Design Standards for Small Cell Facilities in the Public Right-of-Way
City of Milpitas

SECTION I. PURPOSE. Wireless providers, wireless infrastructure companies, and their contractors (Applicants) desire to deploy small cell wireless communications facilities in the Public Right-of-Way (Public ROW) owned by the City of Milpitas ("City"). To meet cellular demands of residents and visitors to Milpitas, Applicants may deploy small cell infrastructure in City Public Right-of-Way only after execution of a Municipal Utilities License Agreement (MLA) with the City and after receiving approved permits from the City.

Considerations for the locations of small cell infrastructure shall be governed by the City's traditional role in protecting the health, safety and welfare of the City, including, but not be limited to, the aesthetic values of public places, compatibility with the City's traffic, utility, and forest infrastructure, pedestrian and vehicle safety, quality of life for nearby residents, preservation of historic areas, preservation of views from residences and other sensitive sites.

The purpose of these Design Standards is to establish aesthetic requirements for all small cell facilities installed within the Public Right-of-Way. These Design Standards compliment the criteria established in the City's Permit Processing Standards for Wireless Facilities in the Public Right-of-Way. These Design Standards are subject to amendment from time to time, but any amendment shall apply only to small cell facilities installed after adoption of the amendment.

The City Design Standards detailed in this document are reasonable, no more burdensome than those applied for other types of infrastructure deployments, and objective and published in advance, and therefore, not prohibitive for Applicants who wish to deploy small cell infrastructure in City Public Right-of-Way.

SECTION II. DEFINITIONS. The definitions set forth in the City's Permit Processing Standards for Wireless Facilities in the Public Right-of-Way are incorporated by reference into these Design Standards.

SECTION III. DESIGN AND DEVELOPMENT STANDARDS FOR ALL SMALL CELL FACILITIES IN THE PUBLIC RIGHT-OF-WAY. The following design and development standards shall apply to all small cell facilities in the public right-of-way:

1. **Visual Criteria.**
    a. Generally. Wireless facilities shall be designed in the least visible means possible and be aesthetically compatible with the surrounding area and structures (e.g., color, materials, size, and scale).
    b. Materials. The materials used shall be non-reflective and non-flammable.
    c. Concealment. The wireless facility and pole-mounted equipment should be camouflaged or concealed to blend the facility with surrounding materials and colors of the support structure on which the facility is installed. Concealment elements include, but are not limited to, the following:
        i. Radio frequency (RF) transparent screening or shrouds;
        ii. Matching the color of the existing support structure by painting, coating, or otherwise coloring the wireless facility, equipment, mounting brackets, and cabling;
        iii. Placing cables and wires inside the pole or beneath conduit of the smallest size possible;
        iv. Minimizing the size of the site;
        v. Installing new infrastructure that matches existing infrastructure in the area surrounding the proposed site; and

vi. Using paint of durable quality

2. **Location.**
    a. Discouraged Locations/Zones. Installations on residential streets are discouraged.
    b. Preference for Use on Existing Infrastructure.
    c. Curb Setback Requirements. New or replacement poles shall be a minimum of 18 inches from the face of the curb.
    d. Strand-Mounted Facilities. Strand-mounted facilities are discouraged, unless they are necessary for technical reasons.
3. **Prohibition of Generators**. Generators are prohibited in the public right-of-way, except in the case of an emergency.
4. **Security.** All equipment and facilities shall be installed in a manner to avoid being an attractive nuisance and to prevent unauthorized access, climbing, and graffiti.
5. **Electric Service.** The City strongly encourages site operators to use flat-rate electric service when it would eliminate the need for a meter. Where meters are required, use the narrowest electric meter and disconnect available.
6. **Safety.** All wireless facilities in the public right-of-way, including each piece of equipment, shall be located and placed in a manner so as to not interfere with the use of the public right-of-way; impede the flow of vehicular or pedestrian traffic; impair the primary use and purpose of poles/signs/traffic signals or other infrastructure; interfere with outdoor dining areas or emergency facilities; or otherwise obstruct the accessibility of the public right-of-way. Further, all wireless facilities and associated equipment in the public right-of-way shall comply with Americans with Disabilities Act (ADA) requirements.
7. **Noise.** Wireless facilities and all accessory equipment and transmission equipment must comply with all noise regulations and shall not exceed, either individually or cumulatively, 55 dB measured from a distance of 50 feet from the source.
8. **Lighting.**
    a. No facility may be illuminated unless specifically required by the Federal Aviation Administration or other applicable law.
    b. Any such lighting shall be shielded to minimize, as much as possible, the impacts on the surrounding area.
9. **Signs.** No facility may display any signage or advertisement unless it is expressly allowed by the City in a written approval, recommended under FCC regulations, or required by law or permit condition. Every facility shall at all times display signage that accurately identifies the facility owner and provides the owner's unique site number and a local or toll-free telephone number to contact the facility owner's operations center.
10. **Landscaping.** In addition to any landscaping used for concealment or screening purposes, the applicant shall propose and install additional landscaping to replace any existing landscaping displaced during construction or installation of the applicant's facility in the right-of-way. The applicant's landscaping plan shall be subject to the City's review and approval but shall, at a minimum, match the existing landscaping and foliage surrounding the installation site.
11. **Modifications.** Any modifications to existing facilities or equipment or collocations shall not defeat the concealment elements of the existing structure/facility.

