

Article 27. Regulation of Telecommunications Facilities

Sec. 22-27-1. Statement of intent.

The purpose of this article is to establish general guidelines for the siting of telecommunications antenna support facilities (TASFs) used for wireless telecommunications and broadcast facilities including the support facility, antenna(s), ground equipment, and accessory facilities related to telecommunications infrastructure.

The purpose and intent of this article is to promote the health, safety, and general welfare of the public, including but not limited to, such instances as:

- Potential injury to people around an antenna support facility and their appurtenant compounds;
- Potential damage to property;
- Potential injury and damage to low-flying public and private aircraft; and
- Potential negative economic impacts on the heritage and scenic tourist industry.

Further, the goals of this article are to:

- (1) Minimize the impacts of telecommunication antenna support facilities (TASFs) on surrounding land uses by establishing standards for location, structural integrity, and compatibility;
- (2) Avoid potential injury to persons and properties from telecommunication antenna support facility (TASF) failure and ice hazards through structural standards and setback requirements;
- (3) Preserve the scenic and visual character of the geographic area by encouraging the location, design and architectural treatment of TASFs to avoid the disruption of the natural and built environment, and to insure harmony and compatibility with surrounding land use patterns;
- (4) Facilitate the provision of telecommunication services to residents, businesses, and visitors;

- (5) Provide a uniform and comprehensive framework for evaluating proposals for TASFs;
- (6) Encourage builders and tenants of TASFs and antennas to locate them, to the extent possible, in areas where the visual impact on the community is minimal;
- (7) Encourage the location and colocation of telecommunication equipment on existing TASFs thereby minimizing new visual, aesthetic, and public safety impacts, effects upon the natural environment and wildlife, and to reduce the need for additional TASFs;
- (8) Accommodate the growing need and demand for telecommunication services;
- (9) Encourage coordination between suppliers and providers of telecommunication services;
- (10) Establish predictable and balanced codes governing the construction and location of TASFs, within the confines of permissible local regulations;
- (11) Establish review procedures to ensure that applications for TASFs are reviewed and acted upon within a reasonable period of time;
- (12) Respond to the policies embodied in the Telecommunications Act of 1996, if applicable, in such a manner as not to unreasonably discriminate between providers of functionally equivalent personal wireless services or to prohibit or have the effect of prohibiting personal wireless services;
- (13) Encourage the use of public lands, buildings, and emergency services facilities as locations for telecommunications infrastructure demonstrating where possible concealed technologies and revenue generating methodologies; and
- (14) Consideration of and compatibility with the goals and objectives of the County's Comprehensive Plan. (Ord. 9-21-11)

Sec. 22-27-2. Existing telecommunications antenna support facilities.

Telecommunications antenna support facilities (TASFs) existing or permitted prior to the adoption of this Article shall be subject to the provisions of Article 16 of this ordinance. (Ord. 9-21-11)

Sec. 22-27-3. Exempt telecommunications antenna support facilities.

The following items are exempt from the provisions of this Article; notwithstanding any other provisions:

- (1) Satellite earth stations that are one meter or less in diameter in all residential zoning districts and two meters or less in all other zoning districts; and
- (2) A government-owned TASF:
 - A) upon the declaration of a state of emergency by federal, state, or local government, and a written determination of public necessity by the County designee; except that such facility must comply with all federal and state requirements; and
 - B. erected for the purposes of installing antenna(s) and ancillary equipment necessary to provide telecommunications for public health and safety;
- (3) A temporary, commercial antenna support facility, upon the declaration of a state of emergency by federal, state, or local government, or determination of public necessity by the County and approved by the County; except that such facility must comply with all federal and state requirements. The telecommunications antenna support facility may be exempt from the provisions of this division up to three (3) months after the duration of the state of emergency; and
- (4) A temporary, commercial antenna support facility, for the purposes of providing coverage of a special event such as news coverage or sporting event, subject to administrative zoning approval by the County, except that such facility must comply with all federal and state requirements. Said telecommunications antenna support facility will be exempt from the provisions of this division up to one week after the duration of the special event. (Ord. 9-21-11)

Sec. 22-27-4. Applicability.

This Article shall apply to the development activities including installation, construction, or modification of all TASFs including but not limited to:

- (1) Antenna support facilities used for amateur radio station antennas;
- (2) Existing TASFs;
- (3) Proposed TASFs (concealed and non-concealed);

- (4) Public antenna support facilities;
- (5) Replacement of existing TASFs;
- (6) Mitigation of TASFs;
- (7) Colocation on an existing TASF;
- (8) Attached antenna (concealed and non-concealed);
- (9) Broadcast facilities; and
- (10) Wireless broadband facilities.

(Ord. 9-21-11)

Sec. 22-27-5. Abandonment and/or discontinued use.

In the case of any TASF which was erected pursuant to the provisions of this Article, notice shall be provided to the Department of Planning and Community Development when the use of a telecommunications antenna support facility is discontinued. If the use of the telecommunications antenna support facility has been discontinued for a continuous period of two years, then the TASF owner/operator or the property owner shall remove the telecommunications antenna support facility, but not including the base (foundation), within ninety (90) days of removal notification by the County.

An owner wishing to extend the time for removal or reactivation shall submit an application stating the reason for such extension. The County may extend the time for removal or reactivation up to sixty (60) additional days upon a showing of good cause. If the TASF and all attachments thereto are not removed within this time, the County may give notice that it will contract for removal within thirty (30) days following written notice to the owner. Thereafter, the County may cause removal of the TASF with costs being borne by the owner.

Upon removal of the TASF, antenna, and equipment compound, the development area shall be returned to the extent possible to its natural state, with topography and vegetation consistent with the natural surroundings or consistent with the current uses of the surrounding or adjacent land at the time of removal. (Ord. 9-21-11)

Sec. 22-27-6. Definitions.

