. Applicants shall demonstrate with written documentation that they have examined all WCF sites located in Aquinnah and in the other towns on Martha's Vineyard, in which the applicant(s) has no legal or equitable interest, whether by ownership, leasehold or otherwise, to determine whether those existing facility sites may be used to provide adequate coverage and/or adequate capacity to the Town of Aquinnah.
- E. Applicants shall demonstrate with written documentation that they have analyzed the feasibility of repeaters in conjunction with all facility sites to provide adequate coverage and/or adequate capacity to the Town of Aquinnah. Radial plots of all repeaters considered for use in conjunction with these facility sites shall be provided as part of the application.

### **9.10-5 Filing Requirements - General**

Applicants shall submit the following to the PB/PR:

- A. A notarized statement signed by the applicant(s) that all information included in the submittal is materially accurate, true, complete, and verifiable. Inaccurate, untrue, misleading or false information submitted in pursuit of a Special Permit the

applicants(s), the provider company, or their agents may be grounds for denial of a Special Permit.

- B. The exact legal name, address or principal place of business, and phone numbers(s) of applicants(s) and any co-applicants(s), as well as any agents for the applicant(s) or co-applicant(s), as well as any agents for the applicant(s) or co-applicant(s). The landowner of the subject property, licensed carriers, and tenants for the WCF shall be considered co-applicants.
- C. The name, title, address and phone number of the person to whom correspondence or communication regarding the applicant(s) are to be sent.
- D. Original signatures for the applicant(s) and all co-applicant(s) applying for the Special Permit. If the applicant(s) or co-applicant(s) will be represented by an agent, original signature authorizing the agent to represent the applicant(s) are to be sent.
- E. Copies of all submittals pertaining to FCC licensing; environmental impact statements; FAA notice' aeronautical studies; letter of approval from the Massachusetts Department of Public Health; and all data, assumptions, and calculations relating to service coverage and power levels.
- F. Details of proposed method of finance security.
- G. Required plans and engineering plans, prepared, stamped and signed by a professional engineer licensed to practice in Massachusetts.

#### **9.10-6 Filing Requirements; Siting**

Applicants shall provide the PB/PR with a zoning of assessor's map which clearly locates all existing and proposed WCF for their carrier in the Town and outside the Town, within one (1) mile of its corporate limits. Applicants shall also provide a "one (1) inch = forty (40) feet" vicinity plan that shows the following:

- A. Property lines for the subject property.
- B. Property lines of all properties adjacent to the subject property within three hundred (300) feet.
- C. Property lines of all properties adjacent properties within three hundred (300) feet, by dominant species and average height, as measured y or available from a verifiable source.
- D. Outline of all existing buildings, including purpose (e.g. residential buildings, garages, accessory structures, etc.) on subject property and all adjacent properties within five hundred (500) feet.
- E. Proposed location of WCF including mounts and equipment shelters.
- F. Proposed security barrier, indicating type and extent as well as point of controlled entry.
- G. Location of all roads, public and private, on the subject property and on all adjacent properties within five hundred (500) feet including driveways proposed to serve the WCF.

- H. Distances, at grade, from the proposed WCF to each building on the vicinity plan. Contours at each two (2) feet above mean sea level for the subject property and adjacent properties within five hundred (500) feet.
- I. All proposed changes to the existing property, including grading, vegetation removal, and temporary or permanent roads and driveways.
- J. Representation, dimensioned and to scale, of the proposed mount, antennas, equipment shelters, cable runs, parking areas and any other construction or development attendant to the WCF.
- K. Lines representing the sight line showing viewpoint (point from which view is taken) and visible point (point being viewed) from “sight lines” section 07.7.

