



DEPARTMENT OF PUBLIC WORKS SMALL CELL PERMITTING GUIDELINES

The City of Campbell seeks to permit wireless carriers to install small cell wireless communications facilities, within the public right-of-way, in order to provide robust cellular coverage and capacity throughout the City; while ensuring small cell facilities are well-maintained and do not significantly detract from City streetscapes. These guidelines are in accordance with the City of Campbell's Municipal Code (CMC) and Small Cell Design Guidelines. Separate permitting guidelines for small cell wireless communications facilities on City-Owned Poles and Utility-Owned Wood Poles are provided herein. (City-Owned Poles as described herein shall not include traffic signal poles.)

The City Engineer may amend these guidelines as needed.

PERMIT PROCESS FOR CITY-OWNED POLES

Master License Agreement (MLA) should be fully executed prior to issuance of a permit.

Informational Conference

Informational conference is a voluntary discussion and is recommended. Public Works Department staff will provide applicants with an appointment for the informational conference after receipt of a written request from the applicant.

The purpose of the conference is to:

- a. Inform the applicant of City requirements and review process;
- b. Identify information and materials the City will require with the application;
- c. Provide input to the applicant of possible project and design alternatives or modifications;
- d. Identify potential concerns and streamline the formal application review process;
- e. Provide the applicant public notice template, and the Small Cell Design Guidelines and Permit Process Checklist - City-Owned Poles.

Applicants are encouraged to bring the following to the conference:

- a. Photo simulations of typical installation;
- b. Typical design;
- c. Master plan of small cell deployment in City ROW;
- d. Pre-application materials for informal staff feedback and guidance.

Permit Application

All applications must be submitted to the City at a pre-scheduled appointment with the Department of Public Works. Appointments may be requested by email at SMALLCELL@CITYOFCAMPBELL.COM.

Potential applicants may generally submit one application per appointment, or up to five individual applications per appointment for batched applications (with substantially the same equipment in the same configuration on the same support structure type), with only one batch pending permit issuance at any time.

Applications must be completed by the wireless carrier, or authorized party with an authorization letter from the wireless carrier.

Permit Application Processing Fee and all other fees must be paid prior to permit issuance.

Permit application must include all of the following which should be prepared in accordance with the other applicable sections of these guidelines:

- a. Plans which should be prepared in accordance with these guidelines;
- b. Permit form with General Permit Conditions; <https://www.ci.campbell.ca.us/969/Small-Cell-Facilities-Deployment>)
- c. CPUC documentation that the wireless carrier has CPCN or WIR;
- d. Structural Analysis must be per the most recently adopted CMC, California Building Code, and AASHTO LTS-6 Standard Specifications for Structural Supports for Highway Sign, Luminaires, and Traffic Signals. Analysis should evaluate the pole, pole foundation, pole modifications e.g. welding, and mounting of equipment. Structural analysis to include a survey of the existing pole foundation and appurtenances. (During construction, poles that are found to be damaged or to have corrosion must be replaced. Plans must be revised and resubmitted showing replacement of the pole and foundation). The Structural Analysis must be signed and stamped by a CA Registered Structural Engineer;
- e. Electrical Analysis must be performed by a CA Registered Electrical Engineer to evaluate conduit fill, loading level, and voltage drop;
- f. Radio Frequency--Electromagnetic Energy Compliance Report addresses all nearby spaces used by people, has consistent formats, requirements, and conclusions for the same conditions or has detailed reasons for atypical requirements;
- g. All calculations and analysis should include allowances for all current equipment and future equipment considered by the wireless company;
- h. Other permits for the work (e.g. traffic control in other cities);
- i. Small Cell Checklist – City Owned Poles.

Permit applications must be submitted by appointment only as per the MLA; as one hardcopy set, and one set as electronic files in compressed PDF format. Electronic files must be provided on a USB drive, and provided to the City's Public Works Department during the permit application submittal appointment. . Individual file size should not exceed 2 MB.

Re-submittal of permit applications must include written response to all comments from the City in addition to all revised documents required for a permit application submittal. Response should be in an Excel file tracking comments individually.