For purposes of this Article 27, the following terms shall be defined as follows:

ABANDONED: Any antenna support facility without any mounted transmitting and/or receiving antennas in continued use.

ALTERNATIVE STRUCTURE: A facility that is not primarily constructed for the purpose of supporting antennas but on which one or more antennas may be mounted. Alternative facilities include, but are not limited to, buildings, water tanks, light stanchions, pole signs, billboards, church steeples and electric power transmission antenna support facilities.

AMATEUR RADIO TOWER: Any antenna support facility used for amateur radio transmissions consistent with the “Complete FCC U.S. Amateur Part 97 Rules and Regulations” for amateur radio facilities.

ANCILLARY STRUCTURE: For the purposes of this Article, any form of development associated with a telecommunications facility, including but not limited to: foundations, concrete slabs on grade, guy anchors, generators, and transmission cable supports; however, specifically excluding equipment cabinets.

ANTI-CLIMBING DEVICE: A piece or pieces of equipment, which are either attached to an antenna support facility, or which are freestanding and are designed to prevent people from climbing the facility. These devices may include but are not limited to fine mesh wrap around facility legs, “squirrel-cones,” or other approved devices, but excluding the use of barbed or razor wire.

ANTENNA: Any apparatus designed for the transmitting and/or receiving of electromagnetic waves, including but not limited to: telephonic, radio or television telecommunications. Types of antenna include, but are not limited to: omni-directional (whip) antennas, sectionalized (panel) antennas, multi or single bay (FM & TV), yagi, or parabolic (dish) antennas. (In most AM broadcast station situations the antenna support facility(s) is/are the antennas(s)).

ANTENNA ARRAY: A group of antenna elements and associated mounting hardware, transmission lines, or other appurtenances which share a common attachment device such as a mounting frame or mounting support facility for the sole purpose of transmitting or receiving electromagnetic waves.

ANTENNA ELEMENT: Any independent single unit which individually or collectively with other elements comprise a transmit/receive antenna.

ANTENNA SUPPORT FACILITY: A vertical projection composed of metal or other material with or without a foundation that is designed for the express purpose of accommodating antennas at a desired height. Antenna support facilities do not include any device used to attach antennas to an existing building, unless the device extends above the highest point of the building by more than twenty (20) feet. Types of support facilities include but are not limited to the following: guyed, lattice, monopole, concealed flag pole, slick stick, faux tree, faux fire tower, light stanchion facilities.

ANTENNA SUPPORT FACILITY BASE: The foundation, usually concrete, on which the antenna support facility and other support equipment are situated. For measurement calculations, the antenna support facility base is that point on the foundation reached by dropping a perpendicular line from the geometric center of the antenna support facility.

ANTENNA SUPPORT FACILITY HEIGHT: The vertical distance measured from the grade line to the highest point of the antenna support facility, including any antenna, lighting, lightning protection or other equipment affixed thereto.

ANTENNA SUPPORT FACILITY SITE: The land area that contains, or will contain, a proposed antenna support facility, support facility and other related buildings and improvements.

ASR: The Antenna Facility Registration Number as required by the FAA and FCC.

ATTACHED ANTENNA: A facility which is not primarily constructed for the purpose of holding antenna(s) but on which one or more antenna(s) may be mounted. Examples include but are not limited to water tanks, rooftops, light poles and utility distribution poles.

BASE STATION: The electronic equipment utilized by the telecommunication provider(s) for the transmission and reception of radio signals.

BREAKPOINT TECHNOLOGY: The engineering design of a monopole wherein a specified point on the monopole is designed to have stresses concentrated so that the point is at least five percent more susceptible to failure than any other point along the monopole so that in the event of a structural failure of the monopole, the failure will occur at the breakpoint rather than at the base plate, anchor bolts, or any other point on the monopole. For example, on a 100-foot tall monopole with a breakpoint at 80 feet, the minimum setback distance would be 22 feet (110 percent of 20 feet, the distance from the top of the monopole to the breakpoint) or the minimum side or rear yard setback requirements for that zoning district, whichever is greater.

BROADCAST FACILITIES: Antenna support facilities, antennas, and/or antenna arrays for FM/TV/HDTV broadcasting transmission facilities, and antenna support facility(s) utilized as antennas for an AM broadcast station that are licensed by the Federal Communications Commission.

COLOCATION: The practice of installing and operating multiple wireless service providers, and/or radio common carrier licensees on the same antenna support facility or attached telecommunication facility using different and separate antenna, feed lines and radio frequency generating equipment.

COMBINED ANTENNA: An antenna or an antenna array designed and utilized to provide services for more than one wireless provider, or a single wireless provider utilizing more than one frequency band or spectrum, for the same or similar type of services.

CONCEALED: An antenna support facility; ancillary facility; or equipment compound that is not readily identifiable as such, and is designed to be aesthetically compatible with existing and proposed building(s) and uses on a site. There are two types of concealed facilities: 1) antenna attachments, and 2) freestanding. Examples of a concealed attached facility include, but are not limited to the following: painted antenna and feed lines to match the color of a building or facility, faux windows, dormers or other architectural features that blend with an existing or proposed building or facility. Freestanding concealed antenna support facilities usually have a secondary, obvious function which may be, but is not limited to the following: church steeple, windmill, bell antenna support facility, clock antenna support facility, light standard, flagpole with or without a flag, or tree.

DEVELOPMENT AREA: The area occupied by a telecommunications antenna support facility including areas inside or under the following: an antenna-support facility's framework, equipment cabinets, ancillary facilities and access ways.

EQUIPMENT CABINET: Any facility above the base flood elevation including: cabinets, shelters, pedestals, and other similar facilities. Equipment cabinets are used exclusively to contain radio or other equipment necessary for the transmission or reception of wireless communication signals.

EQUIPMENT COMPOUND: The fenced area surrounding the ground-based communication facility including the areas inside or under the following: an antenna support facility's framework and ancillary facilities such as equipment necessary to operate the antenna on the antenna support facility that is above the base flood elevation including: cabinets, shelters, pedestals, and other similar facilities.

