

Standards for the Encroachment of Structures into the Public Right-of-way



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Document Terms

Antenna. Communications equipment that transmits or receives electromagnetic radio frequency signals and that is used in providing wireless services.

Antenna Mounting Bracket. The hardware required to secure the antenna to the pole.

Antenna Mounting Post. A vertical post or pipe that the antenna mounting bracket is mounted to in order for the antenna to be attached to the pole.

Antenna Shroud. A three-sided cover that is mounted at the base of the antenna to conceal the appearance of the cables and wires from the hand-hole port on the pole to the bottom-fed antenna.

Canister. A cylindrical cover used to conceal the antenna(s), amplifier(s), radio(s), cables, and wires at the top of a pole.

Dog House. A plastic or metal cover that attaches to the base of a pole to conceal the transition point between the underground cables and wires to the vertical section of the pole.

Equipment Cabinet or Building. An enclosure that is mounted above base flood elevation or placed on a concrete slab that contains improvements, personal property, and facilities to operate its Antenna(s) for Permitted Uses including: radio receivers, transmitters, related facilities, and/or cabinets, related cables and utility lines, location-based power source (including a battery), the electrical meter and any other equipment necessary for the operation of wireless antenna.

Ground Mounted Equipment. Any equipment that is mounted to a separate post or to a foundation on the ground.

Handhole. A hole large enough only for the insertion of a hand and arm to access internal cables and wires located within a wireless support structure.

Light Emitting Diode (LED). A type of lighting fixture installed on Town Street Light and traffic signal poles.

Light Fixture. The lighting unit or luminaire that provides lighting during the evening hours or during the hours of darkness.

Luminaire Mast Arm. The horizontal post that attaches a light fixture to a light pole or traffic signal pole.

Microcell. A device that is connected to aerial facilities and used solely for transmitting, processing and receiving voice and data wireless telecommunications services, without any associated ground mounted equipment. The device is often referred to as an ASME (Aerial Strand Mounted Equipment).

Monopole. A single pole attached to a permanent foundation.

Omni Antenna. A style of antenna that projects radio frequencies in a 360 degree pattern.

Panel Antenna. A style of antenna that is rectangular in shape and that projects radio frequencies in a single directional pattern.

Pole Diameter. The measurement taken from the outer edges of a pole.

RAD Center. The center point of radiation emitted from an antenna. Measurements on facility plans are commonly calculated from this point.

Remote Radio Heads (RRH) / Remote Radio Units (RRU). Electronic devices that are used to amplify radio signals in order to increase the distance of the outgoing radio signal from the antenna.

Right-of-Way. As defined for wireless sites in Arizona Revised Statutes (A.R.S.) §9-591(18) means the area on, below or above a Town-owned roadway, highway, street, sidewalk, alley, or public utility easement. Right- of-way does not include a Federal Interstate Highway, a state highway or state route under the jurisdiction of the Department of Transportation, a private easement, property that is owned by a special taxing district, or a utility easement that does not authorize the deployment sought by the wireless provider.

Sight Visibility Triangle (SVT). The traffic engineering standard that requires clear view by the driver of a vehicle to crossing traffic at a stop sign, driveway or intersection. In order to achieve clear visibility of the cross traffic, the land areas in the sight visibility triangle has specific maximum heights on landscaping, cabinets, and other potential view obstructions.

Signal Head. The “Red, Yellow and Green” light signals at a signal-controlled intersection.

Signal Head Mast Arm. The horizontal extension that has the signal heads mounted to it and attaches to the traffic signal pole.