### **9.10-7 Filing Requirements; Additional Visuals**

Applicants shall submit sight lines and photographs as described below:

- A. Sight line representations should be drawn from the closest public roads and the closest residential buildings (viewpoint) to the highest point (visible point) of the WCF. Each sight line should be depicted in profile, drawn at one (1) inch equals forty (40) feet. The profiles should show all intervening trees and buildings. The number and locations of the representations shall be determined by the PB/PR.
- B. Each sight line should be illustrated by one (1) “four-inch by six-inch” color photograph of what can currently be seen (also called an existing or before-condition photograph).
- C. Each of the existing-condition photographs should have the proposed WCF superimposed on it to show what will be seen from public roads if the proposed WCF is built, including antenna(s), mount(s), equipment shelters, cables as well as cable runs, and security barriers, if any, for the total height, width and breadth.

### **9.10-8 Filing Requirements; Cross Sections**

Applicants shall submit cross-sections through the site which illustrate the following:

- A. Antennas, mounts, and equipment shelter(s), with total elevation dimensions and average ground level of the highest point.
- B. If the security barrier will block views of the WCF, the barrier drawing should be cut away to show the view behind the barrier.
- C. Any existing structures on the subject property to remain.
- D. Existing 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 (2) -foot contours above mean sea level.
- F. Construction sequence and route(s) used to transport materials and equipment to the site.

### **9.10-9 Filing Requirement; Alternate Sites**

Applicants shall provide the PB/PR with a description of alternate sites for the proposed WCF and/or associated equipment with the following information:

- A. Equipment brochures for the proposed WCF, such as manufacturer's specifications or trade journal reprints for the antennas, mounts, equipment shelters, cables as well as cable runs, and security barrier, if any.
- B. As assessor's map of the lots or tracts of the alternate sites showing the acreage and dimensions of each site, the name and location of adjoining or nearest public roads and names of abutting property owners.
- C. Any additional information necessary to provide a comparison of the costs and environmental impacts of the alternate sites with that of the proposed site.

### **9.10-10 Filing Requirements; Design**

Applicants shall submit the following:

- A. Equipment brochures for the proposed WCF, such as manufacturer's specifications or trade journal reprints for the antennas, mounts, equipment shelters, cables as well as cable runs, and security barrier, if any.
- B. Materials of the proposed WCF specified by generic type and specific treatment (e.g., anodized aluminum, stained wood, painted fiberglass, etc.). These should be provided for the antennas, mounts, equipment shelters, cables as well as cables runs, and security barrier, if any.
- C. Colors of the proposed WCF represented by a color board showing actual colors proposed. Colors should be provided for the antennas, mounts, equipments shelters, cables as well as cable runs, and security barrier, if any.
- D. Dimensions of the WCF specified for all three dimensions: height, width, and breadth.
- E. Landscape plan including existing trees and shrubs and those proposed to be added, identified by size of specimen at installation and species.
- F. If lighting of the site is proposed, the applicant(s) should 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 the property lines. The printout should indicate the locations and types of luminaries proposed.

### **9.10-11 Filing Requirements; Noise**

Applicants shall provide a statement listing the existing and maximum future projected measurements of noise from the proposed WCF, measured in decibels Ldn (logarithmic scale, accounting for greater sensitivity at night), for the following:

- A. Existing, or ambient: the measurement of existing noise.
- B. Existing plus proposed WCF: maximum estimate of noise from the proposed WCF plus the existing noise environment.
- C. Such statement should be certified and signed by an acoustical engineer, stating that noise measurements are accurate and meet the Noise Standards of the bylaw.

### **9.10 -12 Filing Requirements; Radio Frequency Radiation (RFR)**

Applicants shall provide a statement listing the existing and maximum future projected measurements of RFR from the proposed WCF, for the following situations:

- A. Existing, or ambient: the measurements of exiting RFR.
- B. Existing plus proposed WCF: maximum estimate of RFR form the proposed WCF plus the existing RFR environment.
- C. Such certification shall be signed by a RF engineer, stating the RFR measurements are accurate and meet FCC Guidelines as specified in the RFR standards of this bylaw.

### **9.10-13 Filing Requirements; Hazardous Materials**

Applicants shall provide a written description of the type(s) and quantities of any hazardous waste and/or hazardous materials to be used, stored, or generated for each wireless carrier proposed to be located on the project site, as well as provide a written description and plans for containment of any hazardous materials or waste.