FAA: The Federal Aviation Administration.

FACILITY: Anything constructed or erected, the use of which required permanent location on the ground, or attachment to something having a permanent location on the ground, including advertising signs.

FCC: The Federal Communications Commission.

FEED LINES: Cables used as the interconnecting media between the transmission and/or receiving base station and the antenna.

FLUSH MOUNTED: Any antenna or antenna array attached directly to the face of the support facility or building such that no portion of the antenna extends above the height of the support facility or building. Where a maximum flush-mounting distance is given, that distance shall be measured from the outside edge of the support facility or building to the inside edge of the antenna.

GUYED ANTENNA SUPPORT FACILITY: A style of antenna support facility consisting of a single truss assembly composed of sections with bracing incorporated. The sections are attached to each other, and the assembly is attached to a foundation and supported by a series of wires that are connected to anchors placed in the ground or on a building.

GEOGRAPHIC SEARCH RING: An area designated by a wireless provider or operator for a new base station, produced in accordance with generally accepted principles of wireless engineering.

HANDOFF CANDIDATE: A wireless communication facility that receives call transference from another wireless facility, usually located in an adjacent first “tier” surrounding the initial wireless facility.

INTERMODULATION DISTORTION: The preventable and avoidable results of the mixture of two certain and specific radio frequencies (3rd Order); or more certain or specific radio frequencies (5th Order), that creates at least one other unwanted, undesirable, and interfering radio frequency (3rd Order), or multiple other unwanted, undesirable, and interfering radio frequency signals (5th Order).

LATTICE ANTENNA SUPPORT FACILITY: A tapered style of telecommunication antenna support facility that consists of vertical and horizontal supports with multiple legs, crisscross-bracing and metal crossed diagonal strips or rods to support antennas.

LEASE VISUALLY OBTRUSIVE PROFILE: The design of a telecommunication antenna support facility intended to present a visual profile that is the minimum profile necessary for the facility to properly function.

MITIGATION: A modification of an existing telecommunication antenna support facility to increase the height or to improve its integrity, by replacing or removing one or several facilities located in proximity to a proposed new antenna support facility in order to encourage compliance with this Article or improve aesthetics or functionality of the overall wireless network.

MONOPOLE ANTENNA SUPPORT FACILITY: A style of free-standing telecommunication antenna support facility consisting of a single shaft usually composed of two or more hollow sections that are in turn attached to a foundation. This type of antenna support facility is designed to support itself without the use of guy wires or other stabilization devices. These facilities are mounted to a foundation that rests on or in the ground or on a building's roof.

NON-CONCEALED: A telecommunication antenna support facility that is readily identifiable as such and can be either freestanding or attached.

PERSONAL WIRELESS SERVICE: Commercial mobile services, licensed or unlicensed wireless services, and common carrier wireless exchange access services, as defined in the *Telecommunications Act of 1996*.

PUBLIC SAFETY TELECOMMUNICATIONS FACILITY: All telecommunications equipment utilized by a public entity for the purpose of ensuring the safety of the citizens of the County and operating within a frequency range of, including but not limited to, 150 MHz, 450 MHz, 700 MHz, 800 MHz, 1,000 MHz, VHF, UHF, and any future spectrum allocations at the direction of the FCC.

RADIO FREQUENCY EMISSIONS: Any electromagnetic radiation or other telecommunications signal emitted from an antenna or antenna-related equipment on the ground, antenna support facility, building, or other vertical projection.

REPLACEMENT ANTENNA SUPPORT FACILITY: The removal of an existing telecommunication antenna support facility for purposes of erecting a new telecommunication antenna support facility for the purposes of improving structural integrity.

SATELLITE EARTH STATION: A single or group of parabolic (or dish) antennas are mounted to a support device that may be a pole or truss assembly attached to a foundation in the ground, or in some other configuration. A satellite earth station may include the associated separate equipment cabinets necessary for the transmission or reception of wireless telecommunications signals with satellites.

TELECOMMUNICATION ANTENNA SUPPORT FACILITY (hereinafter “TASF”): Any staffed or unstaffed location for the transmission and/or reception of radio frequency signals, or other telecommunications, and usually consistent of an antenna support facility (see definition), feed lines, base station(s), and antenna(s) and antenna array(s). The following are included in the telecommunication antenna support facility: new, mitigated, replacement, and/or existing concealed and non-concealed antenna support facilities, public antenna support facilities, colocations, antenna attachments, broadcast, and wireless broadband facilities.

WIRELESS BROADBAND FACILITY: An unstaffed location for the wireless transmission and/or reception of broadband data services exclusively, usually consisting of an antenna support facility, an antenna or group of antennas, transmission cables, and equipment cabinets.

(Ord. 9-21-11)

Sec. 22-27-7. Siting hierarchy.

Siting of a new antenna array or new TASF shall be in accordance with the preferred siting hierarchy in the order outlined below. All siting options are preferred to be located on publicly-owned property, as identified in the County’s Telecommunications Master Plan, as a first option. The location of antenna array or other facilities on non publicly-owned property is acceptable as a secondary option within each category.

- (1) Concealed attached antenna
- (2) Colocation; antenna modification; combined antenna(s) on existing TASF
- (3) Colocation or new TASF in utility right-of-way
- (4) Non-concealed attached antenna
- (5) Replacement of existing TASF

- (6) Mitigation of existing TASF
- (7) Concealed freestanding TASF
- (8) Non-concealed freestanding TASF
 - (a) Monopole
 - (b) Lattice
 - (c) Guyed

The order of ranking preference, highest to lowest, shall be from 1 to 8c. Where a lower ranked alternative is proposed, the applicant must file relevant information as indicated in the development standards in this Article including, but not limited to, an affidavit by a radio frequency engineer demonstrating that despite diligent efforts to adhere to the established hierarchy within the geographic search area, higher ranked options are not technically feasible, practical or justified given the location of the proposed TASF. (Ord. 9-21-11)

Sec. 22-27-8. Siting preference table.

