



SAN FRANCISCO PLANNING DEPARTMENT

Frequently Asked Questions about Wireless Facilities on Wooden Utility and Wooden Streetlight Poles

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1. **Can the City prohibit the installation of wireless facilities on wood poles? No.** Under State law, telecommunications carriers have a right to install wireless facilities on wood poles in the public right-of-way. The City, however, regulates the design, location, and placement of those facilities through [Article 25 of the Public Works Code](#). The City will also conduct an environmental review under the California Environmental Quality Act (CEQA).
 - LINK: [SF Government TV video of Board of Supervisors committee hearing on Article 25](#)
2. **Does the City prefer wireless facilities on wood poles? No.** Our preference is for wireless carriers to work with the community, and Planning Department on well-designed and scale-appropriate rooftop-mounted facilities ([example photo simulations on pages 37 & 38](#), and a second example on [pages 32 & 33](#)); which are then complemented by wireless facilities on [steel poles](#). Wireless facilities on rooftops and [steel poles](#) are generally less intrusive than wood pole-mounted facilities.

Breakdown of one type of Personal Wireless Services Facility on a wood pole owned by the Joint Pole Association



Primary Electricity Distribution

Electrical Transformers

Secondary Electrical or Communications Zone

Also known as the "comm zone," which typically features cables used for cable TV, landline telephone, & various fiber-optic cable providers

Cobra Head Streetlight operated by PG&E

Proposed Transmitting & Receiving Antenna

Typically mounted on a sidearm extension either midway down the pole (as shown), or an extension arm directly above the top of the pole.

Equipment Enclosures

Cabinets or radio relay units which provide signal processing, akin to computers, and route power and signals through cables to the antenna(s). These enclosures do not transmit radio-frequency energy into the air around them.

Disconnect Switch

Smaller enclosure which allows line workers, wireless carrier, or emergency responders to shut down power to the antenna.

Electric Meter

Allows electric utility to monitor and bill wireless carrier for electricity usage.

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3. **Does the City's permit review address health concerns?** Only in part. Under federal law (1996 Telecommunications Act), the City is prohibited from denying a permit to construct a wireless facility based on health concerns over RF emissions, provided that the emissions from the facility comply with Federal Communications Commission (FCC) standards. In order to assure compliance with FCC standards, the Department of Public Health (DPH) reviews every application for a wireless facility and generally requires an RF emissions study for each facility.

If the facility is approved and installed, then field testing is required to ensure the facility meets the FCC's standards. Residents can ask for testing of their dwelling units at no charge (free) by contacting the City (Planning, Public Works, or Public Health). Testing is also required every time a permit is renewed, and every time the site is modified (replacing/adding antennas or equipment), when those modifications may affect the antenna(s) output.

The City has not seen a pattern of wireless facilities on wooden poles exceeding RF emissions standards set by the FCC.

4. **The Radio-Frequency (RF) report indicates the maximum RF exposure level at ground level. Does the RF report take into account the RF exposure level on upper stories of residences closer to the antenna?**

When an RF report is prepared it takes into account the location, orientation, and output of the antenna, relative to the nearest publicly-accessible areas, such as balconies, roof decks, and nearby dwellings (including upper stories). The RF emissions at any publicly-accessible area must also comply with the standards set by the Federal Communications Commission (FCC). Field testing can be arranged at no charge for residents, including from within their dwelling.

Antennas are typically placed either midway up the wooden pole (side-arm configuration) or on top of a pole (top-mount). When antennas are placed in a side arm configuration and the placement is also parallel and close to a building, the antennas are typically setup in such a manner where the RF emissions are focused ("sectorized pattern") up and down streets, and not directly toward the building behind the antenna. In other words, this means that while the antenna enclosure may be round in shape, the RF emissions are not necessarily sent in all directions for antennas next to a building. Further information can be obtained from the Department of Public Health.

5. **How can I get more information about my health concerns?** A copy of the DPH report for every proposed and existing wireless facility can be obtained from Patrick Fosdahl at (415) 252-3094 or Patrick.Fosdahl@sfdph.org. In addition, general information about the safety of wireless facilities can be found on the FCC's web site ([link](#)).

[Link 1: First Sample DPH Radio-Frequency \(RF\) emissions, and noise review.](#)

Link 2: [Second Sample RF Emissions Report](#)

