

City of San Diego Land Development Manual
**Wireless Communication
Facility (WCF) Guidelines**

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See Page 55 for revision history

Introduction

In the City of San Diego, Wireless Communication Facilities (WCFs) are defined as the antennas, support structures, and other equipment or apparatus necessary for providing personal wireless services and information services. The Telecom Review Section of the Project Submittal and Management Division of Development Services processes WCF applications, from the entitlement and discretionary review process to building permit issuance and inspection. The Development Services [Wireless Communication Facilities web page](#) provides links to additional reference material.

[Council Policy 600-43](#) and the [City's General Plan](#) (Urban Design Element UD-A.15) provide guidance on the design and placement of WCFs within the City. San Diego Municipal Code (SDMC) Section [141.0420](#), "Wireless Communication Facility (WCF) Regulations," regulates WCFs, and [Information Bulletin 536](#) provides information on the procedures and submittal requirements for WCF permit applications. Other state and federal laws and policies, including guidance from the Federal Communications Commission (FCC), also govern WCF placement and development in the City. The City retains proprietary rights on all City-owned land.

These Wireless Communication Facility Guidelines outline the processing and design requirements the City has instituted to implement the above policies and regulations. These guidelines outline clear, reasonable, and predictable criteria to assess and process applications quickly and consistently. They establish a framework of opportunities for creating desirable WCFs in the City.

Council Policy 600-43

[Council Policy 600-43](#) provides guidelines for four locational categories that correspond to the Process levels contained within the Wireless Communication Facilities Regulations. The purpose of this policy is to provide comprehensive guidelines for the review and processing of applications for the placement and design of Wireless Communication Facilities in accordance with the City of San Diego land use regulations. These guidelines are intended to prescribe clear, reasonable, and predictable criteria to assess and process applications in a consistent and expeditious manner, while reducing visual and land use impacts associated with Wireless Communication Facilities.

The Council Policy establishes a hierarchy from most preferred location to least preferred location, encouraging the placement of WCFs in commercial and industrial zones. Higher preference sites have lower decision processes: WCFs in commercial and industrial zones are reviewed under Process One, a staff-level decision. WCFs in parks, open space, or residential zones are reviewed under Process Four, with permits decided by the Planning Commission.

General Plan - Wireless Facilities

The City of San Diego's General Plan addresses Wireless Communication Facilities in section UD-A.15, which requires proposed WCFs to:

- *Minimize the visual impact of wireless facilities.*
- *Conceal wireless facilities in existing structures when possible, otherwise use camouflage and screening techniques to hide or blend them into the surrounding area.*
- *Design facilities to be aesthetically pleasing and respectful of the neighborhood context.*
- *Conceal mechanical equipment and devices associated with wireless facilities in underground vaults or unobtrusive structures.*

Federal Regulations

Telecommunications Act of 1996

Section 704 of the Telecommunications Act of 1996 guides the City's review of WCFs. The City's review and approval or denial of WCF applications "shall not unreasonably discriminate among providers of functionally equivalent services," and "shall not prohibit or have the effect of prohibiting the provision of personal wireless services."

The Telecommunications Act requires the City to act on a permit application request within "a reasonable period of time", and states that any decision to deny a request to "place, construct, or modify [a WCF] shall be in writing and supported by substantial evidence contained in the written record."

The Telecommunications Act also prohibits the City from regulating the "placement, construction, and modification of [WCFs] on the basis of the environmental effects of Radio Frequency (RF) emissions to the extent that such facilities comply with the [FCC's] regulations concerning such emissions." The City requires that WCF applications provide a report, prepared by a qualified RF engineer, demonstrating that the WCF will comply with the FCC RF Guidelines.

In conjunction with this act and other regulations, such as the California Permit Streamlining Act, the FCC's Shot Clock Ruling, and the California Environmental Quality Act (CEQA), the City processes WCF applications in an expeditious manner in compliance with all applicable regulations.

Spectrum Act

Section 6409(a) of the Middle-Class Tax Relief and Job Creation Act of 2012 (Spectrum Act) states that "a State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station" and describes the required timeline (60 days). The associated [FCC Report and Order 14-153](#) provides guidance on what may be considered an "eligible facilities request" and what constitutes "substantial change". The City reviews each Spectrum Act application to determine if it qualifies as an eligible facilities request.

FCC Declaratory Ruling and Third Report and Order – “Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment”

The FCC adopted [Report and Order FCC 18-133](#) (the “Small Cell Order”) to accelerate the deployment of the next generation of wireless technology (known as 5G) using small cell antennas. Such antennas are typically placed on City streetlights or traffic signals in the right-of-way, although not exclusively. The Small Cell Order requires local jurisdictions to process applications for collocation of small cells on existing structures within 60 days and on new structures within 90 days. Right-of-way applications on City assets are reviewed by staff and processed concurrently with a Master Use and Occupancy Permit (MUOP), a Master Structural Permit, and a Right-of-Way Permit. Applications may also be made for new poles and/or on private property, which may require discretionary review.

This Report and Order also codifies processing timelines for non-small cell WCFs required by other federal policies: 90 days for existing structures, and 150 days for new structures. See [Information Bulletin 545](#) for more information on small cells.

State Regulations

AB 57 (2015)

AB 57 added [Section 65964.1](#) to the Government Code, which “deems approved” applications for most types of wireless sites if the City does not act on an application within the FCC’s “shot clock” timeframe if the applicant has provided all required notices.

Shot Clocks and Processing Timelines

The above federal laws and policies provide shot clocks for all types of WCF approved by the City of San Diego. The City must decide on a project within the shot clock timeframes outlined below. Shot clocks are tolled while the City awaits resubmittal.

Shot clocks for WCF projects	
Project Type	Shot Clock
Spectrum Act Projects	60 Days
SWF (Small Wireless Facility) on an existing structure	60 Days
SWF on a new structure	90 Days
Non-SWF on an existing structure	90 Days
Non-SWF on a new structure	150 Days

WCF applications have historically been a partnership between the applicant and City staff. The applicant submits a project, and the staff works with the applicant to ensure the project meets the

requirements of City regulations and policies. This continues until all issues are resolved and the project can move forward.

The shot clocks codified by the Third Report and Order force the City to act quickly. This is good for the wireless industry, but it also removes any flexibility the City has to “partner” with the applicant during project review – there is no longer time to do so. Because this “partnership” often serves as a substitute for due diligence, applicants must ensure that such research is done prior to submittal.

The Spectrum Act requires the City to approve any eligible facilities request within 60 days. All other shot clocks do not require the City to approve an application, only to act on it. For non-Spectrum Act projects, the City needs a complete application early in the process to facilitate project approval. Otherwise, staff will be forced to deny an incomplete application to meet shot clock requirements. It is the applicant’s responsibility to ensure that they submit all the information that the City needs to decide on a project. This includes (but is not limited to) noise reports, biology reports, slope analyses, evidence that the project complies with the Land Development Code and engineering standards, requirements of these guidelines, etc.

Shot Clock Processing Standards for WCF projects

Non-Spectrum Act Projects:

To meet shot clock requirements, the City requires the concurrent submittal of zoning approval and construction permits at the same time. If the applicant does not want this, they must toll the shot clock. Tolling applies to the whole project, including any ministerial construction permits. Tolloed projects will still be processed diligently.

The City will issue one set of corrections; if they are all not addressed by the second review, the applicant must toll the shot clock.

If not tolled after the second review, all Process One and Two applications will be denied and fees forfeited. For Process Three through Five applications, a hearing will automatically be scheduled when the project is resubmitted. Failure to toll will result in a recommendation of denial at this hearing, and fees forfeited.

See [Information Bulletin 536](#) for more information.

Spectrum Act Projects:

The Third Report and Order does not affect the City’s Spectrum Act process or the Spectrum Act shot clock. See [Information Bulletin 536](#) for more information.

Small Cells:

See the [Information Bulletin 545](#) for more information.

Voluntary Preliminary Review

Because shot clocks greatly reduce staff's ability to help a submitted project through the process, the City strongly encourages applicants to submit voluntary preliminary review applications for any WCF project. Preliminary reviews are not a project and are not subject to any shot clock. Staff can then work with an applicant to address issues prior to submittal. For projects located on City-owned land, two sets of plans are required so the asset-owning department and Development Services staff can review the project.

SDMC 141.0420 - WCF Regulations

[SDMC 141.0420, "Wireless Communication Facility Regulations"](#), outlines requirements for the placement of WCFs in the City of San Diego in support of the categories outlined in Council Policy 600-43. The zone, site characteristics, and development proposal will determine the permits required for a WCF.

In addition to SDMC 141.0420, WCFs may require other permits based on their location or project characteristics. For example, project sites containing Environmentally Sensitive Lands may require a Site Development Permit (SDP), projects in the Coastal Overlay Zone may require a Coastal Development Permit (CDP), and projects that deviate from the development regulations or WCF Guidelines may require a Planned Development Permit (PDP). All permits are consolidated and processed according to the highest process of any required permit.

The WCF Guidelines should be used in conjunction with the WCF Regulations. The Guidelines are a tool for processing WCF applications. They do not supersede the regulations found in the SDMC. They provide guidance to staff and stakeholders involved in the design and development of WCFs in the City of San Diego.

Design Requirements of SDMC 141.0420

Section 141.0420(e) of the SDMC specifies regulations which apply to all WCFs. The first four design requirements are applicable to all WCFs, and they are the foundation for these guidelines:

1. WCFs shall utilize the smallest, least visually intrusive antennas, components, and other necessary equipment.
2. The applicant shall use all reasonable means to conceal or minimize the visual impacts of the WCF through integration. Integration with existing structures or among other existing uses shall be accomplished through the use of architecture, landscape, and siting solutions.
3. The wireless communication facility's equipment shall be located within an existing building envelope, whenever possible. If a new equipment enclosure is necessary, it shall be of a height minimally necessary to accommodate the equipment, not to exceed 250 square feet,

unless a Process Two Neighborhood Development Permit is granted in accordance with Section 126.0402.

4. Overhead wires connecting the antennas to the equipment are not permitted. Other subsections of SDMC 141.0420(e) apply only to specific types of WCF, and are discussed later in these guidelines.

Design Requirements and Types of WCFs

Design Requirements for all WCFs

To provide guidance on the implementation of the Wireless Regulations, the following are general design guidelines for all WCF installations.

1. **Integration (Concealment) is required** – Integration is how each part of a site fits together. Well-integrated sites have WCFs that are as concealed as possible on the site. Concealment is the level to which the components of a WCF are hidden from view. It is a function of the appearance, placement, context, and level of visibility of a WCF. Depending on the site, a change in any of these elements may defeat concealment.

New WCFs and non-Spectrum Act modifications should be integrated (concealed) into a site. Spectrum Act projects may not defeat existing concealment.

Because they do not represent the smallest, least visually intrusive antennas, components, and other necessary equipment, non-integrated (unconcealed) installations are discouraged in the City of San Diego. There are a wide range of acceptable integration/concealment methods. The default level of concealment for a previously-approved site is its last approved Exhibit A. Every aspect of a site is considered an element of concealment including (but not limited to) the dimensions, build and scale, color, tree shape, branch count, materials and texture. Future modifications to a site must not defeat concealment.



Figure 1: A well-concealed WCF. Antennas are architecturally integrated into the building.

A WCF's size, shape, number of antennas, dimensions, color, texture, offset, azimuth, height, location on a site and location on a structure all contribute to how concealed the site is. A change in any of these elements that makes the site more visible than it was previously is defeating concealment.