SECTION IV. DESIGN AND DEVELOPMENT STANDARDS FOR POLE-MOUNTED SMALL CELL FACILITIES IN THE PUBLIC RIGHT-OF-WAY. In addition to the general applicable standards set forth in Section 1 of these Design Standards, the design and development standards for pole-mounted small cell facilities in the public right-of-way are as follows:

1. **Definition of Pole-Mounted Small Cell Facility.** For the purposes of these Design Standards, the term "pole-mounted small cell facility" means a small cell facility that is, or is proposed to be, attached to, contained in or on, or otherwise mounted to, in, or on a pole.

2. **Definition of Stealth Facility.** For the purposes of these Design Standards, the term "stealth facility" (or "stealth facilities") shall mean a small cell facility designed to look like some feature other than a wireless tower or base station.

3. Poles, Generally. For small cell facilities installed on any pole:
    a. Antennas. Antennas and radio relay units (RRUs) shall be top-mounted in a shroud. RRUs attached to the side of the pole are discouraged, but if they are required due to technical reasons, should use the smallest RRU volume possible and be stacked vertically and close together with minimal distance from the pole.
    b. Dimensions. Antennas shall be of the smallest possible size, but in no case more than three cubic feet in volume. Pole-top wireless facilities, including shroud, shall be no more than 72 inches in height and 14.5 inches in diameter.
    c. Accessory Equipment. Undergrounding equipment, including RRUs that cannot be placed with the antenna in the shroud, is preferred. Vaults and pull boxes shall be installed flush to grade. Ground-mounted equipment is prohibited except by approval by the City. If required, ground-mounted equipment shall incorporate camouflaging and shrouding to match the colors, appearance, and materials of existing facilities and screen facilities from public view as much as is technically feasible. Further, if ground-mounted equipment is required, it must be enclosed in cabinets, sized only for the needed equipment and camouflaged using paint that matches the surrounding environment.
    d. Cables and Wiring. All cables and wiring must be within the structure, or if not feasible, within conduit on the exterior of the structure. The conduit must be a color that matches the pole and of the smallest size technically feasible.
    e. Prohibited Poles. Installations on poles and decorative streetlight poles are prohibited.
    f. CPUC General Orders. All installations shall fully comply with the California Public Utilities Commission ("CPUC") General Orders, including, but not limited to General Order 95 ("GO 95"). None of the design standards are meant to conflict with or cause a violation of GO 95, including, but not limited to, its standards for a safe installation on a utility pole. Accordingly, the Standards can be adjusted at the City's discretion to ensure compliance with CPUC rules on safety.
    g. Pole Owner Authorization. Proof of authorization from the pole owner is required. If the City owns the pole, then the applicant must enter into an agreement with City to install the pole-mounted facility.

4. Street Light Poles/Traffic Poles.
    a. Design Requirements.
        i. All installations shall comply with City standard specifications, standard plans, adopted codes, and shall meet all relevant state and federal regulations and rules.
        ii. Small cell devices:
            1. Shall be installed on pole structure or underground; ground-level installations are not permitted except by City approval
            2. Shall not cause any interference with operation of City facilities, including signs and banners
            3. Shall not cause severe negative visual impact as reasonably determined by the City
            4. Maximum four (4) pieces of added equipment and devices are allowed on a single pole
            5. No more than two poles on a street light circuit shall be used for small cell installations.
            6. Antenna shroud, if applicable, shall not interfere with mast arm
            7. Consolidate existing signs and enclosures to minimize visual impact

8. Devices and associated equipment must be UL listed and FCC certified for intended use
9. Devices shall not emit audible sounds beyond 55 decibels (dB)
10. Exterior finish and color of device/enclosure shall match streetlight unless otherwise approved
11. Identification and warning labels shall be installed on all devices as required by codes and standards. Warning labels shall face towards the street.