Public Notice

Within 5 calendar days after submitting an application, applicant must mail public notices to all properties and record owners of properties within 300 feet from the project site. Public notices should be on the applicant's letterhead and conform to the template provided by the City.

The notice must contain:

- a. A general project description;
- b. Photo simulations of typical installation;
- c. Applicant's identification and contact information as provided on the application submitted to the City;
- d. Contact information for the applicant for interested parties to submit comments within 10 business days;
- e. A statement that "The City will act on the application without a public hearing but that any interested person or entity may appeal the City's decision directly to the City Manager or his/her designee";

- f. A general statement that the FCC requires the City to take final action on small cell applications within 60 days or 90 days, depending on the nature of the proposed facility;
- g. A statement that, "Appeals shall not be permitted when based solely on the environmental effects from radio frequency emissions that are compliant with applicable FCC regulations and guidelines".

Applicants shall send an email to the City, (SMALLCELL@CITYOFCAMPBELL.COM), prior to notices being delivered, and attach a copy of the notice in PDF format.

Public notification documentation including, notice, concerns, questions, responses, log (by location with information on comments, questions, responses, and delivery including person, date, and method of delivery), proof of notification, and list of recipients, must be submitted to the City prior to permit issuance.

Plans

Plans should be prepared in a consistent and professional manner that eliminates or minimizes redundant information. For re-submittals, comments written on plans must also be addressed.

Plans should include or identify each of the following items (These facilities should be determined and field verified by the applicant using record drawings, inference, and professional skill as necessary for specific location. Contact City staff for assistance):

- Signed and stamped by a CA licensed engineer in the responsible discipline.
- 100% ready for construction.
- Plans should use City Standard title sheet, border and format. <https://www.ci.campbell.ca.us/206/Documents>
- Title sheet, site survey sheet, proposed plan view, detailed plan view, existing and proposed elevations, and details of wireless notices, signage, equipment, enclosures, foundations, wiring diagram, cabling diagram, splicing and fusing diagram, lighting circuit diagram, load and voltage drop calculation results, streetlight control system modifications, service pedestal modifications, a list of materials, and other information as necessary for specific locations.
- Formatted for 11"x17" sheet size, preferably in color, single sided, and collated, with all text legible.
- Drawn to appropriate engineering scale, and the scale shown on all relevant sheets and details.
- Title sheet should include, but not limited, to the following:
 - a. PG&E meter address;
 - b. Cellular System Identification Number, and latitude and longitude (WGS 84 datum);
 - c. Vicinity map of the general area (including 2 major streets) and the work location;
 - d. Contact's name, title, company, telephone, and email for persons responsible for 1) the design, 2) construction, and 3) the completed Facility.
- Sheet numbers on every sheet (e.g. Sheet 3 of 5).
- North arrow on all relevant sheets.
- Existing site survey including property boundaries, easements, trees and structures with all dimensions, bearing, distances, elevations, monuments or other markers shown and called out.

- Specify facility and mounting by size, type, model, manufacturer, corrosion protection and matching finish.
- Design and specification of how all parts are mounted, attached, and supported.
- Clear dimensioning, which in plan view should be from face of curb, and for elevations should be from finished grade, wherever possible.
- Identify all existing improvements.
- Indicate all future work that facilitates the proposed improvements, e.g. show future trunk line construction for backhaul connections.
- Legend identifying all new, retired and existing utilities.
- Define abbreviations.
- Use terms and definition consistent with City standard specifications and details. Define jargon and names not included in City Specifications: <https://www.ci.campbell.ca.us/210/Details>.
- Use consistent jargon and names.
- Delineation of City limits.
- Applicant's Job number, City pole badge number and license area (site address) on all plan sheets.
- All streets labeled.
- Do not include disclaimers such as proprietary information.
- References should be previously published agency documents or industry standards, e.g. California Electric Code, State General Orders, PG&E Green book, etc.
- Only include information that applies to the proposed location.
- Duplication of detailed information on the proposed work is minimal. Detailed info is shown once (on one sheet or detail) and referenced clearly.
- Do not show work TBD, by others, or per manufacturer's instructions, except work performed under a separate permit may be identified by permit number.
- Antenna, radio enclosures, existing and proposed underground work in the plan view, detailed plan view and details.
- Existing and proposed elevations of pole showing all dimensions with references to details of the proposed improvements.
- Details of wireless notices, signage, equipment and enclosures which are referenced by installation location in the detailed plan view and elevations.
- Wiring Diagram with elements representing radio enclosures, radios, antennas, smart meter, ground rod, and power, bonding and grounding connections.