To judge how well-integrated a site is (how well it is concealed), we rely on three principles. Each influences the other, and together they determine how integrated a site is:

- a. **The Principle of Balance** – All visible elements should have symmetry in all visible dimensions. Antennas and concealment elements should not dominate the element they are placed on.



Figure 2: One sector of this site is balanced...and one sector is not.

Examples of the Principle of Balance include, but are not limited to:

- i. Visible antennas should be (or have the appearance of being) equal in length, width, and depth and should be evenly spaced on their support structure.
- ii. Visible equipment should be grouped in like size and should also be evenly spaced on the support structure in a way that compliments the symmetry of antennas.
- iii. Visibly-placed concealment elements (items that conceal WCF elements but are themselves visible) should also observe this principle. This may require the bilateral symmetry of faux architectural elements or screen boxes, such as adding cupolas or faux chimneys to both sides of a façade instead of one, or raising parapets at two corners of a façade instead of one, etc.

Antennas and shrouds should not dominate the element they are placed on. This is especially relevant to vertical elements such as light standards, flagpoles, and similar fixtures.

Depending on the context, balance/symmetry may NOT be desired in certain situations. However, it should always be assumed that symmetry is necessary, and the greatest possible amount of symmetry/balance should always be provided.

A balanced site will appear uniform and is considered less visually obtrusive than one that lacks balance. Bringing a site out of balance reduces its level of

concealment.

- b. **The Principle of Context** – Specific situations require specific design solutions. What integrates well into one site may not be appropriate for another. Select the best design solution based on site and project characteristics.

Examples of the Principle of Context include, but are not limited to:

- i. A faux tree may be appropriate if there are other mature trees of a similar height in the vicinity, but not if there aren't.
- ii. A cupola may be appropriate for certain styles of architecture, but not for others.
- iii. Façade-mounted antennas may be appropriate for certain styles of architecture, but not for others.
- iv. Concealment behind a parapet is good but designs that only raise part of the parapet may not be.
- v. A faux saguaro may conceal antennas well but may not work in a park.
- vi. A faux chimney may look good, but too many of them on a building may not.
- vii. An eight-foot-tall rooftop box may look appropriate on a three-story industrial building, but not on a one-story liquor store.
- viii. A rustic water tower conceals antennas well but may not be appropriate at Mission Valley Center.

A WCF that fits into its context (a faux tree within an area with many trees) is more integrated (concealed) than one that doesn't (a faux tree in the middle of a non-landscaped parking lot). Changing the context of a site can change its level of concealment.

- c. **The Principle of Least Visibility:** The least visible solution is best. Placement on the site should be as minimally visible as possible.

Examples of the Principle of Least Visibility include, but are not limited to:

- i. WCFs should not be located between buildings and the street. They should be concealed on existing buildings or ground mounted adjacent to the side or rear of existing buildings.
- ii. Unless a site is architecturally integrated, visibility of WCF elements from the public right-of-way is not desirable, regardless of level of concealment.

- iii. Façade-concealed antennas are preferred over façade-mounted antennas.
- iv. Integration into architectural elements is preferred over covering antennas with something (i.e., appearing flush with a wall or hiding in a cupola is better than concealment behind a façade-mounted box). Design elements of existing façades should be replicated.
- v. Concealment within a structure is preferred over visible mounting (façade mounts or faux trees).
- vi. Covering or painting the antennas doesn't mean they're well-concealed. Concealment methods can themselves be visible (antenna skirts, FRP boxes, etc.). For example, even if it covers the antennas, a large, untapered FRP box can call attention to a facility.
- vii. Complete concealment is preferred over other methods.
- viii. RF safety barriers should be the least visible barrier possible. When possible, striping and restricted access should be used instead of posts, chains and/or fencing. When barriers must be visible, select building materials that integrate into the site. Radio Frequency Reports should consider alternative options. Photo simulations and plans should show proposed barriers and signage.

The less visible a facility is, the more integrated/concealed it is. Increasing visibility reduces/defeats concealment. Anything that is represented on plans and photo simulations as providing concealment (adjacent landscaping, paint colors, architectural elements, etc.) should be present for the life of the project, and so must be in an area within the applicant's control.

2. **Concealment, Expiration Dates and Completely Concealed and Integrated Facilities**

(CCIFs): It is the City's goal to completely conceal WCFs wherever feasible. A CCIF is a site that is indistinguishable from the built and/or natural environment of the surrounding area. CCIFs apply camouflaging methods to WCFs to blend them into an existing/proposed structure or visual backdrop in a way that renders the WCF completely non-visible. WCFs have three separate elements: antennas, cables, and equipment/equipment areas.

Permits for WCFs that don't completely conceal any of these elements will receive/be recommended to receive an expiration date of ten years. Longer permit terms (see table on Page 13) are available to applicants that completely conceal certain parts of their facility. Depending on the level of concealment, a permit can also be issued for a ten, twelve, or fifteen-year term. Sites that completely conceal all elements will qualify as CCIFs, which receive/will be recommended to receive no expiration date. Without an expiration date, sites can be more easily modified without renewing their zoning approvals.

CCIFs must meet all the following criteria to receive no expiration date:

a. Antennas must be completely hidden:

The antennas, mounting apparatus, and any associated components should be fully concealed from all sides within a structure that achieves total and complete architectural integration with the existing building (for example, antennas behind FRP in a parapet, and equipment inside an existing building), or which creates outbuildings that are architecturally integrated into a site and are expected components of the setting (for example, a WCF integrated into single-family residential shed). Antennas



Figure 3: Antennas and equipment are all concealed within this tower element.

should be completely hidden from view to qualify for a. Façade-mounted antennas (with or without FRP screening) and faux trees do not qualify.

b. Cables and cable trays must be completely hidden from view: All cables should be routed internally or buried underground. Exterior cable trays designed to replicate an existing vertical element may be considered on a case by case basis. Standard cable trays painted and textured to match the existing building do not meet the intent and do not qualify as hidden.

c. Equipment and equipment areas should be completely hidden:

The associated equipment should be completely concealed inside an existing building, inside an underground vault, or in the same method as the antennas (RRUs, RRHs, surge suppressors, and similar). Screen walls/fences and prefabricated facilities do not meet the intent of a CCIF.

Equipment enclosures designed to replicate existing buildings and structures may be considered on

a case by case basis. This applies to any existing or proposed mechanical equipment that serves the WCF, including (but not limited to) generators, air conditioning units, and similar.



Figure 4: A completely concealed WCF. There are antennas in this picture!

Permit Terms and Concealment Levels:

Concealment Elements Provided from List on Page 12	Concealment Level	Permit Expiration Date
Anything other than below	Low	10 Years
a and b	Medium	12 Years
a and c	High	15 Years
a, b, and c	Complete (CCIF)	No expiration

3. **Landscaping** - Landscaping should be used to offset the overall visual impact of WCFs. Existing and proposed landscape material and design techniques should be utilized to integrate WCFs with the surrounding environment to improve views from neighboring properties and the public right-of-way. All landscape shall conform to the City's Landscape Regulations and the Land Development Manual: Landscape Standards. Landscape Plans submitted for review shall include the components identified in Information Bulletin 536.
- a. Landscaping should address all components of a WCF, including cable trays and equipment areas. A combination of trees, shrubs, and/or vines can be used to screen and help soften the WCF.
 - b. Where it is not feasible to provide additional landscaping in proximity to a proposed WCF location, or substantial landscaping already exists on-site, other means of balancing the project's visual impacts should be considered.
 - c. The WCF's design should be consistent with the existing and/or proposed landscape design for the project site. Existing, mature trees should be retained when feasible. Any trees proposed for removal should be replaced in-kind or with sufficient replacements. Landscaping for a WCF should use the same plant palette as the underlying site to the satisfaction of the Development Services Department. Landscaping that does not conform to the existing site can be considered on a case-by-case basis.
 - d. When underground vaults are proposed, they should be located to meet minimum clearances from street trees. Locations of proposed underground vaults should not impact existing street trees and/or impede location for new street trees.
 - e. Removal, replacement, or installation of street trees is subject to review by the City's Urban Forester in accordance with SDMC 62.0600. Regardless of location, per SDMC 141.0420(e)(7), if trees with a trunk width of 4 inches or more (measured by caliper, 4 feet above grade) are removed or significantly trimmed for the installation or operation of the wireless communication facility, then replacement trees of a similar size should be planted to the satisfaction of the City Manager.
 - f. Tree "topping" or the improper pruning of trees is prohibited by the SDMC.

- g. Landscaping on the project site that screens, conceals, complements, or softens the visual impact of a WCF as shown in site photos, project plans, and photosimulations should remain for the life of the project, and should be under the applicant's control. Wireless tenants should coordinate with property owners to ensure that this happens.
- h. Landscaping on other properties should generally not be considered to screen a WCF. However, this can be considered on a case-by-case basis if it can be justified to staff.
- i. Landscaping for properties maintained and/or managed by the City's Parks and Recreation Department shall also comply with the "[Consultant's Guide to Park Design and Development](#)".

4. **Equipment, Generators, and Access**

- a. All non-antenna components of a WCF (except concealment features, cabling and cable trays) are considered "equipment" no matter where they are located.
- b. Architectural integration is required for equipment enclosures and screening walls. Architecture should match or complement that of the underlying site. Any equipment not located within an equipment enclosure should either be completely hidden from view or should be concealed in the same manner as antennas.
- c. Use similar building materials, colors, accents, and texture as the primary building. If no buildings exist on site, ensure that the proposed structure is appropriately designed to blend into the environment.
- d. Minimize exterior appurtenances. Use a screen wall and landscape for screening.
- e. Use an open top with an architectural element, like a trellis, to eliminate the need for air conditioning units.
- f. Existing topography or landscape can assist in screening views of equipment.
- g. Gates should be constructed of similar or complimentary materials as the enclosure



Figure 5: The generator is concealed inside the building above the existing equipment enclosure.



Figure 6: Equipment is concealed within this enclosure with the air conditioning units located on the roof behind the parapet.

but should maintain opaque qualities. Locate gates away from public areas if possible.

- h. Fences should be constructed of decorative materials that compliment and blend with the surroundings. Chain-link fencing and barbed wire are not permitted.
- i. Anti-graffiti finishes should be applied to all solid fences, walls, and gates. Employ design techniques to reduce the opportunities for graffiti.
- j. All rooftop equipment should be screened. Per SDMC 141.0420(e)(5), it should also be set back or located to minimize visibility, especially from the public right-of-way or public places.
- k. A noise analysis may be required to demonstrate that equipment will operate within allowed noise limits.
- l. All exhaust pipes, vents and similar components should be illustrated on plans and photo simulations and should be screened.
- m. Caged access ladders should be located away from street views and placed in an area of the building where visibility is minimized.
- n. Generator plugs, Remote Radio Units (RRUs), Remote Radio Heads (RRHs), diplexers, meters, surge suppressors, and other similar components should be located to minimize visibility. If they are located near the antennas, they should have the same concealment method as the antennas, unless to do so would increase visibility. Otherwise, they should be located in the equipment area.
- o. Generators that require a separate fuel tank or enclosure are not allowed on properties maintained or managed by the City's Parks and Recreation Department. Compact generators with an integral fuel tank may be allowed but must be located inside the equipment enclosure.

5. Cabling and Cable Trays

- a. Cables should run underground between the public right-of-way and the WCF.
- b. Cables should run underground between components of the WCF unless required to go into or onto a tower or base station. Cable trays should not be used to cross the ground, or to cross buildings not acting as a tower or base station.
- c. Cables running from the ground into a structure should be routed internally within the tower or base station unless the building construction does not allow internal routing of the cables. In that case, the cable tray should be concealed or integrated with the building design. The cable tray can also be designed as a decorative building feature or architectural element. No cables should be visible at the transition from ground to above-ground at any time.