Small Wireless Facility. A Wireless Communication Facility that meets both of the following qualifications:

- a) All antennas are located inside an enclosure of not more than six (6) cubic feet in volume or, in the case of an antenna, that has exposed elements, the antenna and all of the antenna’s exposed elements could fit within an imaginary enclosure of not more than six (6) cubic feet in volume.
- b) All other wireless equipment associated with the facility is cumulatively not more than twenty-eight (28) cubic feet in volume, or fifty (50) cubic feet in volume if the equipment was ground mounted before the effective date of this section. The following types of associated ancillary equipment are not included in the calculation of equipment volume pursuant to this subdivision:
 1. An electric meter
 2. Concealment elements
 3. A telecommunications demarcation box

4. Grounding equipment
5. A power transfer switch
6. A cutoff switch
7. Vertical cable runs for the connection of power and other services

Stealth and Concealment. The application of design standards including but not limited to shrouds, decorative and faux elements, and ground equipment screening used to ensure wireless facilities are designed to blend in with the surrounding area to the maximum extent feasible.

Stealth Building Element. A non-residential building element designed to conceal and/or camouflage wireless communications facilities, including but not limited to a wall mount, clock tower, cupola, or church steeple.

Stealth Structure. A structure designed to conceal and/or camouflage wireless communications facilities. Structures may include but are not limited to a free-standing structure such as an artificial cactus or tree, or a sculpture. Stealth structures do not include a flagpole, monopole with an attached flag, or a monopole with a minimal design feature.

Structure for the purpose of these Standards shall refer to any non-Gilbert structure located in a Town Right-of-way or Public Utility Easement.

Wireless Support Structure (WSS)

- a) Any of the following:
 1. A freestanding structure, such as a monopole
 2. A tower, either guyed or self-supporting
 3. A sign or billboard
 4. Any other existing or proposed structure designed to support or capable of supporting small wireless facilities
- b) Does not include a utility pole

Utility Pole. A pole or similar structure that is used in whole or in part for communications services, electric distribution, lighting or traffic signals. Utility pole does not include a monopole.

Applicability

The standards contained in this manual shall apply to all structures located in Town Rights-of-way and Public Utility Easements.

Section 1.0: General Standards for All Structures

The following standards shall apply to structures located in the Town Rights-of-way and Public Utility Easements.

1.1 Location Standards

1) Separation Standards from Utility Infrastructure

- a. All structures shall maintain the following minimum separation distances (measured horizontally from furthest exterior edge of each) from existing utility infrastructure:
 - i. Six (6) linear feet from water lines;
 - ii. Six (6) linear feet from sewer lines;
 - iii. Six (6) linear feet from storm drain infrastructure (pipes, culverts, catch basins etc.)
 - iv. One (1) linear foot from Telecommunications equipment;
 - v. One (1) linear foot from Cable lines; and
 - vi. Six (6) linear feet from all other utility infrastructure.
- b. The Town, in its sole discretion, may grant a variance, upon approval by the Town Engineer, from these separation standards, dependent on factors specific to the site.
- c. Authorized installers may elect to work with the impacted utility provider to have lines, pipes or property moved to achieve the required separation. All relocation work shall be at the sole expense of the authorized installer.
- d. All existing underground utilities in the work area shall be potholed and surveyed prior to submitting for any construction permit.

2) Separation Standards from an Original Street Light Pole or Traffic Signal Pole

- a. All structures shall be located a maximum of five (5) feet from the original pole. The Town, in its sole discretion, may increase the maximum separation standard.

3) Separation Standards from Sidewalks, Curbs and Driveways

- a. All structures shall be separated from an existing sidewalk by a minimum of one (1) foot, from the back of curb by a minimum of four (4) feet or from residential driveways by a minimum of six (6) feet. The Town, in its sole discretion, may increase the minimum separation standard to ensure the safe use of the adjacent area.
- b. Where adjacent to a meandering sidewalk, structures shall be placed on the side furthest away from the street.

4) Sight Visibility Triangles (SVT)

- a. All structures shall be installed in a location that does not interfere with Town SVT safety requirements.