New antennas and TASFs shall be allowed per the Siting Preference Table. The column on the left identifies the County's zoning district classifications. The columns across the top lists the different TASFs listed in the siting hierarchy.

Siting Preference Table

Zoning Districts	Permitted Telecommunications Facilities & Level of Development Standards						
	Amateur Radio Facility & Comparable Antenna Element Replacement	Concealed Attached; Antenna Colocation, Antenna Modification; Noncomparable Antenna Element Replacement, Combining; and Non-concealed Attached Antenna	Replacement Antenna Support Facility	Mitigation of Existing Antenna Support Facility	Concealed Freestanding Antenna support facility	Non-Concealed Freestanding Antenna support facility	Broadcast Facility
A-1	B	B	B	S	B	S	S
R-1	B	B	B	S	B	S	Not allowed
R-2	B	B	B	S	S*	Not allowed	Not allowed
R-3	B	B	B	S	S*	Not allowed	Not allowed
R-4	B	B	B	S	S*	Not allowed	Not allowed
B-1	B	B	B	S	B	S	Not allowed
B-C	B	B	B	S	B	S	Not allowed
I-1	B	B	B	S	B	S	S
I-2	B	B	B	S	B	S	S
MHP	B	B	B	S	B	Not allowed	Not allowed
PUD	B	B	B	S	B	S	S

B: By Right – Administrative

S: Special Use Permit – Public Hearing Process

S* Any mitigation of an existing SUP requires an amendment through the SUP process

(Ord. 9-21-11)

Sec. 22-27-9. Development standards. (Ord. 9-21-11)

Sec. 22-27-9.1. Special provisions related to amateur radio antennas.

An amateur radio antenna may be deemed to be an accessory structure to any permitted use, provided that the same shall conform to the definition of accessory structure. The maximum height regulations shall not apply to any such antenna; provided that such antenna shall be the minimum height which will reasonably achieve its intended purpose as permitted by the Federal Communications Commission. There shall be no restriction of the number of support structures for such antenna. Reasonable and customary engineering practices shall be followed in the erection of such antennas. Any person erecting any such

antenna shall provide to the zoning administrator a statement from a licensed professional engineer certifying that such erection conforms to reasonable and customary engineering practices. The zoning administrator shall require that each such antenna be so located as to protect adjacent properties and uses in consideration of its design. The zoning administrator may require reasonable screening of each such antenna from adjacent properties. (Ord. 6-15-05) Additionally the applicant shall provide a valid FCC amateur operator's license. (Ord. 9-21-11)

Sec. 22-27-9.2. Antenna element replacement.

For any replacement of a comparable existing antenna element (size, weight and frequency) on an antenna support facility, prior to making such replacement, the applicant shall submit and provide the following:

- (1) A written statement setting forth the reasons for the replacement;
- (2) A stamped or sealed certification from a registered professional engineer that the replacement antenna(s) (i) have a lower wind and weight profile; (ii) the number of antenna elements will not increase, (iii) there is no significant change in frequency utilization; and (iv) there is no requirement for a new structural analysis; and
- (3) There shall be no increase in the size or number of existing feed lines utilized for the existing antenna and/or antenna array.

(Ord. 9-21-11)

Sec. 22-27-9.3. Concealed attached antenna.

Concealed attached antenna shall be subject to the following:

- (1) The top of the attached antenna shall not be more than twenty (20) feet above the existing or proposed building or facility; and
- (2) When an attached antenna is to be located on a nonconforming building or facility, then the existing permitted nonconforming setback shall prevail; and
- (3) Feed lines, antennas and hardware shall be designed to architecturally match the façade, roof, wall, or facility on which they are affixed so that they blend with the existing structural design, color, and texture; and

- (4) Equipment cabinets shall be located within the existing building or behind an opaque enclosure matching the architectural designs and colors of the principal building or facility; and
- (5) New equipment cabinets are subject to the underlying zoning setbacks.

(Ord. 9-21-11)

Sec. 22-27-9.4. Non-concealed antenna attachments.

Non-concealed attachments shall only be allowed on electrical transmission support facilities and as light stanchions subject to approval by the Department of Planning and Community Development and the utility company and subject to the following:

- (1) The top of the attached antenna shall not be more than twenty (20) feet above the existing or proposed building or facility; and
- (2) New equipment cabinets are subject to the underlying zoning setbacks.

(Ord. 9-21-11)

Sec. 22-27-9.5. Colocation, colocation modifications, antenna element replacements of different size, weight or frequency utilization, or combining antenna.

- (1) A collocated or combined antenna or antenna array shall not exceed the maximum height prescribed in the Special Use Permit (if applicable) or increase the height of an existing facility by more than twenty (20) feet and shall not affect any antenna support facility lighting;
- (2) New antenna mounts shall be flush-mounted onto existing facilities, unless it is demonstrated through RF propagation analysis that flush-mounted antennas will not meet the network objectives of the desired coverage area;
- (3) The new equipment cabinet shall be subject to the setbacks of the underlying zoning district. If the colocation or combined antenna is located on a nonconforming building or facility, then the existing permitted nonconforming setback(s) shall prevail; and
- (4) Equipment cabinets shall be located within the existing equipment compound. If the existing equipment compound is not sized adequately to accommodate the new proposed

ground equipment, then a revised site plan of the original TASF site shall be submitted addressing the overall ground space for said TASF.

(Ord. 9-21-11)

Sec. 22-27-9.6. Replacement antenna support facility.