iii. Pole
1. If a new pole is required based on the assessment findings, a new City standard Street Light Pole with LED fixture will be required to be installed. Replacement of the pole and foundation (if necessary, from structural analysis) are at applicant's expense. LED fixture maybe provided by City.
2. To provide a uniform appearance with the same type of LED facilities on each pole, street lighting on the same circuit shall be retrofit with Coty-provided LED fixtures.
3. Facilities can only be attached to standard street light pole types [Milpitas Standard Drawing No. 442], unless an exception is granted by the City pursuant to Section V of these Design Standards below.
4. Pole number labels shall be provided by the City.

iv. Small Cell Wiring Requirements for City Facilities
1. External conduit attachment to the pole is not permitted except on wooden poles
2. No visible wires and cables
3. Splicing is permitted in the pullbox at base of pole. If the pullbox is not present, a new City standard pullbox shall be installed.
4. Fuses shall be located in the pole, behind the hand hole per City Standard
5. Per City Standard Specifications, existing wires in pole must be removed before any drilling or welding takes place on pole

v. Electric Service and Metering
1. Provide separate PG&E Smart Meter for small cells when tapping into existing street light power.
2. A minimum of forty (40) percent of circuit load capacity (not breaker rating) must be available for City use
3. The City would prefer Smart Meters be located on poles per PG&E requirements rather than separate service pedestals.
4. Stand-alone metering equipment shall be counted against total number of devices allowed for installation

vi. Communication/Backhaul Service
1. Installation of new poles, other than replacements for this purpose is not permitted.

5. Utility Poles.
   a. In addition to complying with the standards above, installations on utility poles must be stealth facilities, as defined in Section IV(2) of these Design Standards. The facility shall be painted or coated to blend in with the utility pole.

6. Replacement Poles. If an applicant proposes a replacement pole to accommodate the small cell facility:
   a. Placement. The base of the replacement pole shall be a minimum of 18 inches away from the face of the curb. Further, a replacement pole must be in the same location as the pole that it is replacing or as close to the original location as possible, taking into

account pole owner safety-related requirements and all applicable location and placement standards herein.

b. Design. Replacement poles should match the design (e.g., color, dimensions, height, style, and materials) of the existing pole that is being replaced to the greatest extent feasible. The maximum pole height is 35 feet, excluding wireless equipment.
c. If applicant desires a stronger pole to support the devices, replacement pole shall match existing on the block and is to be proposed to the City for approval.
d. Luminaires on replacement pole shall be an LED retrofit fixture provided by City.
e. Stealth. Replacement poles and their accompanying small cell facilities should be stealth, as defined above in Section IV(2), unless technically infeasible.

7. New Poles.

a. Waiver Required. New poles are prohibited, unless a waiver is approved by the City to prevent a prohibition of service.
b. Design. New poles shall have a maximum height of 35 feet and a maximum diameter of 14 inches. The poles should be designed so that cables and wiring can be contained inside the poles, and wooden poles are prohibited. If existing poles are present in the surrounding area, then the new pole shall be designed to resemble the existing poles in appearance, color, materials, and distribution pattern/spacing.
c. Installations on New Poles. Antennas shall be pole top-mounted in a shroud, and cables and wiring shall be contained within the new pole. Equipment that cannot fit in the shroud with the antenna shall be undergrounded, but if undergrounding is not technically feasible, then equipment shall be enclosed in cabinets, sized only for the needed equipment and camouflaged using paint that matches the surrounding environment. The antennas and equipment on a new pole must be stealth, as defined above in Section IV(2).

SECTION V. EXCEPTIONS FROM THESE DESIGN STANDARDS.

1. An exception may be granted to one or more requirements of these Design Standards in the following circumstances:
   a. If an applicant demonstrates to the City with objective, fact-based evidence set forth in a feasibility study that compliance with a requirement of the Design Standards would be technically infeasible and the proposed small cell facility complies with the requirements of these Design Standards to the greatest extent technically feasible.
   b. If an applicant demonstrates to the City in writing that the particular design or location proposed involves only minor non-compliance with a requirement of these Design Standards but such non-compliance either results in no increase in visual harms to the community or provides other benefits. Among other factors, in deciding whether or not to grant an exception, the City may consider the impact of expansions to the facility that the applicant would be entitled to make as of right if granted.
   c. If an applicant demonstrates to the City with objective, fact-based evidence set forth in writing that strict compliance with these Design Standards would, within the meaning of federal law, prohibit or effectively prohibit the provision of personal wireless services, or otherwise violate applicable laws or regulations. If that determination is made, one or more requirements of these Design Standards may be waived, but only to the minimum extent required to avoid the prohibition or violation.
2. Exceptions must be requested the time an application is initially submitted for approval to install a small cell facility. The request must include both the specific provision(s) from which exception is sought and the basis of the request, including all supporting evidence on which the applicant relies. A request for exception from one or more requirements does not relieve the applicant from compliance with all other applicable provisions of law or of these Design Standards.