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5) *Interference with Town Operated Networks*

- a. The selection of a proposed location for a WCF shall consider the potential interference with any Town operated networks.**
- b. The Town may require a technical report to determine the potential for interference with Town networks, and if deemed necessary, may require a re-design or re-location of the proposed structure in order to remove the interference.**

1.2 Standards for equipment mounted to a Wireless Support Structure (WSS)

1) General Standards

- a. *Wireless support structures shall only be used when a suitable Street Light cannot be utilized.*
- b. *No wireless support structure shall be located in a median.*

2) Antenna mounting standards

- a. All antennas shall be mounted to the pole so that the distance from the “face” of the wireless support structure, measured to the back of the antenna does not exceed nine (9) inches.
- b. Mounting posts shall be trimmed so that the posts do not extend higher than the top of the antenna or protrude lower than the antenna, unless necessary to install a shroud.
- c. All pole mounted equipment shall be a minimum of twelve (12) feet above the existing grade of the foundation.

3) Antennas

- a. All antennas for a Small Wireless Facility shall fit within an imaginary enclosure of not more than six (6) cubic feet in volume in accordance with A.R.S. §9-591(19)(a). (NOTE: This volume does not include antenna cable shrouds when required.)
- b. All antennas with exposed cables from the bottom of the antenna shall have a shroud installed on the antenna or antenna mounting posts to conceal the cables.
 - i. The Town may require the shroud to be installed at a forty-five (45) degree angle (away from the bottom of the antenna; toward the pole) or a ninety (90) degree angle (parallel to the bottom of the antenna).
 - ii. The shroud shall extend from the bottom of the antenna to two (2) inches below the bottom of the nearest hand-hole.

4) Canisters

- a. Canisters are considered a concealment element and are not associated with the function of the antenna, therefore when designed to cover an antenna array, the canister will not count towards the maximum cubic feet allowed in accordance with A.R.S. §9-591(19)(a).
- b. When antennas are placed in a canister, the canister shall be no larger than eighteen (18) inches in diameter, measured from the outside edges.
- c. Antennas located within a canister shall have the canister mounted to a base plate at the top of the vertical section of the pole.
- d. Cables protruding from the canister shall be concealed within the canister or by a shroud at the point where the canister is mounted to the base plate.

5) Remote Radio Heads (RRH) / Remote Radio Units (RRU)

- a. Remote Radio Heads/Units are not considered to be part of the antenna per A.R.S. §9-591(19)(a).
- b. All RRH/RRU units shall be placed behind antennas or within a canister and fully concealed.

- c. Where permitted, the RRH/RRU shall be calculated as part of “All other wireless equipment associated with this facility.” For Small Wireless Facilities, the maximum size permitted is twenty-eight (28) cubic feet according to A.R.S. §9-591(19)(b).

1.3 Standards for Ground-mounted Equipment

1) *General Location Requirements*

- a. All ground-mounted equipment, including but not limited to equipment cabinets or power pedestals, shall be placed as far as practical to the back of the ROW while maintaining at least three (3) feet of ingress/egress in the ROW around the equipment.
- b. Sight Visibility Triangles (SVT). All ground-mounted equipment shall be installed in a location that does not impair or interfere with SVT safety requirements. To ensure proper sight distance, all Town of Gilbert Public Works and Engineering Standards shall be met.
- c. Ground mounted equipment shall not be installed adjacent to existing developed residential parcels and must be installed on or adjacent to a common area or tract. The Town, in its sole discretion, may grant a variance upon approval by the Development Services Director or designee from this standard dependent of factors specific to the site.

2) *Screening Requirements*

- a. All ground-mounted equipment shall be contained within low-profile cabinets.
- b. Cabinets shall be fully screened from view by a decorative solid enclosure equal to or exceeding the height of the equipment cabinet.
- c. Enclosure access gates shall be opaque, compatible with the enclosure material, and where feasible shall be facing away from the street or primary public view.
- c. The type of screening materials and design shall be architecturally compatible with buildings and fencing in the immediate vicinity. The use of barbed wire, razor wire, chain link, woven wire or other similar material is prohibited.
- d. The Town, in its sole discretion, may waive the screening requirement if it determined that the equipment is located out of the public view. If the Town determines that screening is not required, the Town may specify the paint color of the ground-mounted equipment or require alternative screening solutions such as landscaping.
- e. Any disturbed landscaping or irrigation systems shall be returned to its original state with materials approved by the Town.