- d. Cable trays on a building exterior should be placed and spaced consistently and appropriately so as not to disrupt the building design.
 - e. Above-ground cable, "ice bridges", "dog houses", cable bridges, and similar are not considered to comply with SDMC 141.0420 unless concealed.
 - f. Cables should not be visible protruding from the bottom of antennas. On new projects, 90-degree connectors, chin straps, and antennas skirts should be used to eliminate looping. On previously conforming projects, group cabling and minimize looping. No project should increase the amount of visible cabling.
 - g. Cables running visibly (faux trees, certain permitted installations, and all previously conforming facilities) should be painted to match adjacent surfaces and should use a cable management plan to minimize visibility.
6. **Associated WCF Components** including Remote Radios, Surge Suppressors, Tower Mounted Amplifiers, and all similar components



Figure 7: This cable tray is concealed inside the "Simon" wing wall.

- a. All roof-mounted components should be concealed behind and below a parapet, within a rooftop-mounted equipment area, or an architecturally-integrated structure that conforms to SDMC 141.0420(e)(5).
- b. For faux trees, these components should be located behind the antennas and painted to match. Displacement of branches to accommodate any components is prohibited. For any allowed modifications to faux palms, these components should be concealed within the growth pod, faux hula skirt, or in the equipment enclosure.
- c. For Athletic Field Lights (AFL), these components should be concealed inside the antenna shroud with a bottom cap.
- d. Vents for radios or integrated antennas proposed behind FRP are permitted on the top only. Side and bottom vents may be considered depending on the installation.
- e. See also 4n above.

7. **Mounting Hardware and Fasteners**

- a. Mounting hardware shall be selected to minimize depth of installation.
- b. If antennas are visible, pipes and mounting brackets must not be visible beyond the face of the antennas.
- c. If antennas are not visible, select mounting brackets that minimize the physical dimensions of any screening.
- d. Mounting hardware and related components may not be present if antennas are not present.
- e. Fasteners such as rivets, screws, and similar must not be visible.

8. **Fiberglass-Reinforced Plastic Installations** - Fiberglass Reinforced Plastic (FRP) or RF transparent materials can be used to screen and integrate a WCF with an existing building. FRP is subject to the following guidelines regardless of location:

- a. No visible transition lines between the old and new materials, colors, and/or surfaces are permitted. Specifically, FRP should be painted and textured to match adjacent surfaces exactly. If necessary, these surfaces should be repainted to retain consistency. This may necessitate painting an entire façade.
- b. No exposed construction braces.
- c. Rooftop additions should be concealed on all sides.
- d. New architectural features such as columns, pilasters, corbels, or other ornamentation that conceal antennas may be used if it complements the architecture of the existing building.
- e. Faux chimneys and similar additions should include architectural details and trim, if such details exist on the building, or if it improves the appearance of the WCF.
- f. Architectural details (including, but not limited to flashing, horizontal/vertical trim, reveals, texture changes, and other similar building elements) should match the adjacent building face. Site-specific alternatives may be considered if they can be justified.

9. **Radio Frequency Protective Devices** – Where a site’s Radio Frequency (RF) Report identifies signage or other protective devices for RF safety, the following should apply.

- a. Locate signage and barriers to minimize or eliminate visibility from public areas. Signage should only be visible as someone approaches the antenna sectors from directly accessible areas; it should not be visible from the street/ground level.
- b. Signs placed on the roof/ground surface or painted warning markings on the flat roof or ground are preferred to signs and physical barriers in publicly visible locations.



Figure 8: Place RF protective devices on the flat roof/ ground.

- c. If physical barriers should be used, they should be complementary to the architecture of the building unless completely concealed from view of the public.
 - d. All RF-protective signs, barriers, and/or markings should appear on project plans and in photo simulations.
 - e. Existing sites that modify their permits should bring signage into compliance with this section.
10. **Unified solutions are desired when multiple carriers are present** – If more than one carrier is located on a site, each carrier's installation should be architecturally similar.
- a. When modifying existing sites co-located on base stations, carriers should work together and coordinate with property managers/owners to create unified concealment elements to the extent feasible.
 - b. Co-locating carriers should meet or exceed existing concealment features. If co-locating onto a structure where existing carriers do not meet current concealment guidelines, the co-locating carrier must comply with current guidelines, unless doing so would increase the visual impact of the facility.
 - c. Multiple faux trees on the same site should be of the same type.
 - d. If physically possible, all carriers should share a unified concealment element.
 - e. If multiple carriers are façade-mounted facilities on the same building, all carriers should have similar concealment dimensions and spacing.

- f. Carriers using the same facility should have the same type of concealment unless this requirement would increase the overall visibility of a WCF.
 - g. If a design was approved at a site within the last 36 months, all subsequent permits by any carrier at the same site should match it, unless doing so would increase the overall visibility of the site.
11. **Emerging and future technologies** – Staff recognizes that emerging technologies present design issues that may not be anticipated by these published guidelines and will work with applicants on site-specific solutions. For example, at the time of publication, antennas on certain newly available frequencies present screening challenges due to shorter wavelengths. However, history has shown that concealment technology evolves as well. All WCFs in the City of San Diego should be integrated/concealed to the maximum extent possible.
12. **Historical Resources** – WCFs located in a designated historical district or in a historical district identified in a historical resources survey prepared by the City, or on a premises with a historical resource on it, must comply with the Historical Resource Regulations ([SDMC 143.0201 et seq.](#)) and the U. S. Secretary of Interior's Standards and Guidelines.
13. **Other Design Considerations** – Although the WCF Regulations and these Design Guidelines are the primary design considerations for WCFs, other Municipal Code sections may govern project design, depending on project location. These sections include, but are not limited to:
- a. Zoning (Commercial, Industrial, Agricultural, Residential, Open Space, or Planned District zoning, including overlay zones), which regulates setbacks and height limits.
 - b. Fence Regulations, which may regulate the height of screening walls and equipment enclosures.
 - c. Equipment Screening Regulations, which may require screening of equipment separately from the WCF regulations.
 - d. Environmentally Sensitive Lands Regulations, which contain additional permit and design requirements for sites located in Environmentally Sensitive Lands.
 - e. Coastal Development Permit Regulations, which may require a site located in the Coastal Zone to get a Coastal Development Permit, which contains specific findings.
 - f. Historic Resources Regulations, which may require alternative designs for WCFs located on the same site as a historic resource.

WCFs that Comply with SDMC 141.0420 and their Design Requirements

The following pages contain supplemental guidelines for specific WCF types. All installations should also follow the requirements for all WCFs found on pages 8-19.

These guidelines cannot encompass all current and future forms of WCF. Concealment structures that aren't contemplated here will be evaluated by the principles, general design guidelines, and best practices outlined in this document, and the guidelines for similar elements as appropriate.

Allowable types of WCF in the City of San Diego include:

- Architecturally-Designed Stand-Alone Towers
- Athletic Field Lights
- Façade-Concealed Antennas
- Façade-Mounted Antennas
- Faux Architectural Elements
- Faux Buildings
- Faux Natural Elements
- Flagpoles and Other Similar Vertical Elements
- Parking Lot or Pedestrian Path Light Standards
- Right-of-Way Sites (not Small Cells)
- Rooftop Concealment
- Small Cells (In the Right-of-way and on Private Property)
- Temporary Sites

Installation Type	Preferred	Can be CCIF?	Examples
1. Architecturally-Designed Stand-Alone Towers	Yes	Yes	<ul style="list-style-type: none"> • Signs • Clock towers • Obelisks • Steeples • Faux small water towers • Similar elements

Architecturally-Designed Stand-Alone Towers - Towers that are designed to appear as buildings or signs, and which conceal antennas completely within them. There are many variations on this design. It is anticipated that these towers are enclosed on all sides. Site-specific novelty designs (faux water tanks/towers, etc.) may also qualify for this type of concealment.



Figure 9: A tower designed as focal point/art piece.



Figure 10: A tower designed as a pole sign

- Design towers to architecturally blend with the setting. However, this guideline is not intended to preclude towers from being artistically treated, or from being community focal points as appropriate.
- Towers should be of a quality design, with architectural variation, including varied planes, textures, colors, and treatments. A simple box is not sufficient.
- Towers should be built at the lowest height possible.
- A separate sign permit may be required for any sign designed to conceal antennas.
- The WCF permit process cannot be used to request signage that does not follow Municipal Code standards for signage.
- Clock towers should have a functioning clock at all times.

Installation Type	Preferred	Can be CCIF?	Examples
2. Athletic Field Lights (AFLs)	No, unless antennas are completely integrated into the pole	None	<ul style="list-style-type: none"> None

a. These guidelines are for lights used to illuminate large areas for the purposes of recreation. For lights used to illuminate the immediate area for pedestrian safety, use the Parking Lot or Pedestrian Path Light Standards guidelines on Page 32.

b. Mount antennas as close as possible to the pole, below the light source and within an antenna shroud no more than 38 inches in diameter.

c. Antenna shrouds should conceal antennas and any associated components. No WCF component except the antenna shroud should be visibly mounted to a pole.

d. Antenna shroud length may be one-third of the overall pole height (one-fourth on City park sites).

e. Per SDMC 141.0420(e)(9), WCFs on AFLs should replicate the design, diameter and proportion of the vertical element they are intending to imitate.

f. For allowed modifications to existing, previously conforming AFLs with exposed antennas, all cables should be routed directly into port holes no more than 12 inches of exposed conduit (may be further evaluated on a case by case basis). Chin covers replicating the antenna profile should be used.

g. Paint antennas and mounting components the same color as the pole.

h. All cables and conduit to and from the light standard are to be routed from the caisson up into the pole. "Doghouse" cable coverings may be permitted to remain in limited circumstances where they are minimally visible.



Figure 11: Photosimulation of athletic field light standards with antenna shrouds.

- i. Single-carrier, multi-pole installations should follow the Principle of Balance. If multiple carriers are present on a site, their facilities should also be complementary in size, shape, and style.
- j. When new AFLs are proposed on City property on a field with no existing lighting or no functional lighting, the applicant shall provide additional lighting as required to provide a functionally illuminated sports field. Sports fields on City park sites shall be illuminated to the levels indicated in the "[Consultant's Guide to Park Design and Development](#)". Partial lighting is not acceptable.

Installation Type	Preferred	Can be CCIF?	Examples
3. Façade-Concealed Antennas	Yes	Yes	<ul style="list-style-type: none"> • Within a wall • Within a parapet

Façade-Concealed Antennas are any antennas concealed within the plane of the façade, including the parapet, of a building using Fiber-Reinforced Plastic (FRP) panels or similar. This is a preferred installation type for integration into buildings.

- FRP should be textured and painted to match adjacent building faces at all times. Paint and texture should match completely.
- There should be no noticeable transitions between FRP and adjacent surfaces at any time, be they paint, texture, or seam.
- If concealed within a parapet, top, sides and rear of antennas and associated components should also be enclosed or otherwise screened from view. At no time should any WCF component be visible, be it antenna, mounting apparatus, cabling, or equipment.
- If a project extends the parapet upwards, it should follow the Principle of Balance: Parapet extensions should either be uniform (raise the entire parapet) or should be symmetrical (should balance along a building face, i.e. raise both corners, or be in the center, etc.). They should also present as the same length. Raising at sectors only is not desired unless it follows the Principle of Balance.
- Antennas and related should not encroach from private property into the public right-of-way.