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6. **Is a permit required from the City?** Yes. The Department of Public Works (DPW) issues permits* for wireless facilities in the public right-of-way under [Article 25 of the Public Works Code](#), and Department of Public Works (DPW) [Order No. 183440](#). As required by Article 25, DPW refers applications for wireless permits to the:
- Department of Public Health (DPH) for radio frequency (RF) emissions and noise review (see item 11).
 - Planning Department staff for design, environmental (CEQA), and historic preservation review. *These facilities are **not** reviewed by the Planning Commission.*
 - Recreation and Parks Department for review, if the facility is located near a public park or plaza.
- *Permits for wireless facilities on lands under the jurisdiction of the Port of San Francisco are issued by the Port. For a map of Port jurisdiction visit <http://bsm.sfdpw.org/mapviewer/>, choose the Jurisdiction box on the left, and Port of San Francisco.*
7. **Does the City's permit review address the design of the facility?** Yes. The Planning Department works with each applicant for a wireless facility permit to consider a design that is appropriate for the proposed location. Each design has its own challenges, such as the overall height of a top-mounted antenna, or the potential for a side-mount antenna to impair views. In addition, City staff continually engages with wireless carriers and equipment manufacturers to seek designs that are less intrusive. Residents are encouraged to discuss their concerns with the Planning Department's Wireless Planner, Omar Masry, at (415) 575-9116 or Omar.Masry@sfgov.org.
- LINK: [Design Preferences for Wireless Facilities on Wooden Poles](#)
8. **Who owns the wood poles?** The majority of wood utility poles in San Francisco are managed by the Joint Pole Association (JPA), which is an association of utility companies and government agencies. Other wood poles are solely owned by Pacific Gas & Electric. These are typically streetlight-only wood poles. The City and County of San Francisco is a member of the JPA.
9. **How many wireless facilities are there in San Francisco?** As of April 2015, there are 383 existing wireless facilities on wood poles and approximately 700 wireless facilities outside of the public right-of-way; primarily on building rooftops.

Map of 1,000+ existing wireless facilities in San Francisco (map does not include all of the 383 existing facilities mounted on wooden utility poles):



New! Wireless Telecommunications Facilities

N/A

April 2015

Interactive map and Google Fusion Table displaying locations of wireless / cell tower telecommunications facilities (including cell phone masts) in San Francisco.

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10. **Does the City receive revenue from the use of wooden utility poles the facilities?** No. But the San Francisco Public Utilities Commission has started to allow the installation of wireless facilities on its (steel) street light poles, and the San Francisco Municipal Transportation Agency is allowing the installation of wireless facilities on its (steel) support poles. Both agencies will receive license fees for use of their poles. [Link to information about wireless facilities on steel light and transit poles.](#)
11. **Who do these facilities serve and what companies operate them?** The wireless facilities installed on utility poles are primarily intended to serve customers of wireless carriers licensed by the FCC to operate in San Francisco including AT&T Mobility, Sprint, T-Mobile, and Verizon Wireless. You might see signs on the utility poles that identify companies such as Crown Castle (NextG), ExteNet Systems, and Mobilitie as the owner of the facilities. These companies are authorized by the California Public Utilities Commission ([CPUC](#)) to install and operate the wireless facilities on wooden poles on behalf of their wireless carrier customers, but they still must obtain permits from DPW. The CPUC is a distinct State agency which regulates various utilities throughout California. *[The San Francisco Public Utilities Commission \(SFPUC\)](#) is not a part of the CPUC.*
12. **Do the antennas generate noise?** No. However, some, but not all wireless facilities feature cooling fans within the equipment cabinets, in order to regulate the temperature for the computers inside. If an existing system seems to be generating excessive noise, please contact the Department of Public Health at (415) 252-3904. In some instances, steps can be taken to reduce noise from cooling fans.
13. **Once DPW has issued a wireless permit can other carriers install additional facilities on the same wooden pole?** Generally, there will only be one wireless facility on each pole. CPUC regulations generally prohibit installing enough equipment on a utility pole that would accommodate two separate wireless facilities. It is possible, however, that a single wireless facility on a utility pole could serve more than one carrier.
14. **Can carriers install new (wood) poles on my street to support their wireless facilities?** No. DPW will generally only allow new wood poles to replace existing poles. Pole replacements are sometimes needed to ensure the pole can handle the load of the equipment or for wider vertical separation between various utility facilities on the pole. Planning staff continues to work with carriers and PG&E to seek less intrusive pole height replacements.
15. **Is the City planning to underground the wood poles?** There are no pending proposals for new neighborhood-wide undergrounding efforts. In the event an undergrounding effort begins, the wireless carriers would be required (as a condition of their utilities permit) to remove their facilities from the wooden poles.
16. **What equipment do wireless carriers typically install on the wood poles?** A typical wireless facility on a utility pole consists of one or more antennas and one or more equipment boxes. To meet CPUC requirements, the antennas will be mounted either at the top of the pole or on side arms midway down the pole. The equipment boxes will be attached to the pole. While every system varies, the equipment boxes typically include an electric meter, a disconnect switch, and computers to control the antennas. Some wireless facilities also feature an equipment box, on the same pole or a nearby pole, that contains batteries used to provide temporary emergency power to the facility in case of a power outage.