3) *Decals and Labels*

- a. Decals, logos and other identification information from the equipment manufacturer shall be removed unless required for safety or warranty purposes or required by local, state or federal law.
- b. An “Emergency Contact” decal may be permitted on the ground equipment.
- c. The ground-mounted equipment shall not have any flashing lights, sirens or regular noise other than a cooling fan that may run intermittently.

4) *Equipment adjacent to Residential*

- a. Unless otherwise specified by the Town, a ground-mounted equipment cabinet that contains an air-conditioning unit (not a fan only), shall be enclosed by a solid fence and setback a minimum of fifteen (15) feet from lots with a Residential General Plan designation.

5) *Electric Meters*

- a. Electric meters shall be placed in a location that ensures adequate ingress and egress clearances are maintained from private property lines and driveways.
- b. All electric meters shall be installed in a location that does not impair or interfere with the SVT safety requirements of the Town.
- c. The electric meters shall be contained within a “Myers-type” or “Milbank-type” pedestal cabinet that is painted to match the ground-mounted equipment or as specified by the Town.
- d. In the case where screening is not required, the Town may specify the paint color of the electric meter cabinet.

6) *Electric Meters Mounted to Poles*

- a. Electrical meters shall only be installed on Street Light Poles or on Monopoles (when allowed). Electrical meters shall not be installed on any other type of utility poles or wireless support structures.
- b. The width of the meter box shall be no wider than the pole diameter.
- c. The meter box shall be mounted in this order of preference:
 - i. On the opposite side from oncoming traffic;
 - ii. On the side facing oncoming traffic;
 - iii. On the opposite side from attached sidewalks.
- d. Electric meters shall not be placed on the sidewalk side of a pole or facing travel lanes.
- e. The meter shall maintain a minimum of 1 foot of clearance from vehicle, bicycle and pedestrian travel paths as measured from the travel path to that portion of the meter furthest from the pole.
- f. Electrical meters shall not be installed on any pole located in raised medians or within sidewalks.

1.4 Removal Standards

1) *Removal of Town-owned Equipment*

- a. The Town shall determine what original components, (e.g., original pole, mast arm(s), signal heads and luminaire, etc.), shall be returned, at no cost to the Town, by the authorized equipment installer after the removal process is complete.
- b. If the Town declines to accept some or all of the original components, then only those components the Town wants to retain shall be delivered to the Town and the remaining components shall be appropriately discarded.

2) *Removal of Existing Foundations*

- a. The concrete pole foundation for an original Street Light Pole, traffic signal pole or other structure shall be removed by the authorized equipment installer as instructed by the Town:
 - i. Partial Removal - The original pole foundation shall be removed and lowered to a level that is twelve (12) inches below existing grade. The remaining foundation shall then be covered with four (4) inches of one-half (1/2") inch to three (3/4") quarter inch decomposed granite material. The remaining eight (8) inches shall be native soil.
 - ii. Complete Removal - If it is determined that a complete foundation removal is required, all materials (concrete, rebar, metals, bolts, etc.) shall be removed. The Town Engineer may determine, on a case-by-case basis, the type of backfill material and compaction required.

1.5 Miscellaneous Provisions

1) Calculating the Base Height of an Existing Pole.

- a. The base height, from which the calculation for the "increase in pole height" is referenced to determine overall pole height, shall be calculated as follows:
- b. Street Light Pole
 - i. A light pole with a separate luminaire mast arm mounted to the vertical pole shall use the top of the vertical pole as the base height.
 - ii. A light pole, with the luminaire mast arm integrated (e.g. telescopic style pole) into the top vertical section of the pole, shall use the point on the pole where the mast arm is connected plus twenty-four (24) inches as the base height.
- c. Traffic Signal Pole
 - i. A traffic signal pole with a luminaire mast arm that is mounted above the signal head mast arm to the pole shall use the top of the vertical portion of the pole as the base height.