Figure 12: Antennas are concealed within the left-hand side of this wall.



Figure 13: Antennas are concealed behind the circular element.

Installation Type	Preferred	Can be CCIF?	Examples
4. Façade-Mounted Antennas	No	No	<ul style="list-style-type: none"> No concealment (previously conforming) Antenna Skirts and Chin Straps Façade-mounted antennas covered by FRP boxes

Façade-Mounted Antennas are any antennas mounted on the exterior of a building that are not faux architectural elements.



Figure 14: Façade-mounted antennas with antenna skirts and chin straps, placed symmetrically and painted to match.



Figure 15: Although façade-mounted boxes are not preferred, this is still an excellent example of integration.

architectural lines of the façade. Associated mounting brackets and cable shall be concealed from view. Any pipes or similar apparatus used to attach panel antennas to a building façade shall not extend beyond the length or width of the panel antenna. Measurements may be verified during inspection.

a. Employ a symmetrical, balanced design. No interruption of architectural lines or horizontal or vertical reveals is permitted. Antennas should be no longer or wider than the façade on which they are proposed, and they may not encroach into window areas or protrude above or below the surface on which they are mounted. Antennas should be mounted with their tops at the roofline unless there is an obstacle, or unless to do so would decrease the concealment of a site.

b. Use the smallest mounting brackets available to provide the smallest offset from the building.

c. Per SDMC 141.0420(e)(8)(B), the distance between the front of the antenna (or antenna shroud/FRP) to the face of the building shall not exceed 12 inches. Panel antennas may be mounted up to 18 inches away from a building façade when the applicant provides evidence demonstrating that the wireless communication facility cannot operate without incorporating a tilt greater than 12 inches. Each antenna shall fit into the design of an existing façade and shall be no longer nor wider than the

portion of the façade upon which it is mounted. The antennas shall not interrupt the

- d. Whether antenna skirts and chin covers or unifying FRP boxes are preferred depends on the visual context of the building. Principles of Least Visibility, Context, and Balance apply.
- e. If a façade-mounted facility dominates a façade element, façade-mounted FRP boxes should be used, and made to look like an extension of the façade (see Figure 15 below)



Figure 16: FRP Boxes used to complement architecture.

f. If covered by an FRP box, boxes should unify an entire sector and be the same size and shape for each sector, unless this causes conflict with existing architectural features or increases visibility.

g. If not covered by an FRP box, use skirts and chin covers to conceal mounting hardware, create a cleaner appearance, and minimize visual impact. Chin covers should be designed to replicate the antenna profile. Transitions between antennas and screening devices should not be visible, - no gaps.

Antennas should present as the same length, width, and depth, spaced uniformly.

- h. Paint and texture antennas and concealment measures to match the adjacent building surfaces. This includes trim, reveals, lines, and similar features. No visible transition lines/gaps are allowed.
- i. No exposed cabling is permitted.
- j. Per SDMC 141.0420(e)(8)(D), exposed mounting components may not remain on a building facade without the associated antennas. Such areas shall be returned to their pre-WCF condition or made to match the adjacent façade, whichever is more appropriate.
- k. If not covered by an FRP box, façade-mounted antennas should have a unified appearance. If antennas are a different shape and size, they should all be given unified dimensions using skirts and chin straps and should be spaced uniformly across a façade.
- l. Façade-mounted FRP concealment that appears as an architectural element of the building may qualify as another type of concealment measure.
- m. Ventilation openings should be on the top or bottom of screening elements only.
- n. Antennas and related may not encroach from private property into the public right-of way.



Figure 17: Antenna skirts and chin straps used to conceal mounts and cables.

Installation Type	Preferred	Can be CCIF?	Examples
<u>5. Faux Architectural Elements</u>	Yes	Yes	<ul style="list-style-type: none"> • Cupolas • Chimneys • Attached steeples • Attached tower elements • Raised roofs • Partial stories • Attached signs • Other building extensions/additions

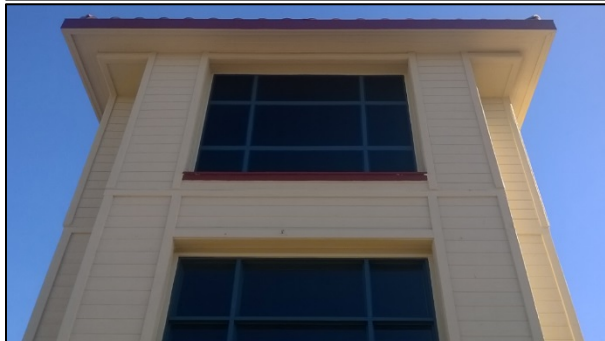


Figure 18: A cupola, a clock tower, and an added story, all concealing antennas. Note the replicated windows in the bottom picture.

Faux Architectural Elements – Antennas concealed entirely within existing or proposed architectural elements on an existing building. Façade-concealed antennas that present as architectural elements of the building are considered faux architectural elements rather than façade-concealed antennas.

- a. Should follow the Principles of Balance and Context.
- b. Should be appropriate to the architectural context: should match style of existing building and should be designed as a feature commonly found on the type/style of building.
- c. Should match colors and textures of existing building, including finishing features such as reveals, windows, tapers, cornices, tiling, roofing materials, and trim.
- d. This is a preferred installation type that can take a variety of forms. Tower elements and cupolas are pictured here, but architectural integration can also include tapered columns (can hide façade-mounted antennas individually), wing walls, dormers, statues, façade-mounted signage, and more.
- e. Antennas and related may not encroach from private property into the public right-of way.

Installation Type	Preferred	Can be CCIF?	Examples
6. Faux Buildings	Yes	Yes	• None

Faux Buildings – Designed as a separate, stand-alone building that is allowed by the zone in which it is proposed. Distinguished from Stand-Alone towers in that faux buildings are designed to not stand out (single dwelling unit in a single dwelling unit neighborhood, commercial building that matches other buildings on the property, park building that might be expected in the park, etc.).

- a. Buildings should be of a quality design, with architectural variation, including varied planes, textures, colors, and treatments. A simple box is not sufficient.
- b. Buildings designed to conceal WCFs should meet all requirements of the Municipal Code, including setbacks, height, design, articulation, and landscaping.
- c. A faux building should complement the existing built environment in the area. If there is none, it should conform to the planned land uses in the area.



Figure 19: Two faux buildings that meet the requirements of their zones.



Installation Type	Preferred	Can be CCIF?	Examples
7. Faux Natural Elements	No, unless antennas are CCIF	In rare circumstances	<ul style="list-style-type: none"> • Faux tree • Faux bush • Faux saguaro cactus • Faux rock

Faux Natural Elements – WCFs designed to emulate naturally occurring elements, such as rocks or vegetation.

- a. Per SDMC 141.0420(e)(6), faux landscaping may be used on premises where natural vegetation similar in size and species exist or where landscaping similar in size and species is proposed as part of the development. Use in an existing setting where there are similar elements, or where such elements would be expected. It is discouraged to place faux vegetation in a location where nearby natural vegetation of the same size and type isn't existing or proposed.
- b. Landscaping used to complement faux vegetation should remain for the life of the permit, even if it is not located within the applicant's lease area. Applicants should coordinate with property owners to ensure that required landscaping is not removed, and that it is properly maintained. Landscaping on premises outside the carrier's/property owner's control is generally not considered to provide concealment.
- c. Faux vegetation should only be used in the form of faux trees and bushes. It should not be used to architecturally screen (to cover fences, walls, or areas).
- d. Provide detailed specifications during plan review **including 3D-modeled photo simulations for faux vegetation**. Models should include branches, foliage, pole, and equipment. Per SDMC 141.0420(e)(6), provide sufficient samples, models or other means to demonstrate the quality, appearance, and durability of the faux vegetation.
- e. "Doghouse" cable coverings should be avoided. Cables should run directly from underground into the pole.
- f. Projects will not be approved at final inspection if they do not match the approved exhibits, including photo simulations.
- g. **Faux trees and bushes:** Should be of a type and size to adequately conceal antennas within them while appearing natural. Due to the physical form of palm trees and the difficulty of providing concealment for WCF components, faux palms are no longer considered to comply with the Wireless Ordinance. Existing faux palms with valid permits may be modified as allowed by law. If modifications are allowed, the following conditions apply.



Figure 20: A 3D-modelled photo simulation.

1. Frond removal is considered defeating concealment and is not allowed.
 2. Increase in size or number of any visible element (antenna, equipment, or foliage) is considered defeating concealment and is not allowed. If RRUs or similar are needed, they should go behind antennas to the satisfaction of staff.
 3. Change in color or placement of existing elements can be considered if they do not increase in number or size. Color should still substantially conform to original.
 4. If fronds are replaced, they should all match each other and should meet or exceed the level of concealment provided by previously-approved photo-simulations.
- h. **Faux trees and bushes:** should be used where existing trees/bushes are of a similar height, species, and appearance, or where the most mature screening trees possible are proposed.
- i. **Faux trees and bushes:** in non-urban settings, faux plants should be species regionally appropriate to San Diego that blend with established plant communities.



Figure 21: A mono-pine. Note how difficult it is to see the antennas.

- j. **Faux trees and bushes:** All branches at the antenna level must extend a minimum of 24 inches beyond the entire vertical length of the antennas for maximum concealment. Antenna socks do not count toward this requirement.
- k. **Faux trees and bushes:** Should replicate the shape, structure, and color of live trees or bushes, and should be designed to look like the tree species they are intending to replicate (can't have pine tree that isn't shaped like a pine tree). Branching should not make the tree look top-heavy.
- l. **Faux trees and bushes:** Ensure that the top of the faux tree does not exceed allowed height on approved plans. Poles should be five feet shorter than the allowed zoning height to allow five feet of branching at the top of the tree.
- m. **Faux trees and bushes:** Use 90-degree connectors to eliminate large looping cables coming from the bottom of the antennas.
- n. **Faux trees and bushes:** Socks are mandatory for all antennas and associated components located on a faux tree.

- o. **Faux trees and bushes:** Should be designed with a minimum of four branches per foot for full density coverage with limited spacing between the branches, unless 3D models justify lower branch counts.
- p. **Faux trees and bushes:** There should be no gaps in branch coverage. All branch ports should be used for branches. Branches should blend down the tree with no abrupt transitions.
- q. **Faux trees and bushes:** No exposed mounting apparatus may remain without the associated antennas; even if an antenna was approved at that location but not installed.
- r. **Faux trees and bushes:** Any changes to branches will require a building permit, and should appear on the scope of work of any plans submitted. Faux vegetation should not be re-branched without a permit, even if there is no other work. This rule is not intended to prevent the maintenance replacement of individual branches on an as-needed basis. However, the systematic removal and replacement of multiple branches without a building permit is prohibited.
- s. **Faux saguaro, faux rocks/boulders:** Should completely contain all WCF components within the faux structure, the ground, or the equipment enclosure. Should appear entirely natural, with no visible transitions between FRP and non-FRP elements. Should be appropriate to the place, may not be appropriate for all landscaping contexts or development types.
- t. Antennas and related should not encroach from private property into the public right-of way.