### **9.10-14 Filing Requirements; Federal Environmental**

A. The National Environmental Policy Act (NEPA) applies to all applications for a WCF. NEPA is administered by the FCC via procedures adopted as Subpart 1, Section 1.1301 et seq. (47 CRF Ch.I). The Federal Communications Commission (FCC) requires that an Environmental Assessment (EA) be filed with the FCC prior to beginning operations for any WCF proposed in or involving any of the following:

- 1. Wilderness areas
- 2. Wildlife preserves
- 3. Endangered species habitat
- 4. Historical site
- 5. Native American religious or cultural site
- 6. Flood plain
- 7. Wetlands
- 8. High intensity white lights in residential neighborhoods
- 9. Excessive RFR exposure

B. At the time of application filing, an EA that meets FCC requirements should be submitted to the PB/PR for each WCF site that requires such and EA to be submitted to the FCC. Applicants should list location, type and amount (including trace elements) of any materials proposed for use within the WCF that are considered hazardous by the federal, state or local government.

## **SECTION 9.11 Co-location**

**9.11-1** Licensed carriers shall share WCF and sites where feasible and appropriate thereby reducing the number of WCF that are stand-alone facilities. All applicants for

special permit for a WCF shall demonstrate a good faith effort to co-locate with other carriers.

**9.11-2** In the event that co-location is found to be not feasible a written statement of the reasons for the infeasibility shall be submitted to the Town. The Town may retain a technical expert in the field of RF engineering 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 Town may deny a special permit to an applicant that has not demonstrated a good faith effort to provide for co-location.

### **SECTION 9.12 Maintenance**

**9.12-1** The applicant/carrier shall maintain the WCF. Such maintenance shall include, but shall not be limited to, structural integrity, painting and landscaping.

### **SECTION 9.13 Monitoring of Emissions**

**9.13-1** Monitoring of radio frequency emissions shall be required prior to beginning commercial transmission and annually thereafter to confirm compliance with applicable regulations. This monitoring shall be performed by an independent consultant hired by the Town. Costs related to monitoring shall be paid by the WCF carrier(s). See Appendix 1 for a full description of monitoring and compliance regulations.

### **SECTION 9.14 Structural Violations**

**9.14-1** In the event the structure is not maintained or is found to be unsafe, the owner(s) of the WCF shall submit a plan within ten (10) business days of notification to repair the defect(s). Failure to accomplish this remediation within twenty (20) days of the initial notification shall be a violation of the Special permit and subject to a fine of three hundred dollars (\$300) per day for each offense. Such fines shall be payable by the owners(s) of the facilities. After 10 days of such fees if remediation is not complete the carrier's permit will be revoked.

### **SECTION 9.15 Cessation of Operations**

**9.15-1** Except by prior approval of the PB/PR all active WCF shall be operated continuously except for maintenance. Any cessation of operation for more than five (5) contiguous days shall be reported to the Zoning Administrator within five (5) working days.

### **SECTION 9.16 Abandonment/Discontinuation of Use**

**9.16-1** If a carrier plans to abandon or discontinue operation of a WCF, the carrier shall notify the Zoning Administrator of the proposed date by certified U.S. mail. 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, or if the facility ceases to operate, the WCF shall be considered abandoned. "Ceases to operate" is defined as not

performing the normal function is associated with the WCF and its equipment on a continuous and ongoing basis for a period of ninety (90) days. Upon abandonment or discontinuation of use, the carrier shall physically remove all structures associated with the WCF and the site shall be fully restored to its former condition, or to such condition as the Zoning Administrator may require, within ninety (90) days from the date of abandonment or discontinuation of use. If a carrier fails to remove a WCF in accordance with this article, the Town of Aquinnah shall have the authority to enter said property and physically remove the facility. Applicant shall, as a condition of the Special Permit, provide a financial surety payable to the Town of Aquinnah to cover the cost of removal of the SCF, the remediation of the landscape, and the abatement of any pollution when the facility ceases to operate. Every owner/operator of a WCF shall be required to post and maintain a bond with the Town of Aquinnah in the amount of one hundred thousand dollars (\$100,000.00) to cover such costs.