- (1) Height: The height of a replacement antenna support facility shall equal the height of the facility being replaced. If the replacement TASF exceeds this threshold then it will be reclassified as a mitigation facility.
- (2) Setbacks: A new TASF approved for replacement of an existing TASF shall not be required to meet new setback standards so long as the new TASF and its equipment compound are no closer to any property lines or dwelling units as the TASF and equipment compound being mitigated.
- (3) Breakpoint technology: A newly replaced monopole antenna support facility shall use breakpoint technology in the design of the replacement facility; and
- (4) Buffers: At the time of replacement, the antenna support facility equipment compound shall be brought into compliance with any applicable buffer requirements.²⁰

(Ord. 9-21-11)

Sec. 22-27-9.7. Mitigation antenna support facility.

Mitigation shall accomplish a minimum of one of the following: 1) reduce the number of TASFs; or 2) reduce the number of nonconforming TASFs; or 3) replace an existing TASF with a new TASF to improve network functionality resulting in compliance with this Article. Mitigation is subject to the following:

- (1) Height: TASF approved for mitigation shall not exceed one hundred and twenty (120%) percent of the height of the tallest TASF that is being mitigated. (For example a 100' existing TASF could be rebuilt at 120'). Mitigated SUPS require a SUP amendment;
- (2) Setbacks: A new TASF approved for mitigation of an existing TASF shall not be required to meet new setback standards so long as the new TASF and its equipment compound are no closer to any property lines or dwelling units as the TASF and equipment compound being mitigated. (For example, if a new TASF is replacing an old one, the new one is

²⁰ Editor's Note – “; and” has been deleted as a clerical error.

allowed to have the same setbacks as the TASF being removed, even if the old one had nonconforming setbacks.) The intent is to encourage the mitigation process, not penalize the TASF owner for the change out of the old facility;

- (3) Breakpoint technology: A newly mitigated monopole antenna support facility shall use breakpoint technology in the design of the replacement facility. Certification by a registered professional engineer licensed by the Commonwealth of Virginia of the breakpoint design and the design's fall radius must be provided together with the other information required herein from an applicant.
- (4) Buffers: At the time of mitigation, the TASF equipment compound shall be brought into compliance with any applicable buffer requirements;
- (5) Visibility: Mitigated TASFs shall be configured and located in a manner that minimizes adverse effects on the landscape and adjacent properties, with specific design considerations as to height, scale, color, texture, and architectural design of the buildings on the same and adjacent zoned lots; and
- (6) If the mitigation includes the removal of an existing TASF, then that facility, excluding the antenna support facility foundation, shall be removed within ninety (90) days of the construction of the new TASF.

(Ord. 9-21-11)

Sec. 22-27-9.8. New telecommunication antenna support facility.

All new TASFs shall meet the following requirements:

- (1) No new TASF shall be permitted unless the applicant demonstrates that no existing TASF can accommodate the applicant's proposed use; or that use of such existing TASF would prohibit personal wireless services in the geographic search area to be served by the proposed TASF.
- (2) Setbacks: New freestanding TASFs and equipment compounds shall be subject to the setbacks described below:
 - (a) If the TASF has been constructed using breakpoint design technology (see **Section 22-27-6. Definitions.**), the minimum setback distance shall be equal to 110 percent of the distance from the top of the facility to the breakpoint level of the facility, or the minimum side and rear yard requirements, whichever is greater. Certification by a

registered professional engineer licensed by the State of Virginia of the breakpoint design and the design's fall radius must be provided together with the other information required herein from an applicant.

- (b) Concealed TASFs in residential districts not constructed using breakpoint design technology; the minimum setback distance shall be equal to the height of the proposed TASF from all existing structures.
 - (c) All other non-broadcast TASFs not constructed using breakpoint design technology; the minimum setback distance shall be equal to the height of the proposed TASF from all property lines.
- (3) Equipment Compound: The fenced-in compounds shall not be used for the storage of any excess equipment or hazardous materials. No outdoor storage yards shall be allowed in a TASF equipment compound, and the compound shall not be used as habitable space.
- (4) Equipment cabinets: Cabinets shall not be visible from pedestrian views. Cabinets may be provided within the principal building, behind a screen on a rooftop, or on the ground within the fenced-in and screened equipment compound.
- (5) Fencing: All equipment compounds shall be enclosed with an opaque fence. Alternative equivalent screening may be approved through the site plan approval process described in "Buffers" below.
- (6) Buffers shall be provided as described in Article 24 of this ordinance.
- (7) Signage: Commercial messages shall not be displayed on any antenna support facility. Noncommercial signage shall be subject to the following:
- (a) The only signage that is permitted upon a TASF, equipment cabinets, or fence shall be informational, and for the purpose of identifying the TASF (by the FCC ASR registration number), as well as the party responsible for the operation and maintenance of the facility; i.e. the address and telephone number, security or safety signs, and property manager signs (if applicable).
 - (b) Identification signage shall be provided at all TASFs.
 - (c) If more than two hundred twenty (220) volts are necessary for the operation of the facility and is utilized within the equipment compound or on the TASF, signs located every twenty (20) feet and attached to the fence or wall shall display in large, bold,

high contrast letters (minimum height of each letter four (4) inches) the following:
“HIGH VOLTAGE - DANGER.”

(8) Lighting: Lighting on TASF shall not exceed the Federal Aviation Administration (FAA) minimum standards. Any lighting required by the FAA must be of the minimum intensity and number of flashes per minute (i.e., the longest duration between flashes) allowable by the FAA. Dual lighting standards are required and strobe light standards are prohibited unless required by the FAA. The lights shall be oriented so as not to project directly onto surrounding property, consistent with FAA requirements.

(9) Balloon Test:

(a) The applicant shall arrange to raise a balloon of a color or material that provides maximum visibility and no less than three feet in diameter, at the maximum height of the proposed facility and within 50 horizontal feet of the center of the proposed TASF.

(b) The applicant shall inform in writing the zoning administrator, abutting property owners, elected Board of Supervisor, and appointed Planning Commissioners of the district of the date and times of the test at least 14 days in advance.