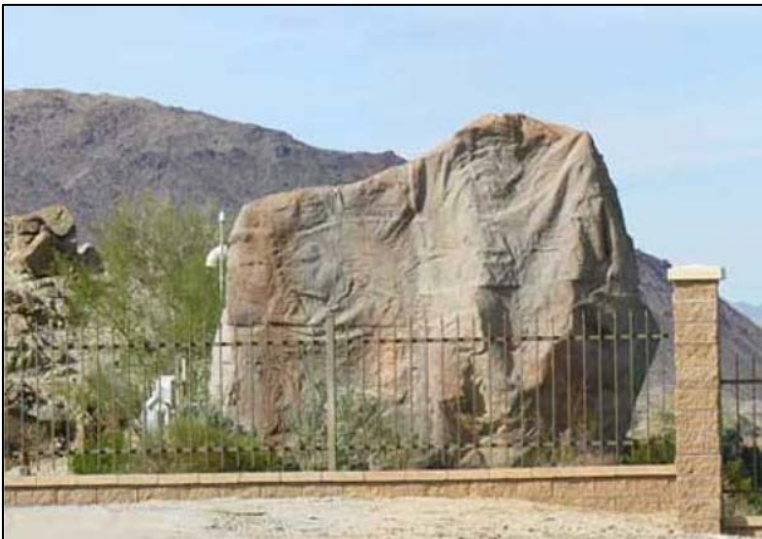


Figure 23: A faux boulder - not from San Diego.

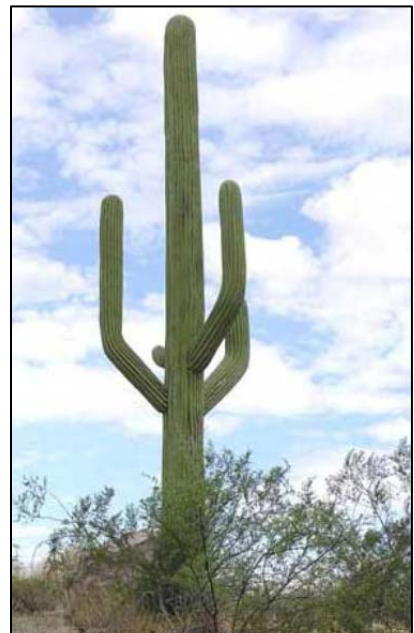


Figure 22: A faux saguaro. This installation is not in San Diego.

Installation Type	Preferred	Can be CCIF?	Examples
8. Flagpoles and similar vertical elements	No, unless CCIF	In rare circumstances	<ul style="list-style-type: none"> • Flagpoles • Utility poles • Foul poles • Similar

This section is designed to capture flagpoles, and other stand-alone pole-like elements of all-types that are not used for illumination.



Figure 24: There are antennas in this flagpole.

a. Per SDMC141.0420(e)(9), flagpoles shall replicate the design, diameter and proportion of the vertical element they are intending to imitate and shall maintain a tapered design. Flagpoles 30 feet or less in height should not exceed 9-inches in diameter.

b. Consideration will be given to flagpoles higher than 30-feet that exceed the 9-inch diameter limitation if it can be demonstrated that the flag pole is located in a suitable environment and appropriately tapered to maintain the appearance of an authentic flag pole.

c. Flagpoles: Antennas and any pole-mounted equipment should be enclosed within the flagpole. Flagpoles may not have an antenna shroud.

d. Flagpoles should comply with the U.S. Flag Code at all times.

e. Poles placed for the sole purpose of mounting a WCF are strongly discouraged, as they do not provide the expected camouflage – they are themselves visible. However, innovative and decorative treatments of this idea can be explored provided they observe the Principles on Pages 9-11.

f. Poles should be placed in conjunction with existing or added landscape planting.

g. All cables should be routed directly from the ground up through the pole. No “doghouse” cable coverings are permitted.

h. Single-carrier, multi-pole installations should follow the Principle of Balance. If multiple carriers are present on a site, their facilities should also be complementary in size, shape, and style.

Installation Type	Preferred	Can be CCIF?	Examples
9. Parking Lot or Pedestrian Path Light Standards	No, unless antennas are completely integrated into the pole	No	<ul style="list-style-type: none"> • Parking lot or parking garage lights • Pedestrian path lighting

- a. These guidelines are for lights used to illuminate the immediate area for pedestrian safety. For lights used to illuminate large areas for the purposes of recreation, use the Athletic Field Lights guidelines on Page 22.
- b. Per SDMC 141.0420(e)(9), light standards shall replicate the design, diameter and proportion of the vertical element they are intending to imitate. If there are other non-WCF light standards on site, they should be replicated as closely as possible.
- c. Use only in parking lots or along pedestrian paths. Not to be used to gain height in areas where a light standard is unnecessary.
- d. New light standard designs should be consistent and compatible with the surrounding area.
- e. Match design, material and color of nearby light poles.
- f. Replicate the height of existing poles.
- g. If more than one pole is used, space appropriately throughout property. Consideration should be given to existing vertical elements before proposing new light pole(s).
- h. All cables and conduit to and from the light standard should be routed from the caisson through the pole to the antennas. "Doghouse" cable coverings are not permitted.
- i. All antennas should be concealed inside an antenna shroud of a consistent width and proportion. They should be compatible with the diameter of the pole, or concealed within the pole.
- j. Light fixtures should be sized and balanced with the design and height of the overall light pole.
- k. Antennas and related should not encroach from private property into the public right-of way.



Figure 25: A parking lot light with an antenna shroud that complements the pole.

Installation Type	Preferred	Can be CCIF?	Examples
10. Right-of-way installations - Non-Small Cell	No	No	• None

Any WCF in the public right-of-way with antennas greater than 24" in any dimension, typically designed to serve a wide area. These guidelines are intended to apply to non-small cell sites placed on City light poles. For other forms of WCF placed in the right-of-way, please refer to the guidelines for that WCF type, except that g. through j. below apply to any type of right-of-way installation.

- a. Pursuant to SDMC 141.0420(e)(9) and SDMC 141.0420(f)(3), poles shall match height, color, diameter, and material of the original and/or adjacent poles.
- b. No WCF component should exceed the height of the pole. If a pole is topped by a decorative element that is a different shape/diameter than the pole itself, antennas should not encroach into this area.
- c. Per SDMC 141.0420(f)(1), use brackets that allow antennas to be mounted no more than 6" from the pole (measured from the face of the pole to the face of the antennas). Antennas shall be parallel to the pole; no down-tilt or azimuth is allowed.
- d. Per SDMC 141.0420(f)(3), antennas (and associated cabling) or antenna shrouds shall be painted to match the color of the surface of the pole on which they are attached.
- e. Antenna shrouds are required unless precluded by RF engineering needs, or unless to add them would be aesthetically infeasible. Shrouds should have tapered bottom caps and should also have non-tapered top caps if they are not within 5 feet of the height limit on the nearest property. Tapers may not be appropriate at all sites, but it should be assumed they are required.
- f. If an antenna shroud is not used, chin straps/chin covers are required. They should be no more than six inches long and no wider than antennas. Cables should be routed directly from chin straps into the pole, minimizing exposed cabling. Cables should not loop or bunch. 90-degree connectors should be used.
- g. All new or replacement poles must comply with all applicable City regulations and policies.
- h. Equipment associated with non-SC-WCFs must be located in an underground vault. If this is not feasible, a Conditional Use Permit is required for ground-mounted equipment. Ground-mounted equipment should be designed and located in an area with minimal visual impact.



Figure 26: Macro (non-small cell) right-of-way site with antenna shroud



Figure 27: This right-of-way installation has three antennas mounted flush to the pole with no pipe mounts and no antenna shroud. This is an older installation with no chin covers; they are now required.

i. All disturbed landscape shall be replaced in-kind and areas of bare or disturbed soil must be revegetated in accordance with the Landscape Regulations.

j. Disconnect switches are required. They should be mounted on the pole and should be painted the same color as the pole.

k. All cables and conduit to and from the light standard should be routed from the caisson through the pole to the antennas. "Doghouse" cable coverings are not permitted.

Installation Type	Preferred	Can be CCIF?	Examples
11. Rooftop Concealment	If façade integration is not possible	Yes, if they present as integrated into the building	<ul style="list-style-type: none"> Rooftop boxes/screens, whether or not they are solely for the WCF Faux penthouses, including facades Elevator/stair towers, which may be considered façade-concealed

Any WCF with antennas mounted on the roof of a building, behind a plane of the façade. Does not include rooftop elements that present as a building façade, architectural element, or parapet.

- a. Should be appropriate to the architectural setting: should match colors and textures of existing building (including features such as reveals, cornices, tiling, roofing materials, and trim), and should be designed as a feature commonly found on the type/style of building.
- b. Integration into existing rooftop elements is preferred over creating new rooftop elements, unless to do so would defeat concealment or be otherwise undesirable.
- c. Should conceal ALL WCF components from all sides. This may include the top. Antennas should not be visible from sides or back.
- d. Per SDMC 141.0420(e)(5), equipment located on the roof of an existing structure shall be set back or located to minimize visibility, especially from the public right-of-way or public places.
- e. Unconcealed rooftop installations such as lattice towers, monopoles, rack mounts, "popsicle sticks", and unconcealed façade mounts are not considered to comply with SDMC 141.0420.



Figure 28: Two rooftop boxes that replicate existing building elements well.

- f. Rooftop elements should generally be set back from the roof edge at least as far as they are tall; however, this may not be required in certain contexts.
- g. Should not dominate a façade – for example, an eight-foot tall antenna screen that runs most of the length of the façade on a one-story building dominates the façade, substantially increasing building height but not appearing as part of the structure. In this case, it would be more desirable to extend the parapet and make the building itself appear taller.
- h. Antennas and related should not encroach from private property into the public right-of way.

Installation Type	Preferred	Can be CCIF?	Examples
12. Small Cell WCFs (SC-WCFs)	N/A	N/A	<ul style="list-style-type: none"> Right-of-way sites (on city assets and as stand-alone poles, with or without luminaires) Private property

A SC-WCF is a single antenna shroud, no more than 24" in all dimensions. SC-WCFs are low-power cellular radio access nodes. They consist of small radio equipment, antennas, and backhaul that can be placed on City-owned structures such as City-owned streetlights and traffic signals, non-City-owned streetlights, standalone poles, and on private property.

a. **Guidelines for all SC-WCFs:**

- i. The Principles of Least Visibility, Balance, and Context should be observed.
- ii. 4G antennas should be shrouded or otherwise concealed at all times.
- iii. Pole-mounted 5G antennas should consolidate sectors using multi-sector shrouds. Building-mounted 5G antenna sectors should use antenna skirts and chin straps. At the time these guidelines were published, 5G concealment technology was still in development. As such technology advances, the City expects it to be used to maximum effect.
- iv. Unless otherwise stated in these guidelines, cabling should always be concealed. Absolutely no visible cabling at any time. Cabling shall run within any pole upon which a small cell is mounted.
- v. If placed on a pole, conceal all cabling within the pole, with no doghouse and no looping cables. Match nearby poles to the maximum extent possible.
- vi. Vertical elements should replicate the design, diameter and proportion of the vertical element they are intending to imitate.
- vii. Stand-alone poles (without a City-standard luminaire) are strongly discouraged on streets with a curb-to-curb measurement of 40 feet or less, except for areas containing only decorative poles.
- viii. Equipment cabinets/shrouds not integrated into a pole or mounted on a cable strand may not exceed 7 cubic feet in volume, 24" in width, 12" in depth, and should be mounted directly behind any road signs located on a pole. Equipment cabinets and associated components should not block any road signs. The design of non-integrated equipment cabinets/shrouds should be slim in profile to match the pole.
- ix. Existing government infrastructure on a light pole, traffic signal, or elsewhere nearby may preclude small cell installation at a given location.