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17. **Can carriers change the equipment they installed on a permitted wireless facility?** Yes. Consistent with federal law, [Article 25 of the Public Works Code](#) generally allows modifications of permitted wireless facilities, provided those modifications are within certain limits.
18. **Can I protest the installation of a wireless facility on my block?** Yes. If you have received notice that a wireless facility has been proposed to be installed on your block it means DPW has tentatively approved the application. It also means that the Planning Department, DPH, and possibly the Recreation and Park Department have recommended that DPW grant the permit. While you may protest the issuance of the permit, you must do so in the time set forth in the notice, which will be 20 days after the notice is postmarked. DPW will not consider an untimely protest. If your protest is timely, DPW will hold a hearing to determine whether to issue the permit. DPW will notify you of the date and time for the hearing. You will be given the opportunity during the hearing to explain the reasons for your protest. Contact information for protests can be found on the DPW web site ([link](#)).
19. **Can I appeal DPW's issuance of a wireless permit?** Yes. Whether or not you protested the permit you may appeal DPW's issuance of the permit to the Board of Appeals. As with protests, you must file your appeal in the time required by City law, which is generally 15 days after the permit is issued. More information about filing an appeal can be found on the Board of Appeals web site ([link](#)). Only the environmental determination may be appealed to the Board of Supervisors ([link](#)).
20. **Why do the conditions of approval include a street tree?** The Planning Department typically requests a street tree to be provided by the wireless carrier for each facility mounted on a pole within the public right-of-way; in order to screen the equipment. In the event a tree cannot be planted due to conflicts such as existing trees, driveways or utility infrastructure ([link to location requirements](#)), the wireless carrier would be required to pay an in-lieu fee to be used by the SF Bureau of Urban Forestry.
21. **Are wireless facilities on poles banned in Europe or other California cities, including Berkeley?** No. Wireless systems can be found on poles and buildings in Europe, and on poles in other California cities, including [Berkeley](#). Berkeley recently passed an ordinance to require that when people purchase cell phones that they are made aware that the mobile device itself generates radio-frequency (RF) emissions, and provide relevant information ([link](#)). The ordinance is currently subject to legal challenge.
22. **Do Personal Wireless Services Facilities on wooden poles also provide public Wi-Fi?** No. The term "Personal Wireless Services Facility" is the term used in Federal law. The City does provide public Wi-Fi in many locations, typically using smaller antennas, known as Access Points. City public Wi-Fi (network name: #SFWiFi) can be found on Market Street (Castro Street to Embarcadero), in many City buildings, and in over 30 City parks ([link](#)).

For more information on wireless facilities visit www.sf-planning.org/wirelessforms

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Common Terms:

DAS – Acronym for a Distributed Antenna System (also referred to as oDAS, with the “o” standing for outdoor installations). A network of antennas and equipment enclosures usually attached to poles in in the public right-of-way.

“Macro” Wireless Telecommunication Services (WTS) Facility - Typically three to sixteen panel antennas mounted on the roof of a building, along with multiple equipment cabinets. Permits reviewed by the Planning Department, Fire Department, DPH, and Department of Building Inspection (DBI). Also subject to the [City’s Wireless Guidelines](#), and Planning Code. Macro WTS facilities typically require Planning Commission approval in most residential, neighborhood commercial, and mixed-use zoning districts.

“Micro” Wireless Telecommunications Services (WTS) Facility - Typically one or two antennas mounted on the roof of a building. Permits reviewed by the Planning Department, Fire Department, DPH, and Department of Building Inspection (DBI); subject to the [City’s Wireless Guidelines](#), Planning Code, and review by the Zoning Administrator. [Example link](#).

Personal Wireless Services Facility Permit – Permit for wireless facilities mounted on (typically wood or steel) poles in the public right-of-way. Permits administered by the [Department of Public Works](#) and subject to Article 25 of the Public Works Code.

Public Right of Way (PROW) – Typically streets and sidewalks, where light and utility poles are placed.

Small Cells – Similar to DAS, though a different communications network architecture.

Please note, that some of the square boxes mounted on wood poles in San Francisco, similar to the example photo to the right, are used for various purposes.

Wireless carriers sometimes use these cabinets to hold batteries to power some wireless facilities in the event of a power outage.

However, many of these boxes are used by “**wired**” telephone, internet, and/or cable TV providers such as Comcast, Sonic, or Wave.

The boxes are used to splice cables, or to boost power to communication wires and increase signal quality. These boxes do not create radio-frequency emissions, and generally do not generate noise.

Disconnect Switch

Electric Meter



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Sonic
Internet Service
Provider installed
fiber-optic cable
splice box



Pole Top Example

Existing Personal Wireless Facility mounted on a wooden streetlight pole in the Richmond neighborhood.

The antenna is found at the top of the pole.

An electric meter and equipment enclosure (computers) are near the bottom of the pole. The computer cabinets sometimes feature cooling fans, but do not emit radio-frequency emissions; which are created by the antenna on top of the pole.

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Side Arm Examples

Existing Personal Wireless Services Facilities mounted on wooden streetlight poles in the Inner Richmond and Pacific Heights neighborhoods. The antenna is found on a side arm extension below the streetlight (above), or below the communications zone (lower wires in photo below). An electric meter and equipment enclosure (computers) are near the bottom of the pole.



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Side Arm Example

Existing Personal Wireless Facility mounted on a wooden streetlight pole in the Sunset neighborhood.

The two (2) panel antennas are on a side arm.

An electric meter and equipment enclosure (computers) are near the bottom of the pole.

This type of design is considered one that significantly detracts from streetscapes; and new proposals such as this would not typically be approved.

Utility Pole Diagram

[Link to a report by the California Public Utilities Commission \(CPUC\): "A Brief Introduction to Utility Poles"](#)