(c) The applicant shall request in writing permission from the abutting property owners to access their property during the balloon test to take pictures of the balloon and to evaluate the visual impact of the proposed tower on their property.

(d) The date, time and location of the balloon test shall be advertised in a locally distributed paper by the applicant at least seven but no more than 14 days in advance of the test date. The advertisement shall also include an alternate inclement weather date for the balloon test.

(e) Signage similar to rezoning signage shall be posted on the property to identify the location on the property where the balloon is to be launched. This signage shall be posted by the applicant a minimum of seventy-two hours prior to the balloon test. If unsuitable weather conditions prevail on the date of the balloon test then cancellation of the test shall be clearly noted on the signage.

(f) The balloon shall be flown for at least four consecutive hours during daylight hours on the date chosen.

(g) The applicant shall record the weather during the balloon test. If the wind during the balloon test is above 20 miles per hour then the balloon test shall be postponed

and moved to the alternate inclement weather date provided in the advertisement

- (10) All TASFs up to 120 feet in height shall be engineered and constructed to accommodate no less than three (3) antenna arrays. All TASFs between 121 feet and 150 feet in height shall be engineered and constructed to accommodate no less than five (5) antenna arrays. All TASFs taller than 151 feet in height shall be engineered and constructed to accommodate no fewer than six (6) antenna arrays.
- (11) Grading shall be minimized and limited only to the area necessary for the new TASF and equipment compound, along with any necessary access easements or rights-of-way.
- (12) Parking. One parking space is required for each TASF development area. The space shall be provided within the leased area, or equipment compound or the development area as defined on the site plan.
- (13) Emergency Generators shall be allowed at each TASF site.
- (14) Sounds. No unusual sound emissions such as alarms, bells, buzzers, or the like are permitted. The sound level for emergency generators shall not exceed 70 db at the property limits and testing shall only be between 9 AM to 4 PM Monday through Friday.

(Ord. 9-21-11)

Sec. 22-27-9.8.A. Additional development standards for concealed telecommunications antenna support facility.

All new concealed antenna support facilities shall meet the following requirements:

- (1) In residential districts, new concealed TASFs shall only be permitted on lots whose principal use is not single-family residential including but not limited to: schools; places of worship; and fire stations, parks, and other public property.
- (2) Height:
 - (a) Where permitted in residential districts the maximum height shall be 140’.
 - (b) In all other districts the maximum height shall be limited to 199’.

(3) Visibility: New concealed TASFs shall be configured and located in a manner that shall minimize adverse effects including visual impacts on the landscape and adjacent properties. The applicant shall provide simulated photographic evidence of the proposed TASF and antenna appearance from any and all residential areas within 1,500-foot and vantage points approved by the zoning administrator or designee including the facility types the applicant has considered and the impact on adjacent properties including:

(a) Overall height;

(b) Configuration;

(c) Physical location;

(d) Mass and scale;

(e) Materials and color;

(f) Illumination;

(g) Architectural design; and

(h) New concealed freestanding TASFs shall be designed to match adjacent facilities and landscapes with specific design considerations such as architectural designs, height, scale, color, and texture.

(Ord. 9-21-11)

Sec. 22-27-9.8.B. Additional development standards for non-concealed telecommunications antenna support facility.

(1) Height.

It is intended that all new non-broadcasting TASFs, other than amateur radio towers, be 199' or less in height. However, should there be a demonstrated need for a TASF in excess of 199', under no circumstance shall any non-broadcast or non-emergency service facility exceed 250' feet in height. All new non-broadcast facilities shall be subject to the following additional requirements:

(a) Propagation maps and corresponding data including but not limited to topographic and demographic variables for the intended service area shall be provided for review illustrating with detail that the service area and intercoupling hand-off will be

sufficiently compromised to require an additional TASF for network deployment, which would not otherwise be required.

- (b) The TASF shall be designed to allow for a future reduction of elevation to no more than 199', or the replacement of the TASF with a monopole type facility at such time as the wireless network has developed to the point that such a reduction in height can be justified.
- (2) In the Agricultural, General, A-1 district, new non-broadcast facilities shall be setback a minimum 500' from any single-family dwelling unit, either on the same zone lot or from all adjacent lots of record.
- (3) Freestanding non-concealed antenna support facilities shall be limited to monopole type antenna support facilities, unless the applicant demonstrates that such design is not feasible to accommodate the intended uses.

(Ord. 9-21-11)

Sec. 22-27-9.8.C. Additional development standards for broadcast antenna support facility.

- (1) Height for broadcast facilities shall be evaluated on a case by case basis; the determination of height contained in the applicant's FCC Form 351/352 Construction Permit or application for Construction Permit and an FAA Determination of No Hazard (FAA Form 7460/2) shall be considered prima facie evidence of the antenna support facility height required for such broadcast facilities.
- (2) New broadcast facilities and anchors shall be setback a minimum of 500' from any single-family dwelling unit located on the same parcel or lot; and the antenna support structure (but not the anchors for a guyed structure) shall be setback a minimum of 1' for every 1' of antenna support facility height from all adjacent lots of record.
- (3) Except for AM broadcast facilities, cabinets shall not be visible from pedestrian views.
- (4) All broadcast antenna support facilities, AM antenna support facilities, and guy anchors shall each be surrounded with an anti-climbing fence compliant with applicable FCC regulations.

(Ord. 9-21-11)

Sec. 22-27-9.9. Wireless broadband facility.

- (1) A Wireless Broadband Facility may be colocated in accordance with the provisions of Sec. 22-37-13.8; and
- (2) A Wireless Broadband Facility proposed for a new physical site shall comply with the provisions of Sec. 22-27-8. herein above.

(Ord. 9-21-11)

Sec. 22-27-10. Submittal requirements for all TASFs.