- Cabling Diagram with elements representing radio enclosures, radios, antennas, and connections.
- Show all work that provides for continuous operation of City electrical and communication systems.
- Show electrical service shared with City streetlight pole, as follows:
 - a. Survey and document all loads connected to circuit involved, including any non-streetlight load. Circuit tracing shall be completed using proper circuit tracing equipment;
 - b. Conduct load analysis to evaluate loading level and voltage drop. Calculations shall be completed and plans signed by a California licensed electrical engineer;
 - c. Reserve a minimum 40% of circuit load capacity (not breaker rating) for City's use;
 - d. Voltage drop analysis must show California Electrical Code compliance between PG&E service point and the end of the longest circuit connected to the service.
 - e. Conduit fill calculation for conduit with new conductors that reserves 10% of cross sectional area for future City use.
- Foundations with insufficient conduit or without conduit will need to have new conduit added to the existing foundation, or a new foundation installed, in accordance with structural analysis.
- Conductors spliced at base of pole in pull box. If there is no existing pull box, installation of a new pull box is required:
 - a. Splicing and Fusing Diagram shows connection to the streetlight circuit in the pull box including line, load, and continuing wiring if present;
 - b. Splicing and Fusing Diagram shows fused splice connectors with 10A fuses for both streetlight and wireless facility in the pull box.
- Luminaires may be converted to LED in order to free up circuit capacity for wireless equipment electrical load. If any luminaires are to be converted, show the luminaires including existing type and wattage; and proposed type, wattage and model number.
- For conduit with conductors to be spliced, identify conduit size and type, and conductor size, number, type, and purpose of conductors and cables, and those conductors to be spliced.
- For conduit with conductors to be added or removed, identify conduit size and type, all new wiring and cabling, and conductor and cable size, number, type, and purpose.
- Show the location, size, and type of electrical disconnect for each circuit to be modified, moved, or touched.
- Show a note requiring that the revised streetlight circuit diagrams be stored in modified service pedestals (e.g. City type IIIM cabinet).
- New conduit for City use per the MLA for locations indicated by City communications master plans (Dig Once).
- Show support for wiring and cabling in the electrolier.
- Wiring and cabling to the electrolier to be in a single conduit in the electrolier foundation with a three section conduit divider. Conduit divider allocation to be in the following separate sections: City streetlights, City future, and all wireless.
- Wire, splice connectors, and fused splice connectors and appurtenances for radio power shall reference City standard specifications for streetlighting.
- Wiring and cabling between pole and RF disconnect switch to be installed in conduit.

- No fuses in the RF disconnect switch.
- Wiring must be rated 600V.
- Cabling must be rated 300V (or higher when a higher voltage is present).
- Materials similar to City standard should reference City standard specifications, e.g. for radio power use streetlight type wire, stranded copper for ground wires, splice connectors, and fused splice connectors.
- Location of trench or bore path, with size and number of utilities to be installed, measured from the nearest face of curb.
- Show and label the communication wiring from the splice with the streetlight circuit to the RF switch as the wireless company's equipment.
- Consistent wattage of equipment used on the data sheets, load and voltage drop calculation, and plans.
- Connection, mounting, attachment, and supports between and for conductors, cables, conduit, terminals, connectors, hardware, supports, and all parts, including name, size, type, part number, corrosion and UV protection, insulation (if any), and finish (if finish is exterior).
- A clear design that eliminates or minimizes redundant circuits, grounds, and systems.
- A simple and coordinated overcurrent protection design that is in accordance with the Electrical Analysis.
- Utilities under bus pads (utilities under bus pads may be allowed provided there are no conflicts with laterals and a directional bore will be used at a depth of 36" to 48").
- New poles should provide Americans with Disabilities Act accessibility for adjacent public access areas. Dimensions should also be shown for horizontal and vertical clearance showing this access.