2) Cables, Wires and Jumpers

- a. All cables, wires and jumpers shall be located inside a conduit that runs within the caisson and structure, with the exception of where such cables or wires attach to the antenna ports.
- b. For structures in the right-of-way, all electrical wires for the Street Light luminaire, traffic signal heads, and any Town device shall be new and connected to the existing power source.

3) Hand holes

- a. All hand hole locations shall be identified on the facility plans with the application submittal.
- b. All hand holes shall be concealed to the maximum extent feasible.
- c. Hand holes shall be located in a way that ensures the maximum concealment of wires and cables.

4) Identification and Information Decals

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- a. For Wireless Communication Facilities, a 4" x 6" Radio Frequency safety decal shall be mounted no less than twenty-four (24) inches from the bottom of the antenna, facing away from the street.
- b. A discreet site identification or number shall be permitted on the structures. The size, color and location of all proposed decals shall be approved by the Town.
- c. Unless required by local, state or federal law, no advertisements or identifying logos shall be placed on any structure in the right-of-way.

5) Alternative Cable/Wire Concealment Options

- a. An exterior cable chase and/or Dog House may be permitted in areas where the visual impact would not be significant to the surrounding properties.
- b. Where permitted, the materials and paint color of the cable chase and Dog House shall be compatible with the proposed structure and shall be reviewed and approved by the Town.

2.0 Standards for Small Wireless Facilities (SWF) on Street Light Poles

2.1 General Standards

- 1) All SWF shall be designed to minimize the visual impact to the surrounding area to the maximum extent feasible.
- 2) Replacement poles in Town ROW shall be designed to match the Town of Gilbert approved Street Light poles.
- 3) All plans shall be signed and sealed by a Professional Engineer registered with the State of Arizona.
- 4) All Street Light poles are subject to review by the Town to ensure compliance with Town Standards.
- 5) No SWF shall be located on a Street Light pole located adjacent to left turn bays.

2.2 Detailed Standards

1. New or Replacement Pole Height

- a. A new or replacement pole may be installed in the Town right-of-way without zoning review if one of the following height requirements is met:
 - Up to a ten (10) foot increase, not to exceed fifty (50) feet total (whichever is less), per A.R.S. §9-592(I); or
 - Up to forty (40) feet above ground level, per A.R.S. §9-592(J).

2. Pole Diameter

- a. The overall pole diameter of a replacement pole shall increase no more than 100% for poles with original diameters up to 8 inches and no more than 80% for poles with original diameters larger than 8 inches.

3. Luminaire Mast Arms

- a. All luminaire mast arms shall be the same length as the original luminaire arm, unless the Town requires the mast arm to be different (longer or shorter) based upon the location of the replacement pole.
- b. Unless otherwise approved, all luminaire mast arms shall match the arc (if applicable) and style of the original luminaire arm.
- c. The replacement luminaire mast arm shall be at the same height above the ground as the existing luminaire.

4. Luminaire Fixtures

- a. All replacement poles shall have the Town standard light-emitting diode (LED) light fixture installed, unless otherwise directed by the Town.
- b. All replacement light fixtures shall have a new photo-cell or sensor to match the Town Standard where applicable.