### **SECTION 9.17 Filing Fees**

**19.7-1** Every submission for a Special Permit for a WCF or for a Special Permit for a proposed modification of an existing WDF shall be accompanied by a Filing Fee of one thousand dollars (\$1000) payable by certified check to the Town of Aquinnah. A Special Permit and /or new operating license shall not be issued until all fees due and owing have been paid. A schedule of fees for permitting a WCF monitoring of emission and inspection of structures, and any other fees shall be established by the Board of Selectmen in consultation with the Planning Board. This schedule may be amended from time to time. Failure of the applicant(s) to pay such fees shall result in revocation of the Special Permit.

### **SECTION 9.18 Insurance**

**19.8-1** WCF shall be insured by the owner(s) against damage to persons or property with coverage limits not less than ten million dollars (\$10,000,000.00). The owners(s) shall provide a certificate of insurance to the Selectmen's office on an annual basis in which the Town of Aquinnah shall be an additional named insured. The PB/PR may from time to time require the applicant(s) to increase the limits of such coverage.

### **SECTION 9.19 License to Operate**

- A. The Zoning Administrator shall issue a License to Operate the WCF only when the applicant(s) has met all special permitting requirements, as listed above, and paid all fees in full. The License to Operate shall be renewed annually, on or before September 1.
- B. The Special Permit for a WCF shall be come null, void, and non-renewable if the facility is not constructed and placed into continuous year-round service within one (1) year of the date of the issuance of the Special Permit.

### **SECTION 9.20 Exempted Uses**

**9.20-1** The following WCF are exempt from this bylaw but not from the Town of Aquinnah Zoning:

A. Amateur (ham) radio not licensed for commercial use.

## **SECTION 9.21 Interference**

**9.21-1** Communication towers and antennas shall not cause a disruption to, or interfere with, other radio, communications or television transmissions or equipment. If such disruption or interference is found to be caused by the operation of the communication tower, the subscribers and/or lessees shall notify their equipment operators to abate the deficiencies.

## **9.22 Appendix 1**

### **9.22-1 Monitoring and Evaluation of RFR Pre-Testing**

After the granting of a Special Permit and before the applicant(s)'s WCF begins commercial transmission, the applicant(s)' shall pay for an independent consultant, hired by the Town, to monitor the background levels of EMF radiation, around the proposed facility site and/or any repeater locations to be utilized. Testing results shall meet FCC and state standards. A report of monitoring results shall be prepared by the independent consultant and submitted to the Aquinnah Board of Health.

### **9.22-2 Monitoring and Evaluation of RFR Post-Testing**

After transmission begins, the owner(s) of any WCF located on any facility site shall pay for an independent consultant, hired by the Town, to conduct testing and monitoring of EMF radiation emitted from said site, and to report results as follows:

A. There shall be routine annual monitoring of emissions by the independent consultant using actual field measurement of radiation, utilizing FCC and state monitoring protocol. This monitoring shall measure levels of EMF radiation from the facility site's primary antennas as well as repeaters (if any). Testing will be conducted over a 24-hour period during the peak use time in August, to give the most accurate indication of impacts on abutters and others. A report of monitoring results shall be prepared by the independent consultant and submitted to the Aquinnah Board of Health within thirty (30) days of completion of the testing. Any major modification of an existing facility, or the activation of any additional permitted channels, shall require new monitoring.

### **9.22-3 Excessive Emission**

In the event that state or federal standards are not met, including but not limited to FCC guidelines and Massachusetts Department of Public Health Regulations, the WCF shall cease to operate immediately and up until such time as such WCF passes such standards as contained in a subsequent written report of the independent professional technician.