- x. Avoid electric meter enclosures if possible. Use an underground, unmetered connection. If not, use the narrowest electric meter and disconnect available.
- xi. All installations should use all design techniques to minimize visual impacts. Anti-graffiti finishes should be applied to all equipment cabinet designs reachable from ground level.
- xii. Any manufacturer decals or logos on equipment enclosures that may be visible to the public should be removed or painted over.

b. Guidelines for all SC-WCFs in the Public Right-of-Way:

- i. If there is a choice of using a location in the street or in an alley, the alley should be used.
- ii. Unless required to provide service, avoid pole locations near windows (especially residential windows), historically/architecturally significant buildings, ornamental light standards, and Maintenance Assessment Districts.
- iii. Locations with the least visual impact should be chosen. Exhaust all options to minimize visual impact.
- iv. Disturbed landscape shall be replaced in-kind and areas of bare or disturbed soil must be revegetated in accordance with the Landscape Regulations.
- v. Applicants should consider the aesthetics of the existing streetlights and neighborhoods when proposing a small cell installation. New/replacement poles should meet City standards and/or match height, color, diameter, cobra arm placement and shape, and material of the original and/or adjacent poles.
- vi. All installations should use all design techniques to minimize visual impacts. Anti-graffiti finishes should be applied to all equipment cabinet designs reachable from ground level.
- vii. Any manufacturer decals or logos on equipment enclosures that may be visible to the public should be removed or painted over.

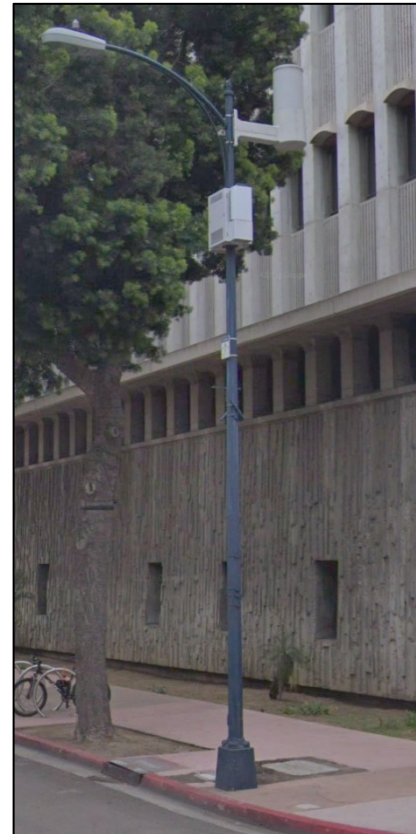


Figure 29: An unpainted small cell downtown.

Guidelines and Preference Levels for Specific Types of SC-WCF in the Public Right-of-Way

The following are preference levels and requirements for specific types of SC-WCFs in the public right-of-way. The intent is to locate on existing infrastructure already occupying the right of way. In selecting a lower-preference location, applicants should demonstrate why more-preferred locations were not feasible.

Preference level 1 (most preferred): On existing or replacement City-standard streetlights, new City-standard streetlights as allowed by the Street Design Manual, traffic signals (and other signalized poles), and strand mounts

- a. No more than one antenna shroud, 24" or smaller in all dimensions, and one equipment cabinet not exceeding 7 cubic feet in volume, 24" in width, 12" in depth, are allowed per pole. Equipment cabinet should be entirely occupied by required equipment with no empty space. This does not apply to strand mounts, see r. below.
- b. City-standard cobra lights should also be used, and poles should be painted and textured to City standards to match existing streetlights in the vicinity. Equipment not integrated into a pole may not exceed 7 cubic feet in volume, 24" in width, 12" in depth, and must be mounted directly behind any road signs located on a pole. Equipment cabinets and associated components should not block any road signs. This does not apply to strand mounts, see r. below.
- c. Applicants must consider the aesthetics of existing streetlights and neighborhoods when proposing a small cell installation. New/replacement poles should meet City standards and/or match height, color, diameter, cobra arm placement and shape, and material of the original and/or adjacent poles.
- d. Locations with the least visual impact should be chosen. Exhaust all options to minimize visual impact. If there is a choice of using a pole in the street or in an alley, the alley should be used.
- e. Antennas are either top-mounted or side-mounted. Both designs offer different advantages and requirements for integration and concealment. Case-by-case review is required. This does not apply to strand mounts, see r. below.
- f. In areas with low structure heights, avoid designs featuring top-mounted antennas on tall poles that may not match the neighborhood context.

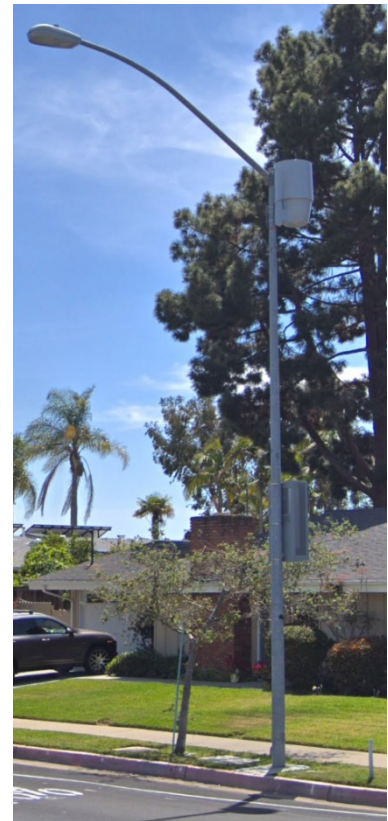


Figure 30: A small cell in La Jolla.

- g. Top-mounted antennas must be narrow to match the pole profile. Extension arms should be avoided. If not, antenna and pole top extension arms should not appear offset from the pole. Use extension arms that are as wide as the top of the pole and taper toward the antenna. Use a shroud around the base of the antenna to conceal cabling.
- h. For designs featuring side-mounted antennas, use arms containing flanges or channels to conceal cables and passive RF gear. No visible cabling is allowed.
- i. Side-mounted antennas should not exceed the height of the pole.
- j. Antennas, brackets, cabling and cabinet should be painted to match the color of the pole and/or adjacent wiring.
- k. SC-WCF installations should not obstruct the view from, or light into, any adjacent residential window.
- l. Equipment should face away from residential windows or primary travel direction are required.
- m. Use an underground, unmetered electric connection.
- n. Minimum height clearance for equipment mounted to the outside of a streetlight, traffic signal, or new pole in the right-of-way shall be eight feet above grade, mirroring the height requirements for signs in the right-of-way found in SDMC 142.1230(e)(1)(A).
- o. All cables should be concealed within the pole, with a sleeve between the bottom of the antenna and the mounting bracket. Use shrouds and/or 90-degree connectors to prevent exposed cables. No doghouses are allowed.
- p. Disconnect switches are required. They must be minimal in size, mounted on the pole, and must be painted the same color as the pole.
- q. **Traffic signals and other signalized poles:** Placement may not interfere with traffic signal operation.
- r. **Strand mounts:** Strand mounts must contain all equipment and antennas within one strand-mounted shroud no larger than 5 cubic feet. Shroud should be as narrow as possible to mimic the cable profile and should be painted a neutral color.
- s. **Strand mounts:** When utility companies do not allow cabling to be concealed within the pole, one cable may run outside the pole, attached to the pole, painted to match. Cables must not hang or loop and should be directly against the pole until the transition to the cable strand, then should run directly along the strand (painted to match) to the shroud.

- t. **Strand mounts:** More than one cable must be concealed within a cable riser attached directly to the pole and running parallel to the pole, of the absolute minimum diameter necessary for concealment, and painted to match the pole. At transition to strand, it should run directly along the strand (painted to match) to the shroud.

Preference level 2: On non-City-owned utility poles

- a. All Preference 1 requirements apply, except:
- b. When utility companies do not allow cabling to be concealed within the pole, one cable may run outside the pole, attached to the pole, painted to match, and running directly into a top-mounted antenna shroud or side-mounted antenna mount/shroud. Cables must not hang or loop and should be directly fastened to the pole at all times. All cables, fasteners, and equipment should be painted to match the adjacent surface.
- c. More than one cable must be concealed within a cable riser attached directly to the pole and running parallel to the pole, of the absolute minimum diameter necessary for concealment, and painted to match the pole. Riser must connect directly to antenna shroud.
- d. Side-mounted antennas are required on utility poles unless the utility will not allow them for safety reasons.

Preference level 3: On proprietary poles WITH luminaire

- a. Proprietary light poles must contain all equipment, cabling and antennas within the pole itself and/or entirely under the ground.
- b. Proprietary light poles must be proposed in areas accepted by the City where light poles are appropriate per the Street Design Manual. If a light pole isn't appropriate at a location, one may not be constructed there.
- c. Antenna shrouds must be the same diameter as the pole, which may be no wider than 14 inches. The bottom 66 inches of a pole (the "base") may be up to 18 inches to accommodate equipment.
- d. To prevent accumulation of trash, facilities should be designed to avoid flat surfaces in the transition from the base to the upper pole.
- e. All installations must use a City-standard cobra light OR be designed to complement existing non-standard lights in the vicinity to the satisfaction of staff.
- f. Poles should be painted and textured to City standards to match existing streetlights in the vicinity. In an area with non-standard or decorative street lights, match them to the maximum extent. If neither of these is appropriate, paint dark green or dark grey.

- g. Poles must match the height of nearby streetlights, unless doing so is not desirable for technical or aesthetic reasons. If there are no nearby streetlights, poles must meet the applicable height limit in the area, or be no taller than 40 feet, whichever is less.
- h. Disconnect switches are required. They must be located inside the base of the pole and accessible to City personnel.
- i. Exposed electric meters and other similar utility openings are not permitted.

Preference level 4 (least preferred): Proprietary poles WITHOUT luminaire

- a. If a stand-alone pole is used, the pole should be of a unitary design, concealing all equipment within the pole itself, with an antenna/shroud mounted directly to the top of the pole and no visible transitions. No equipment should be visible outside the pole.
- b. Antenna shrouds must be the same diameter as the pole, which may be no wider than 14 inches. The bottom 66 inches of a pole (the “base”) may be up to 18 inches to accommodate equipment. To prevent accumulation of trash, facilities should be designed to avoid flat surfaces in the transition from the base to the upper pole.
- c. Stand-alone poles must match the height of nearby streetlights. If there are none, they must meet the applicable height limit in the area, or be no taller than 40 feet, whichever is less.
- d. Stand-alone poles should be designed to mimic the colors and styles of adjacent streetlights. If there are none, the facility should be painted a neutral color appropriate to the area.



Figure 31: Stand-alone small cell pole in Denver, Colorado. Exposed utility meters are not preferred in San Diego.

- e. In neighborhoods with thematic lighting, such as low-scale acorn lights, that do not have existing city-standard light poles or utility poles, integrated poles similar to what is illustrated in Figure 31 should be used in the **least intrusive and fewest possible locations**. Poles may be 50 percent taller than the existing light poles in the neighborhood, unless technical and/or safety reasons require them to be taller. In no case may the height of any such pole exceed 27 feet. Base diameter may be no larger than 18 inches. As directed by the recognized Community Planning Group, the pole design may incorporate fluting or other design elements that do not stray from the basic form factor and must be painted either dark green or grey.
- f. Stand-alone poles should not obstruct pedestrian or vehicular paths of travel.

- g. To prevent accumulation of trash, facilities should be designed to avoid flat surfaces in the transition from the base to the upper pole.
- h. Exposed electric meters and other similar utility openings are not permitted.
- i. Separation requirements: If a stand-alone pole is placed, it should be at least 10 feet away from existing city light poles, traffic signals, signalized poles, and any utility pole, and 250 feet away from any other proprietary pole on the same side of the street in the same block.
- j. Stand-alone poles (without a City-standard streetlight) are strongly discouraged on streets with a curb-to-curb measurement of 40 feet or less.