5. Pole Foundation

- a. All pole foundations shall conform to the Town adopted specifications and shall be modified by a Professional Engineer registered in the State of Arizona to support all proposed pole mounted equipment.
 - b. The Town may accept a foundation that has been designed to meet the “worst case” scenario for soil conditions across all of the proposed sites.
 - c. The Town may approve alternative “spread” foundations on a case-by-case basis if there are on-site limitations relating to the depth of utilities.
 - d. A separate, one-inch diameter conduit shall be installed in the pole foundation for use by the Town to house all necessary wires and cables. This conduit shall be trimmed to three (3) inches above the top of the caisson.
 - e. The height of the pole foundation shall be a minimum of two (2) inches above grade if located in a hardscape area or a minimum of six (6) inches above finished grade if located in a turf area. The foundation of any new pole shall not encroach into any portion of a sidewalk, curb or driveway.
 - f. The Town may require shrouds for the Street Light pole mounting bolts, depending on the location of the pole.
6. **Painting of Replacement Pole**
- a. If the replacement pole is an unpainted galvanized pole, the pole shall not be painted or have a finish unless otherwise specified by the Town.
 - b. If the replacement pole is painted, the new pole shall match the existing color and finish unless otherwise specified by the Town.
7. **Painting Antennas and Mounting Equipment**
- a. All antenna mounting brackets and hardware, antenna mounting posts, cables, shrouds and other equipment mounted on a new or replacement unpainted galvanized pole shall be painted Sherwin Williams “Web Grey” (SW7075) color or equivalent, unless otherwise specified by the Town.
 - b. All antenna mounting brackets and hardware, antenna mounting posts, cables, shrouds and all other equipment mounted on a painted new or replacement pole shall be painted to match unless otherwise specified by the Town.
8. **Wireless providers shall install pole numbers on each replacement pole (to match the number on the existing Street Light pole being replaced) per Town requirements.**

3.0 Standards for Small Wireless Facilities on Traffic Signal Poles

3.1 General Standards

- 1) All SWF shall be designed to minimize the visual impact to the surrounding area to the maximum extent feasible.
- 2) Replacement poles shall be designed to match the Town of Gilbert approved traffic signal poles.
- 3) All plans shall be signed and sealed by a Professional Engineer registered in the State of Arizona.
- 4) All traffic signal poles are subject to review by the Town and shall comply with Town standards.

3.2 Detailed Standards

1 New or Replacement Traffic Signal Pole Height

- a. A new or replacement pole may be installed in the Town right-of-way without zoning review if one of the following height requirements is met:
 - Up to a ten (10) foot increase, not to exceed fifty (50) feet total (whichever is less), per A.R.S. §9-592(I); or
 - Up to forty (40) feet above ground level, per A.R.S. §9-592(J).

2 Overall Height of Replacement Traffic Signal Pole

The height of the replacement pole is measured from grade to the top of the antenna canister or the top of the antennas if the antennas are the highest elements.

3. Increase in the Pole Diameter

- a. If the replacement pole is a taper design, the diameter of the base section of the replacement pole shall not exceed one (1) foot or a 100% increase in the diameter of the base section, whichever is less.
- b. If the replacement pole is non-tapered, then the diameter of the base section shall be equal to the top section and the pole diameter shall not exceed one (1) foot or a 100% increase, whichever is less.

4. Signal Head Mast Arms

- a. The traffic signal head mast arms shall be the same length as the original signal head mast arm unless the Town requires the mast arm to be different (longer or shorter) based upon the required location of the replacement pole.
- b. All signal head mast arms shall match the arc (if applicable) and style of the original signal head mast arm.

5. Luminaire Mast Arms

- a. All luminaire mast arms shall be the same length as the original luminaire arm unless the Town requires the mast arm to be different (longer or shorter) based upon the required location of the replacement pole.