If standards and regulations are changed, then the owners of the WCF shall bring them into compliance with the revised standards within six (6) months of the effective date. Failure to bring towers and antennas into compliance with revised standards and regulations shall constitute grounds for the removal of the WCF at the owner's expense.

### **SECTION 9.23 Appendix 2, Definitions**

**Adequate Coverage:** Coverage is considered to be "adequate" within that area surrounding a Base Station where the predicted or measured median field strength of the transmitted signal is greater than -95 dbm. It is acceptable for there to be holes within the area of adequate coverage where the signal is less than -95 dbm, as long as the signal regains its strength to greater than -95 dbm further away from the Base Station. For the limited purpose of determining whether the use of a repeater is necessary or desirable, there shall be deemed not to be adequate coverage within said holes. The outer boundary of the area of adequate coverage, however, is that location past which the signal does not regain a strength of greater than -95 dbm.

**Adequate Capacity:** Capacity is considered to be "adequate" if the grade of service is  $p=.05$  or better for at least 50% of the days in a preceding month, prior to the date of application, as measured using direct traffic measurement of the personal wireless service facility in question, where the call blocking is due to frequency contention at the antenna(s).

**Antenna:** Any transmitting or receiving device mounted on a tower, building, or structure and used in communications that radiate or capture electromagnetic waves, digital signals, analog signals, radio frequencies (excluding radar signals), wireless telecommunications signals or other communications signals.

**Base Station:** The central radio transmitter/receiver that maintains communications with mobile radio telephones within a given range (typically a cell site).

**Cell Site:** The location at which communications equipment is located for each cell. A cell site includes antennas, a support structure for those antennas, and communications equipment to connect the site to the rest of wireless system. This equipment is normally housed in a small shelter at the base of the site. Although many antennas are placed on towers, where existing structures provide for sites that are higher than their surroundings, antennas will be placed on them. Antennas have been placed on water towers, grain silos and building rooftops.

**Co-location:** The use of a single mount on the ground by more than one carrier (vertical co-location) and/or several mounts on an existing building or structure by more than one carrier.

**Electromagnetic Fields (EMF):** EMF are fields of radiation produced by all electromagnetic waves, from gamma rays to radio waves. Radio frequency radiation, produced by wireless facilities, is one kind of electromagnetic field.

**Equipment Shelter:** An enclosed structure, shed or box at the base of the mount within which are housed batteries and electrical equipment.

**Frequency:** A measure of the energy, as one or more waves per second, in an electrical or light-wave information signal. A signal's frequency is stated in either cycles-per-second or Hertz (Hz).

**Major Modification of an Existing Facility:** The changing of any portion of a WCF from its description in a previously approved special permit including but not limited to ownership and/or design.

**Monopole:** the type of mount that is self-supporting with a single shaft of wood, steel or concrete and a platform (or racks) for panel antennas arrayed at the top.

**Monitoring Protocol:** The testing protocol which is to be used to monitor the emissions from existing and new personal wireless service facilities upon adoption of this article. The Board of Health may, as the technology changes, require by written regulation, the use of other testing protocols.

**Mount:** The structure or surface upon which antennas are mounted, including the following types of mounts: Roof-mounted - mounted on the roof of a building; Side-mounted - mounted on the side of a building; Ground-mounted - mounted on the ground.

**RF, Radio Frequency:** A frequency will above the range of human hearing.

**Radio Frequency Radiation (RFR):** The emissions from personal wireless service facilities which can in excessive amounts be harmful to humans.

**Repeater:** A small receiver/relay transmitter of not more than twenty (20) watts output designed to provide service to areas which are not able to receive adequate coverage directly from a base station.

**Security Barrier:** A locked fence or berm that completely seals an area from unauthorized entry or trespass.

**Wireless Communication Facility (WCF):** Facility for the provision of personal wireless services as defined by the Telecommunication Act. All equipment, including any repeaters, monopoles, and antennas, with which a personal wireless service provider

broadcasts and receivers the radio frequency waves which carry their services and all locations of said equipment or any part.