Guidelines for Small cells on private property: Are considered a standard WCF, with permits required per SDMC 141.0420, and design subject to these guidelines.

Small cells on private property should be mounted to existing buildings (unless coverage objectives cannot be met otherwise) and follow the corresponding design guidelines herein. Design the installation to blend in to the structure to the extent feasible. Match colors and select locations for a minimum of visibility. Hide antennas in architectural elements or behind a façade. If this is not possible, use antenna skirts, chin straps, or antenna shrouds.

If building mounts are not desired, pedestrian path/parking lot light standards or flagpoles should be used, and the design guidelines for these types should be followed. Antennas and related should not encroach from private property into the public right-of way.

Installation Type	Preferred	Can be CCIF?	Examples
13. Temporary Sites	No	No	<ul style="list-style-type: none"> • City-wide for public events • For construction purposes • Pilot Projects

Temporary sites – installations that are not intended to provide permanent wireless services. There are four types:

- a. **Temporary Sites to Service Public Events** - Can only be issued to provide service to a citywide public event pursuant to SDMC 123.0402(c)(1). Per SDMC 123.0406, up to two TUPs can be issued every 365 days, but each TUP is limited to a maximum of 180 days.
- b. **Emergency sites** – Except on sites containing a residential use, when an emergency arises that is not the result of any act of the wireless service provider and is otherwise determined by the City Manager to be an emergency, a TUP not directly associated with an existing site can be issued pursuant to SDMC 123.0402(c)(2). The ending of a lease is not considered to constitute an emergency. Per SDMC 123.0406, up to two TUPs can be issued every 365 days, but each TUP is limited to a maximum of 180 days.
- c. **Temporary Sites to provide service during construction** – Not eligible for a TUP. If the need for an existing WCF to have a temporary site during construction is known at the time of zoning review, include the temporary site in the project details and plans with a schedule for installation and final removal. Staff will consider it during the project review process. Provisions for a temporary site will be written into the new permit.

If the need for a temporary site is not known at the time a WCF is originally approved, a temporary site can be approved using a Substantial Conformance Review (SCR). This type of temporary site must be located on the same property as a permanent site.

- d. **Pilot Projects** – Not eligible for a TUP. Tests of new technology, new concealment types, and similar types of pilot projects may take place on existing, active sites with valid permits. Such tests will be limited to a one-year term, granted by Substantial Conformance Review (SCR). Because new technologies may not be compatible with typical concealment methods, pilot projects that comply to guidelines to the extent feasible as coordinated with staff can be allowed.

WCFs that do not comply with Regulations (Previously Conforming Sites)

New permits or permit amendments for WCFs of these types will not be approved in the City of San Diego unless otherwise provided for by law.

Previously conforming WCFs with a valid permit that has not expired, but do not meet the current requirements of SDMC 141.0420 are listed here. Certain modifications may be allowed to these sites, and design requirements for these modifications are outlined herein.

Modifications to sites in this category are allowed only by the following methods. If this is not possible, the facility must be brought into compliance with the current Wireless Ordinance and Guidelines.

- a. Substantial Conformance Review (SCR): See criteria on Page 50.
- b. Spectrum Act/6409 modification: See criteria on Pages 50-51.

WCFs in this category must continuously be in conformance with their approved permits. Non-permitted work, deteriorated site conditions, or non-operational equipment that has not been removed can affect previously conforming rights and Spectrum Act eligibility, and may result in code enforcement action.

WCFs in this category include, but are not limited to:

- Faux Palm Trees
- Monopole, lattice tower, "Popsicle Sticks" or similar at any location
- Unconcealed rooftop- or façade-mounted facilities or similar
- Unconcealed or under-concealed implementations of otherwise lawful facilities

Installation Type	
14. Faux Palm Tree	Monopole disguised as a palm tree. Do not meet the requirements of SDMC 141.0420. These WCFs are no longer approved in the City of San Diego unless otherwise provided for by law. Modifications only allowed per Page 44.



Figure 32: Faux palms do not provide the level of concealment required by the Wireless Ordinance - they are monopoles with fronds!

If an SCR is desired, the following conditions apply.

- a. Reducing the number of fronds is considered defeating concealment and is not allowed.
- b. Increase in size or number of any visible element (antenna, equipment, or foliage) is considered defeating concealment and is not allowed.
- c. Change in color or placement of existing elements can be considered if they do not increase in number or size; otherwise, it is not allowed.

- d. If fronds are replaced, they should all match each other and should meet or exceed the level of concealment provided by previously-approved photo-simulations.
- e. Note that non-compliance with any permit condition may be grounds to deny an SCR, and may subject the site to code enforcement action, including permit revocation.

If a Spectrum Act modification is desired:

- a. The facility must currently be constructed in its last approved configuration and the project must be considered an eligible facilities request.
- b. Spectrum Act applications may not be used to bring a site into compliance with its permit; the site must be compliant at the time of application.

Installation Type	
<u>15. Monopole, lattice tower, "Popsicle Sticks" or similar, whether standing alone or located on a building.</u>	Pole- or tower-mounted facilities of any configuration that are not disguised or concealed, whether or not antenna shrouds are provided. Do not meet the requirements of SDMC 141.0420. No longer approved in the City of San Diego unless otherwise provided for by law. Modifications only allowed per Page 40.



Figure 33: Lattice towers and monopoles don't integrate. They do not meet the requirements of the Wireless Ordinance.

- a. If an SCR is desired, see Page 50. Note that SCRs cannot be used to decrease the level of conformity with the regulations or with these Guidelines.
- b. If a Spectrum Act modification is desired, see Pages 50-51. Note that the project must be an Eligible Facilities Request in order to be approved. Spectrum Act applications may not be used to bring a site into compliance with its permit; the site must be compliant at the time of application.
- c. If a new (non-Spectrum Act) approval is being sought, the facility must be brought into compliance with the current Wireless Ordinance and Guidelines.
- d. Co-location onto this type of facility must meet current regulations.
- e. Although this installation type is unconcealed by definition, antenna size and spacing is considered to provide an integrative function. If a project proposes to modify any facility in this category, all proposed antennas should appear to be the same size and spacing to comply with the Principle of Balance. Use antenna skirts and chin straps or similar.
- f. Cable management is also considered to provide an integrative function. Any modifications should manage cables to provide the absolute minimum of visibility. Avoid looping cables. Bunch cables whenever possible, and paint to match adjacent surfaces.
- g. Antennas and related should not encroach from private property into the public right-of way.

Installation Type	
<u>16. Unconcealed rooftop- or façade-mounted facilities or similar</u>	Base station-mounted facilities of any configuration (façade-mount, rack mount, towers on top of buildings, etc.) that are not disguised or concealed to current standards, whether or not antenna shrouds are provided. New permits for this type of WCF are no longer allowed in the City of San Diego unless otherwise provided for by law.

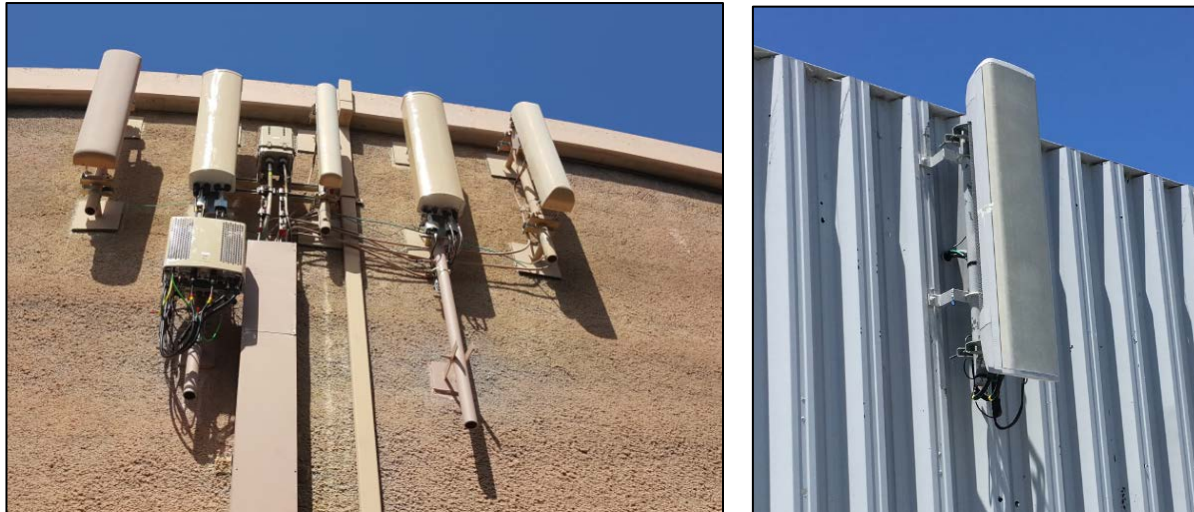


Figure 34: Unconcealed facilities like these do not meet the requirements of the Wireless Ordinance.

- a. If an SCR is desired, see Page 50. Note that SCRs cannot be used to decrease the level of conformity with the regulations or with these Guidelines.
- b. If a Spectrum Act modification is desired, see Pages 50-51. The project must be an Eligible Facilities Request in order to be approved. The Spectrum Act may not be used to bring a site into compliance with its permit; sites must be compliant at the time of application.
- c. If a new (non-Spectrum Act) approval is being sought, the facility must be brought into compliance with the current Wireless Ordinance and Guidelines.
- d. Co-location onto this type of facility must meet current regulations.
- e. Although this installation type is unconcealed by definition, antenna size and spacing is considered to provide an integrative function. If a project proposes to modify this facility type, proposed antennas should appear to be the same size and spacing to per the Principle of Balance. Use antenna skirts and chin straps or similar, with 90-degree connectors.
- f. Cable management is also considered to provide an integrative function. Any modifications should manage cables to provide the absolute minimum of visibility. Avoid looping cables. Bunch cables whenever possible, and paint to match adjacent surfaces.
- g. Antennas and related should not encroach from private property into the public right-of way.

Installation Type	
<u>17. Unconcealed or under-concealed implementations of otherwise lawful facilities</u>	<p>Any facility with a valid permit for a facility type that is otherwise allowed herein, but which does not fully comply with these guidelines. Includes, but is not limited to:</p> <ul style="list-style-type: none"> • Façade-mounted antennas without cable management, chin straps, or antenna skirts • Any legal facility that doesn't follow the Principle of Balance • Legal faux trees that comply with their permits but don't comply with current standards • Light pole-mounted antennas or equipment without a shroud • Antenna shrouds that don't meet size requirements.

- a. If an SCR is desired, see Page 50. Note that SCRs cannot be used to decrease the level of conformity with the regulations or with these Guidelines.
- b. If a Spectrum Act modification is desired, see Pages 50-51. Note that the project must be an Eligible Facilities Request in order to be approved. Spectrum Act applications may not be used to bring a site into compliance with its permit; the site must be compliant at the time of application.
- c. If a new (non-Spectrum Act) approval is being sought, the facility must be brought into compliance with the current Wireless Ordinance and Guidelines.
- d. Co-location onto this type of facility must meet current regulations.
- e. Antennas and related should not encroach from private property into the public right-of way.

Administrative/Processing Requirements

1. **Substantial Conformance Review** – Substantial Conformance Review (SCR) is a process where projects can undertake modifications that are deemed to be in “substantial conformance” with the original permit. The goal of an SCR is to determine if the proposed project is consistent and in conformance with a previously approved permit. This includes a review of the revised project against the approved exhibits, permit conditions, environmental documentation, applicable land use policies and the public record for the prior permit. For general information on SCRs, see [Information Bulletin 500](#).