- b. All luminaire mast arms shall match the arc (if applicable) and style of the original luminaire arm.
- 6. Signal Heads
 - a. All existing signal heads shall be replaced, at no cost to Town, with new light-emitting diode (LED) signal heads, per Town of Gilbert Traffic Signal Manual.
 - b. All signal heads shall be procured from a Town approved signal heads supplier or manufacturer.
- 7. Luminaire Fixtures
 - a. All replacement poles shall have the Town standard LED light fixture installed.
 - b. All replacement light fixtures shall have a new photo-cell or sensor installed to Town standards, where applicable.
- 8. Other Town Elements on Signal Mast Arm or Pole
 - a. All existing emergency signal detection units, video detection cameras, video cameras, cross walk service buttons, cross walk signals, and any other pedestrian or traffic devices shall be replaced with new units by wireless provider and installed at no cost to the Town. All equipment shall be procured from a list of Town approved suppliers.
- 9. Signs and Other Attachments
 - a. All street name plates or signs, directional signs and any other Town approved signs shall be replaced with new signs at no cost to the Town. All signs and attachments shall be procured from a list of Town approved suppliers.
- 10. Traffic Signal Pole Foundation
 - a. All pole foundations shall conform to the Town's standards and specifications on traffic signal pole design and shall be modified, as necessary, to accommodate wireless communications equipment, hand holes and cables.
 - b. The authorized installer shall install a three (3) inch diameter conduit in the pole foundation designated for use by the Town to contain the cables and wires associated with the signal heads, luminaire and all devices on the signal and luminaire mast arms. The conduit shall be trimmed to three (3) inches above the top of the pole foundation.
 - c. In addition to the conduit described in "b" above, the authorized installer shall install conduit running from the pole foundation to six (6) inches above the signal head mast arm, in order to contain all cables and wires associated with the WCF:
 - i. One, six (6) inch diameter conduit in the pole foundation; or
 - ii. Two, four (4) inch diameter conduits in the pole foundation.
 - d. Pole Foundation – Height Above Ground Level
 - i. If the pole foundation is in a landscaped or unimproved area, the height of the caisson shall be two (2) inches above finished grade. However, if the

pole foundation is adjacent to or within a sidewalk or ramp, the height of the pole foundation shall be flush with the surface of the immediate area.

- ii. Shrouds for the traffic signal pole mounting bolts may be required for the replacement pole.

11. Painting of Pole, Antennas and Mounting Equipment

- a. Town specifications for painting Traffic Signal Poles are provided in the Town of Gilbert Traffic Signal Manual.
- b. For powder-coated traffic signal poles, the wireless provider shall replace with the same powder-coated color and/or color combination unless otherwise directed by the Town.

12. Construction of Traffic Signal

- a. Construction and installation of the replacement traffic signal pole, including the mast arms, signal heads and devices, shall be performed by a licensed Traffic Signal Contractor with a minimum of five (5) years of experience installing traffic signals in Arizona.

4.0 Standards for Small Wireless Facilities on Existing Utility Poles

4.1 General Standards

- 1) A SWF shall be designed to blend in with the surrounding streetscape with minimal to any visual impact.
- 2) A SWF mounted on an existing third party-owned utility pole is subject to more detailed standards provided below.
- 3) All plans shall be signed and sealed by a Professional Engineer registered with the State of Arizona.

4.2 Detailed Standards

- 1) Replacement Utility Pole Height
 - a. A replacement pole may be installed in the Town right-of-way without zoning review if one of the following height requirements is met:
 - Up to a ten (10) foot increase, not to exceed fifty (50) feet total (whichever is less), per A.R.S. §9-592(I); or
 - Up to forty (40) feet above ground level, per A.R.S. §9-592(J)
- 2) Overall Height of Replacement Pole
 - a. The height of the replacement pole is measured from grade to the top of the antenna canister or the top of the panel antennas if the antennas are the highest elements.
- 3) Antennas and Equipment on Existing Utility Pole
 - a. An existing wood utility pole used for a SWF shall have the antennas contained within an eighteen (18) inch canister mounted at the top of the pole.
 - b. Antennas on a metal pole shall have the same RAD center to ensure the antennas will be at mounted at the same height on the pole.
 - c. Unless otherwise approved, the cables and wires from the base of the pole to the antennas shall be installed in a conduit or cable chase outside of the pole, facing away from the street or away from the adjacent street.
 - d. If a Dog House is required as a transition point connecting the underground cables and wires from the ground mounted equipment to the pole, the Town shall provide the design specifics as needed to conceal the connection point with the least amount of visual impact possible.
- 4) Painting Standards
 - a. If the replacement pole is an unpainted galvanized pole, the pole shall not be painted or have a finish unless otherwise specified by the Town.
 - b. If the existing or replacement pole includes a Dog House for the transition of the cables and wires to the pole, the Dog House shall be painted the same color as the pole or a color specified by the Town.