Applicant should secure their own communication/backhaul arrangements independent of City Facilities. A separate utility permit is required for such work.

PERMIT PROCESS FOR UTILITY-OWNED WOOD POLES

Informational Conference

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- b. Typical design;
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Permit application must include all of the following:

- a. Plans, which should be prepared in accordance with these guidelines;
- b. Permit form with General Permit Conditions; (<https://www.ci.campbell.ca.us/969/Small-Cell-Facilities-Deployment>)
- c. Authorization from the pole owner for the use of the pole;
- d. CPUC documentation that the wireless carrier has CPCN or WIR;
- e. Radio Frequency--Electromagnetic Energy Compliance Report addresses all nearby spaces used by people, has consistent formats, requirements, and conclusions for the same conditions or has detailed reasons for atypical requirements;
- f. Other permits for the work (e.g. traffic control in other cities);
- g. Small Cell Checklist - Utility-Owned Wood Pole.

Permit applications must be submitted as one hardcopy set, and one set as electronic files in compressed PDF format. Electronic files must be provided on a USB drive, and provided to the City's Public Works Department during the permit application submittal appointment. Individual file size should not exceed 2 MB.

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Plans are to include or identify each of the following items:

- Signed and stamped by a CA licensed engineer in the responsible discipline.
- 100% ready for construction.
- Title sheet, site survey sheet, proposed plan view, detailed plan view, elevation views, and include, equipment, mounting bracket, enclosures, trunk line and service connections, and wiring diagram and other information as necessary for specific locations.
- Formatted for 11"x17" sheet size, preferably in color, single sided, and collated, with all text legible.
- Drawn to appropriate engineering scale, and the scale shown on all relevant sheets and details.
- Title sheet should include, but not limited, to the following:
 - a. Cellular System Identification Number, and latitude and longitude (WGS 84 datum);
 - b. Vicinity map of the general area (including 2 major streets) and the work location;
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- Sheet numbers on every sheet (e.g. Sheet 3 of 5).
- North arrow on all relevant sheets.
- Existing site survey including property boundaries, easements, trees and structures with all dimensions, bearing, distances, elevations, monuments or other markers shown and called out.
- Specify facility and mounting by size, type, model, and manufacturer.
- Design of how all parts are mounted, and supported.
- Dimensions from finished grade (vertical), or surface of pole (horizontal).
- Identify all existing improvements.
- Indicate all future work that facilitates the proposed improvements, e.g. show future trunkline construction for backhaul connections.

- Legend identifying all new, retired and existing utilities.
- Define abbreviations.
- Define jargon and names not included in City Specifications: <https://www.ci.campbell.ca.us/210/Details>. Definition and use of terms consistent with City standard specifications and details <https://www.ci.campbell.ca.us/210/Details>.
- Use consistent jargon and names.
- Delineation of City limits.
- Applicant's Job number, site address, and pole badge number on all plan sheets.
- All streets labeled.
- Do not include disclaimers such as proprietary information.
- References should be previously published agency documents or industry standards, e.g. California Electric Code, State General Orders, PG&E Green book, etc.
- Only include information that applies to the proposed location.
- Duplication of detailed information on the proposed work is minimal. Detailed info is shown once (on one sheet or detail) and referenced clearly.
- Do not show work TBD, by others, or per manufacturer's instructions, except work performed under a separate permit may be identified by permit number.
- Antenna, radio enclosures, existing and proposed underground work in the plan view, detailed plan view and details.
- Existing and proposed elevations of pole showing all dimensions with references to details of the proposed improvements.
- Details of wireless notices, signage, equipment and enclosures which are referenced by installation location in the detailed plan view and elevations.
- Wiring Diagram with elements representing radio enclosures, radios, antennas, smart meter, ground rod, and power, bonding and grounding connections.
- New poles should provide Americans with Disabilities Act accessibility for adjacent public access areas. Dimensions should also be shown for horizontal and vertical clearance showing this access.
- Conduit and ducts should be shown to be constructed within 3 feet from face of curb.

Applicant should secure their own communication/backhaul arrangements independent of City Facilities. A separate utility permit is required for such work.