An SCR for a WCF must meet the following criteria, which supplement Attachment A to Information Bulletin 500:

- a. An SCR cannot be used to change the number of any visible WCF components or concealment elements.
 - b. An SCR cannot be used to increase the size, reduce the symmetry, or alter the appearance of any visible WCF components or concealment elements unless the change would positively affect the appearance of the facility.
 - c. An SCR cannot be used to increase the height of a project.
 - d. An SCR cannot be used to increase the amount of visible cabling.
 - e. An SCR cannot be used to cause visible elements to be different colors.
 - f. An SCR will not be granted if the site is not in compliance with its existing permit.
 - g. A building permit implementing the changes approved by an SCR must be issued within one year and pursued to completion or the SCR is null and void.
2. **Spectrum Act** – Pursuant to Section 6409(a) of the federal Middle Class Tax Relief and Job Creation Act of 2012 (the Spectrum Act), the City “may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station.”

The City complies with [FCC Report and Order FCC-14-153](#), and the reader is referred to that document for more information (see Pages 10 and 11 of that document for a summary). However, the following is of note, and is supported by the Report and Order (paragraph references given):

- a. To be considered “existing” under the Spectrum Act, a site must be constructed in accordance with all applicable permits, including all permit conditions (Paragraph 174). If not, the site cannot be considered an eligible facilities request. Applicants should research the complete permit history of their site before making a Spectrum

Act application. Should a project not qualify, fees will not be refunded.

- b. Because a site must be “existing” to be considered an eligible facilities request, the City does not allow Spectrum Act applications to be used to bring a site into compliance with its permit. The site must be compliant at the time of application. The City makes an exception to this requirement if the non-compliance is related solely to previously-required landscaping that can be installed in conjunction with the Spectrum Act application.
 - c. Spectrum Act applications may not defeat existing concealment elements, and must comply with all permit conditions, except where the Spectrum Act separately allows certain modifications (Paragraph 200).
 - d. Spectrum Act applications may not include replacement of the underlying structure (Paragraphs 180 and 181).
3. **WCFs are iterative** – WCFs typically have a series of permits that make incremental enhancements to a site, and many sites have multiple carriers. Sites can also change property owners/managers/carriers. This can make it difficult to account for exactly what is permitted on a site. The following are standards to facilitate plan review and site management.
- a. **The “One Permit at a Time” Rule:** To know what is permitted on a WCF site, and efficiently evaluate what’s changing, the City must understand the “baseline” condition. If there are multiple permits in review on a site at one time, this is not possible, particularly if carriers are co-located – what if one carrier builds before the other, changing the second carrier’s baseline condition? For a single carrier, what if separate permits are submitted for different site components? Is each improvement on the other set of plans? What is the baseline?

Generally, **only one WCF permit per premises** should be under review at one time, regardless of number of carriers. Zoning clearance on one carrier’s single project should be obtained, a construction permit issued and given final inspection before another application for any other carrier or WCF component is made.

This rule may be relaxed at staff’s discretion if the baseline condition can be reasonably interpreted. For example, on sites where each carrier has a separate installation, such as antennas on different parts of a base station separated by a great distance, or multiple faux trees with separate equipment rooms. It may make sense to process multiple permits at once.

- b. Show the entire WCF on the plans, regardless of what is being modified. Every component should be shown. Show existing and proposed site plans, and elevations from all four directions, whether or not the elevation has any changes.

- c. Project documents should reflect the total number of antennas, RRUs, RRHs, surge suppressors, generators, equipment cabinets, equipment rooms, cables, cable trays, and similar at a site, regardless of what is being modified by the current project. Even if only one antenna is being replaced, the whole WCF should be shown and described.
 - d. Project descriptions on applications and plans should describe the WCF in total. In other words, if an existing site has twelve antennas, the project description should not say “remove and replace three antennas”, it should say “remove and replace three antennas, nine existing antennas and twelve existing RRUs to remain, total of twelve antennas and twelve RRUs” or similar.
 - e. Specifications for all antennas, RRUs, RRHs, generators, and similar on a site should be provided, regardless of what is being modified by the current project. Even if the project is only to add one antenna, specifications for everything should be provided.
 - f. Plans should include existing and proposed antenna/equipment schedules in table form on the plans. Tables can be separate or combined into one. These tables should include the dimensions, manufacturer, and model number of all existing and proposed antennas and RRUs/RRHs.
 - g. If WCF components were previously approved but not built, this information should also be included in project descriptions and equipment schedules.
 - h. Projects submitted by a site management company should disclose the carrier(s) on the site, and projects submitted by a carrier should disclose the management company. If Company A manages the site, and Carrier B is their tenant, plans submitted by Company A should say Carrier B is the tenant, and plans submitted by Carrier B should state that the site is managed by Company A.
4. **Annual Site Listing** – SDMC 141.0420 requires all WCF providers to submit site listings to the City. For the purposes of implementation, “WCF Provider” includes both wireless carriers and telecom site management companies. Therefore, sites may be on more than one list.

This documentation should include any site that provides commercial personal wireless services and/or information services, regardless of the size, location, or the technology used. This means that both macro sites and Small Cell WCFs (SC-WCFs) should be listed. The following should be included in this site listing. A Microsoft Excel template will be provided on the [City's WCF page](#), with separate formats for carriers and site management companies.

- a. **Site Name:** The name by which the provider refers to the site.
- b. **Site Address:** The address assigned to the site and/or used in applications. If there is no address, do not approximate. Staff will rely on geographic

coordinates.

- c. Geographic coordinates: The latitude and longitude of the site in decimal degrees to the eighth decimal place. Latitude in San Diego will be a positive number, and longitude a negative number. 32.719370, -117.138327 is in San Diego, but 32.719370, 117.138327 is in China!

Please do not submit coordinate in Degrees/Minutes/Seconds (32°43'09.7"N 117°08'18.0"W); these coordinates may be used to track/map sites and decimal degrees (32.719370, -117.138327) are required.

- d. Site number: Typically, in a format such as SD0338X or 805974.
 - e. Wireless providers only: If your site is owned by another entity such as Crown Castle, SBA, American Tower, Mobilitie, etc., list the name of that entity.
 - f. Property/Asset managers only: list each wireless provider at your site. If you give each provider a separate site number, each site number should be a separate line in the list. If multiple carriers share a site number, use one line per carrier.
 - g. The type of site: Whether the site is a macro site or a Small Cell WCF (SC-WCF).
 - h. Form factor: Site category as shown in these guidelines (faux tree, rooftop concealment, façade-mounted, etc.).
5. **Properties with Existing Code Violations** – WCFs may not be approved on properties with existing code or permit violations unless the violation is remedied by the project. This may include collocated facilities that rely on the permits of others. Depending on the context, code violations may be cleared with the work proposed by the project, or a separate permit may be required. For Spectrum Act projects, all permit violations should be cleared prior to determining if the project is an Eligible Facilities Request. The Spectrum Act cannot be used to bring a site into compliance.
 6. **Plans should match what is constructed** – Staff will not be held responsible for projects that are not constructed per plans and photo simulations. Variance in the field must be brought to staff's attention and reevaluated as soon as possible. Staff understands that projects can sometimes change in the field and will work toward an equitable solution.
 7. **Inspections** - Telecom inspections are not scheduled using the automated telephone system. Contractors should send high-resolution pictures demonstrating compliance with the conditions and exhibits identified on the approval notes imaged onto construction drawings to the Telecom Project Manager. Once cleared by the Project Manager, the project can call for final inspection.

Glossary

Italicized definitions match definitions found in section 113.0103 of the Municipal Code.

[AB 57](#): State law which “deems approved” applications for wireless sites if the City does not act on an application within the FCC’s “shot clock” timeframe.

Antenna: A device or system used for the transmission or reception of radio frequency signals for wireless communications. It may include an Omni-directional (whip), directional (panel), dish, or GPS antenna. It does not include the support structure.

Antenna shroud: A physical barrier that screens antennas entirely from view when they are mounted to a pole. Generally proposed as the only screening element. Also referred to as a radome or raydome. FRP integrated into building façade, architectural element, or rooftop screen is not an antenna shroud.

Concealment: The level to which WCFs components are hidden from view. Related to integration. (Pages 8-13)

Completely Concealed and Integrated Facility (CCIF): A site where antennas, cables and cable trays, and equipment are all completely hidden and blended into an existing/proposed structure or visual backdrop in a way that renders the WCF completely non-visible. (Page 11)

[Council Policy 600-43](#): City Council Policy that outlines location preferences for WCFs. (Page 3)

Equipment: Any non-antenna portion of the WCF, except concealment features, cabling and cable trays. Includes, but is not limited to, Remote Radio Units/Heads, surge protectors, diplexers, triplexers, battery racks, generators, air conditioners, XMUs, BBUs. (Pages 14-17)

Equipment area: A unified area, separate from the antennas, where most equipment is stored/mounted. All equipment does not have to be located here (for example, some or all Remote Radio Units, diplexers, surge suppressors, etc. may be located near antennas).

Fiberglass-Reinforced Plastic/FRP: A material used to conceal antennas. Allows signal to pass through and can be painted/textured to match existing/proposed buildings. (Page 17)

[General Plan Policy UD-A.15](#): Outlines design requirements for WCFs. Certain community plans may contain additional language. (Page 3)

Integration: How each part of a site fits together, how well a WCF fits into a site. Related to concealment. (Page 86)

Macro Site: Any WCF that is not a Small Cell WCF (SC-WCF).

Principle of Balance: All visible elements should have symmetry in all visible dimensions. Antennas and concealment elements should not dominate the element they are placed on. (Page 9)

Principle of Context: Specific situations require specific design solutions. What integrates well into one site may not be appropriate for another. Select the best design solution based on site and project characteristics. (Page 10)

Principle of Least Visibility: The least visible solution is best. Placement on the site should be as minimally visible as possible. (Page 10)

Radome/Raydome: See antenna shroud.

Remote Radio Head (RRH)/Remote Radio Unit (RRU): A part of the WCF's networking equipment that is separated into a smaller unit and can be placed near the antennas.

Site Management Company: Any entity that does not directly provide personal wireless services, but owns/manages sites that it leases to providers of personal wireless services.

Small Cell WCF (SC-WCF): Consists of one single antenna shroud, no more than 24" in all dimensions. (Pages 36-42)

Small Cell Wireless Facility (SWF): As defined in [FCC Report and Order 18-133](#).

Spectrum Act: Federal Law that governs certain modifications to WCFs. [FCC Report and Order 14-153](#) provides guidance on implementation. (Pages 4 and 50)

Stand-alone Pole: A small cell WCF that does not contain a City-standard streetlight. (Page 42)

Telecommunications Act of 1996: Federal law that regulates WCF processing and placement decisions. (Page 4)

Wireless Communication Facility (WCF): *The antennas, support structures, and other equipment or apparatus necessary for providing personal wireless services and information services.*

WCF Regulations: [Section 141.0420](#) of the San Diego Municipal Code, governs WCFs as a Separately-Regulated Use City-wide. Contains permitting and design requirements for WCFs. (Page 7)

Revision History:

January 2019: Published

February 2019: Minor corrections and clarifications, including additional web links

July 2019: Right-of-way encroachments from private property, the "One Permit at a Time" rule, inspections, Historic Resources Regulations and Secretary of the Interior Standards, minor changes to small cell design criteria, minor corrections and clarifications.