- c. All antenna mounting brackets and hardware, antenna mounting posts, cables, shrouds and other equipment mounted on a new or replacement unpainted galvanized pole shall be painted Sherwin Williams “Web Grey” (SW7075) color or equivalent, unless specified otherwise by the Town.
- d. All antenna mounting brackets and hardware, antenna mounting posts, cables, shrouds and all other equipment mounted on a painted new or replacement pole shall be painted a color specified by the Town.
- e. If the antenna is mounted on a wood pole, the color of the antenna, antenna canister, mounting brackets and posts, shrouds and cable chases shall be painted a color specified by the Town that will closely match the color of the wood.

5.0 Standards for Small Wireless Facilities on New Support Structures

The Town may approve a SWF on a new wireless support structure in the right-of-way (not a replacement of an existing structure) if it is determined to not be feasible to locate on other structures in the vicinity or if the Town determines that the other sites are too impactful on the surrounding properties.

All new wireless support structures shall incorporate the highest level of stealth and concealment of the antennas and wireless equipment in order to minimize the visual impact of the site to the surrounding properties.

5.1 General Standards

- 1) A new wireless support structure shall be designed to minimize the visual and aesthetic impact of the new vertical element and associated equipment upon the look, feel, theme, and use of the surrounding area.
- 2) An SWF shall be designed to blend in with the surrounding streetscape with minimal to any visual impact.
- 3) The new wireless support structure shall be architecturally integrated and compatible with the use of the surrounding area.
- 4) All plans shall be signed and sealed by a Professional Engineer registered with the State of Arizona.
- 5) *No wireless support structure shall be located in a medians.*

5.2 Detailed Standards

- 1) New Pole Height
 - a. A new small wireless facility support structure may be installed without zoning review if one of the two height requirements are met, see A.R.S. §9-592(I) and A.R.S. §9-592(J):
 - Up to a ten (10) foot increase, not to exceed fifty (50) feet total (whichever is less), per A.R.S. §9-592(I); or
 - Up to forty (40) feet above ground level, per A.R.S. §9-592(J).
- 2) Overall Height of New Pole
 - a. The height of a new wireless support structure is measured from grade to top of the highest point of the structure, including all antennas and equipment.
- 3) Outside Diameter of Monopole
 - a. The maximum outside diameter of a monopole, as defined in A.R.S. §9-591(13), shall not exceed forty (40) inches.
- 4) Monopoles that are subject to zoning review shall be in conformance with the Land Development Code, Article 4.7.
- 5) Stealth and Concealment Elements:

- a. As part of the stealth and concealment elements of the wireless support structure, the Town may require the authorized installer to install street name plates, directional signs, and other decorative signs or artistic elements on the structure.
- b. The wireless provider is solely responsible for the cost of all stealth and concealment elements and the installation of other elements required by the Town.
- c. The wireless provider is responsible for the performance of and any costs incurred for regular upkeep, maintenance and replacement (if necessary) of these stealth and concealment elements.

6) Pole Foundation

- a. The pole foundation for a new wireless support structure shall conform to civil and structural engineering standards as required by the Town.
- b. The height of the pole foundation shall be two (2) inches above finished grade. However, if the pole foundation is adjacent to or within a sidewalk or ramp, the height of the pole foundation shall be flush with the surface of the immediate area.
- c. Shrouds for the pole mounting bolts may be required.

7) Painting of Wireless Support Structure, Antennas and Mounting Equipment

- a. The Town shall identify the paint colors, location of paint and any decorative treatments that may be required on the new wireless support structure.
- b. The Town shall identify the paint colors for the antennas, antenna mounting brackets and posts, antenna shrouds, and cables.
- c. The Town may require a new wireless support structure to be painted using a powder-coat process.

Contact Information

For questions regarding these standards, please contact the Development Services Department at (480) 503-6700 and ask to speak with a Staff member in Development Engineering.

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