- (1) Completion of the “Telecommunications Facility Application”;
- (2) Application fee;
- (3) Two sets of site plans (drawn to scale) addressing all development standards specific to the proposed installation.
- (4) Compliance with siting hierarchy (**Sec.22-27-7**): A report and supporting technical data demonstrating that all antenna attachments and colocations including all potentially useable utility distribution antenna support facilities and other elevated facilities within the proposed service area, and alternative antenna configurations have been examined, and found unacceptable. The report shall include reasons existing facilities such as utility distribution and other elevated facilities are not acceptable alternatives to a new freestanding antenna support facility. The report regarding the adequacy of alternative existing facilities or the mitigation of existing facilities to meet the applicant’s need or the needs of service providers indicating that no existing TASF could accommodate the applicant’s proposed facility shall consist of any of the following:
 - (a) No existing TASF located within the geographic area meet the applicant’s engineering requirements, and why; and
 - (b) Existing TASFs are not of sufficient height to meet the applicant’s engineering requirements, and cannot be increased in height; and
 - (c) Existing TASFs do not have sufficient structural integrity to support the applicant’s proposed telecommunications facilities and related equipment, and the existing facility cannot be sufficiently improved; and
 - (d) Other limiting factors that render existing TASFs unsuitable.

(Ord. 9-21-11)

Sec. 22-27-10.1. Additional submittal requirements for antenna element replacement.

For any replacement of an existing antenna element on a TASF of comparable size, weight and frequency use, the applicant must, prior to making such modifications, submit the following:

- (1) A written statement setting forth the reasons for the modification.
- (2) A description of the proposed modifications to the antenna, including any proposed modifications to antenna element design, type and number including manufacturer's model number of the existing and proposed antenna elements; as well as changes in the number and/or size of any feed lines, from the base of the equipment cabinet to such antenna elements.

(Ord. 9-21-11)

Sec. 22-27-10.2. Additional submittal requirements for attached antenna (concealed and non-concealed); colocations; colocation modifications; antenna replacements of different size, weight or frequency, and antenna combining.

- (1) A written statement setting forth the reasons for the request.
- (2) A description of the proposed request, including any proposed modifications to antenna element design, type and number including manufacturer's model number of the existing and proposed antenna elements; as well as changes in the number and/or size of any feed lines, from the base of the equipment cabinet to such antenna elements.
- (3) A stamped or sealed structural analysis of the proposed antenna support facility prepared by a registered professional engineer licensed by the State of Virginia indicating the proposed and future loading capacity of the antenna support facility is compliant with EIA/TIA-222-G (as amended).
- (4) A signed statement from a qualified person, together with their qualifications, shall be included that warrants radio frequency emissions from the antenna array(s) comply with FCC standards relating to interference to other radio services. The statement shall also certify that both individually and cumulatively, and with any other facilities located on or immediately adjacent to the proposed facility, the replacement antenna complies with FCC standards relating to human exposure to RF energy.

- (5) A stamped or sealed structural analysis of the existing facility prepared by a registered professional engineer licensed by the State of Virginia indicating that the existing TASF as well as all existing and proposed appurtenances meets Virginia Building Code requirements (including wind and ice loading) for the antenna support facility.

(Ord. 9-21-11)

Sec. 22-27-10.3. Additional submittal requirements for all freestanding telecommunication and broadcast antenna support facilities.

- (1) One original and two (2) copies of a survey of the property completed by a registered professional engineer, licensed in the State of Virginia showing all existing uses, facilities, and improvements.
- (2) Site development plan regulations as set forth in Article 23 of this ordinance.
- (3) Proof that a property and/or antenna support facility owner's agent has appropriate authorization to act upon the owner's behalf (if applicable). A signed statement from a qualified person, together with their qualifications, shall be included that warrants radio frequency emissions from the antenna array(s) comply with FCC standards regarding interference to other radio services. The statement shall also certify that both individually and cumulatively, and with any other facilities located on or immediately adjacent to the proposed facility, the replacement antenna complies with FCC standards regarding human exposure to RF energy.
- (4) A stamped or sealed structural analysis of the proposed antenna support facility prepared by a registered professional engineer licensed by the State of Virginia indicating the proposed and future loading capacity of the antenna support facility is compliant with EIA/TIA-222-G (as amended).
- (5) A written statement by a registered professional engineer licensed by the State of Virginia specifying the design structural failure modes of the proposed facility, if applicable.
- (6) A pre-application conference will be required for any new broadcast facility.
- (7) Title report or American Land Title Association (A.L.T.A.) survey showing all easements on the subject property, together with a full legal description of the property.

- (8) Prior to issuance of a building permit, proof of FAA compliance with Subpart C of the Federal Aviation Regulations, Part 77, and “Objects Affecting Navigable Airspace,” if applicable.

(Ord. 9-21-11)

Sec. 22-27-10.3.A. Additional submittal requirements for non-broadcast TASFs.

- (1) Technical data included in the report shall include certification by a registered professional engineer licensed in the State of Virginia or other qualified professional, which qualifications shall be included, regarding service gaps or service expansions that are addressed by the proposed TASF, and accompanying maps and calculations demonstrating the need for the proposed TASF.
- (2) A map showing the geographic search ring.
- (3) The applicant shall provide a statement as to the potential visual and aesthetic impacts of the proposed TASF and equipment on all adjacent residential zoning districts.
- (4) Materials detailing the locations of existing TASFs to which the proposed TASF will be a handoff candidate; including latitude, longitude, and power levels of the proposed and existing antenna is required.
- (5) A radio frequency propagation plot indicating the coverage of existing TASFs, coverage prediction, and design radius, together with a certification from the applicant’s radio frequency (RF) engineer that the proposed facility’s coverage or capacity potential cannot be achieved by any higher ranked alternative such as a concealed facility, attached facility, replacement facility, colocation, or new TASF. NOTE: These documents are required to justify a facility and to determine if the proposed location is the only or best one in the designated geographic area of the proposed facility.
- (6) A stamped or sealed certification from a registered radio frequency engineer demonstrating compliance with **Section 22-27-7** (Siting alternatives hierarchy). If a lower ranking alternative is proposed the certification must address why higher ranked options are not technically feasible, practical or justified given the location of the proposed telecommunications facility.

(Ord. 9-21-11)

Sec. 22-27-10.3.B. Additional submittal requirement for broadcast antenna support facilities.

Technical data included in the report shall include the purpose of the proposed facility as described in the FCC Construction Permit Application. (Ord. 9-21-11)

Sec. 22-27-11. Approval processes. (Ord. 9-21-11)

Sec. 22-27-11.1. “By right” application.

- (1) The zoning administrator or designee shall review the request, application, and submitted documents for compliance with all requirements of this Article. The County may, at its discretion, obtain additional technical assistance to review and assess the technical merits of the documents.
- (2) If the zoning administrator or designee determines the application and documentation meets all of the requirements of this Article, the County shall approve the application package and the applicant may proceed to request a building permit.
- (3) If the zoning administrator or designee determines the application and/or documentation fails to meet all the requirements of the Article, then the County shall provide written notification to the applicant as to the materials which need to be amended or supplied for review. The applicant shall provide to the County any requested materials for review. This process shall continue until the County has approved the application package, at which time the applicant may proceed to request a building permit.
- (4) If the zoning administrator or designee determines the application and documentation fails to meet the intent of this Article, the County may deny the request in writing.
- (5) Appeals from a decision made by the zoning administrator shall be to the Board of Zoning Appeals.

(Ord. 9-21-11)

Sec. 22-27-11.2. Special use permit application.

The approval of a special use permit shall be governed by the processes described in **Section 22-17-4.** (Ord. 9-21-11)

Sec. 22-27-12. Interference with public safety communications.

In order to facilitate the regulation, placement, and construction of antenna, and to ensure that all parties are complying to the fullest extent possible with the rules, regulations, and/or guidelines of the FCC, each owner of an antenna, antenna array or applicant for a colocation shall agree in a written statement to the following:

- (1) Compliance with “Good Engineering Practices” as defined by the FCC in its rules and regulations.
- (2) Compliance with FCC regulations regarding susceptibility to radio frequency interference, frequency coordination requirements, general technical standards for power, antenna, bandwidth limitations, frequency stability, transmitter measurements, operating requirements, and any and all other federal statutory and regulatory requirements relating to radio frequency interference (RFI).
- (3) In the case of an application for colocated telecommunications facilities, the applicant, together with the owner of the subject site, shall use their best efforts to provide a composite analysis of all users of the site to determine that the applicant’s proposed facilities will not cause radio frequency interference with the County’s public safety telecommunications equipment and will implement appropriate technical measures, as described in antenna element replacements, to attempt to prevent such interference.
- (4) Whenever the County has encountered radio frequency interference with its public safety telecommunications equipment, and it believes that such interference has been or is being caused by one or more antenna arrays, the following steps shall be taken:
 - (a) The County shall provide notification to all wireless service providers operating in the County of possible interference with the public safety telecommunications equipment, and upon such notifications, the owners shall use their best efforts to cooperate and coordinate with the County and among themselves to investigate and mitigate the interference, if any, utilizing the procedures set forth in the joint wireless industry-public safety “Best Practices Guide,” released by the FCC in February 2001, including the “Good Engineering Practices,” as may be amended or revised by the FCC from time to time.
 - (b) If any equipment owner fails to cooperate with the County in complying with the owner’s obligations under this section or if the FCC makes a determination of radio frequency interference with the County public safety telecommunications equipment, the owner who failed to cooperate and/or the owner of the equipment which caused

the interference shall be responsible, upon FCC determination of radio frequency interference, for reimbursing the County for all costs associated with ascertaining and resolving the interference, including but not limited to any engineering studies obtained by the County to determine the source of the interference. For the purposes of this subsection, failure to cooperate shall include failure to initiate any response or action as described in the “Best Practices Guide” within twenty-four (24) hours of County’s notification.

(Ord. 9-21-11)

Sec. 22-27-13. Publicly-owned property.

- (1) Pursuant to applicable law, the County may contract with a third party to administer publicly-owned sites for purposes of developing the sites as part of a master telecommunications plan, consistent with the terms of this Article. Except as specifically provided herein, the terms of this Article, and the requirements established thereby, shall be applicable to all TASFs to be developed or collocated on County-owned sites.
- (2) If an applicant requests a permit to develop a site on County-owned property, the permit granted hereunder shall not become effective until the applicant and the County have executed a written agreement setting forth the particular terms and provisions under which the permit to occupy and use the public lands of the jurisdiction will be granted, and no permit granted under this section shall convey any right, privilege, permit, or franchise to occupy or use the publicly-owned sites of the County for delivery of telecommunications services or any other purpose except as provided in such agreement.

(Ord. 9-21-11)

Sec. 22-27-14. Fees for supplemental review.

Where the County deems it appropriate because of the complexity of the methodology or analysis required to review an application for a wireless communication facility, the county may require the applicant to pay for a technical review by a third party expert, selected by the County, the costs of which \$4,000.00 shall be borne by the applicant, and be in addition to other applicable fees. Site plan review for antenna element replacements only may be reduced to \$1,800 provided the applicant meets all the requirements for an antenna element replacement. If however, during the antenna element replacement site review it is determined the request does not meet the definition of an antenna element replacement, then review of the application will cease until the correct fee and correct plans are submitted. Further, if

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additional information is needed to evaluate the applicant's request, the applicant, shall make such additional information available as the County might reasonably request. (Ord. 9-21-11)

Sec. 22-27-15. Height, setback and other dimensional regulations.

Except as otherwise expressly provided in this ordinance with respect to public safety services facilities or with respect to the provisions of any existing special use permit, the provisions of this Article shall control as the maximum permitted height, minimum setback and any other dimensional requirements for any TASF. (Ord. 9-21-11)