



## Submittal Requirements for Photovoltaic Plan Check Review

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### **ADMINISTRATIVE**

1. Plans will be routed to the following departments for approval:
  - a. Planning & Development Department – Planning Division
  - b. Building Division
  - c. Fire Department – See Corona Fire Department Solar Photovoltaic Installation Guideline for additional requirements.
  - d. **It shall be the applicant's responsibility to coordinate the project with the applicable utility company and process any required plans, forms, or pay applicable fees prior to interconnection of the system. It is highly recommended to verify the serving utility, system eligibility and service requirements prior to submitting plans for Building Plan Check review. Please see the exhibit at the end of these guidelines for a general map of areas served by the City of Corona Utilities Department.** If your solar project will be in these areas, an application for interconnect and the applicable plans will need to be submitted directly to the Utilities Department at 755 Public Safety Way or by emailing a digital set to [Erin.Kunkle@CoronaCA.Gov](mailto:Erin.Kunkle@CoronaCA.Gov). To verify the serving utility or to obtain more information about the Utilities application and interconnection process please contact the Utilities Department at 951-736-2234.
2. Contractors must have a license classification authorized to perform solar energy projects as determined by the California Contractor's State License Board. The Contractors State Licensing Board currently authorizes only the following license classifications to install Solar Photovoltaic Systems: "A", "B", "C-10" or "C-46" license from CSLB.

### **SITE PLAN**

3. Title Sheet – Provide occupancy class, construction type and applicable codes.
4. Provide a fully dimensioned site plan. Show lot size, street, alley, easements, parking spaces, location, size and use of all structures on the lot. Identify property lines, lot dimensions and distance to property lines. Provide an elevation. Provide north arrow, and show trees which may shade the structure.
5. Show size and location of the service meter, and location of all solar photovoltaic system. (Elec. plans shall comply with the adopted version of the California Electrical Code)

### **LINE DIAGRAMS**

6. Provide a minimum of a single line diagram showing:
  - a. Array configuration
  - b. Array wiring identified
  - c. Combiner/junction box identified
  - d. Conduit/wiring from array to inverter identified
  - e. DC grounding system specified
  - f. Disconnecting means specified
  - g. Inverter specified
  - h. Conduit/wiring from inverter to Utility point of connection identified
  - i. AC grounding and system grounding specified
  - j. Point of connection attachment method identified

- k. Any equipment and related wiring needed for rapid shutdown of PV circuits

### **INVERTER INFORMATION**

- 7. Provide inverter manufacturer specification sheet and listing. The inverter must be utility interactive rated and approved.

### **PV MODULE INFORMATION**

- 8. Provide module manufacturer specification sheet and listing.

### **ARRAY INFORMATION**

- 9. Show the following on the plan:
  - a. Number of module in series
  - b. Number of parallel source circuits
  - c. Total number of modules
  - d. Operating voltage.
  - e. Operating current.
  - f. Maximum system voltage
  - g. Short-circuit current

### **WIRING AND OVERCURRENT PROTECTION**

- 10. Show the following on plan:
  - a. Wire type shall be 90° C wet and continuous rated.
  - b. Over current protection on inverter output circuit is sufficient.

### **ROOF INFORMATION (ROOF TOP SYSTEM)**

- 11. Show the following information on plan:
  - a. Structural calculations verifying vertical loading is required when the number of roof material layers is greater than 1.
  - b. Structural calculations and lateral analysis is required for structures 3 stories and greater.
  - c. Provide dimensions of roof showing the proper access pathways, emergency escape and rescue opening pathways, ladder access points, and smoke ventilation points.
  - d. Weight of the arrays (pounds per square foot including mounting hardware)
  - e. Describe and show the roof structural elements.
  - f. Identify roof type (Specify Class A) and roof slope.
  - g. Provide detail of photovoltaic panel mounting hardware attachment to the roof framing members.
  - h. Provide mounting hardware manufacturer specification.
  - i. Provide (2) sets of engineering calculations and details demonstrating adequacy of supporting members, including wind uplift effects and where required, seismic effects.
  - j. Show all existing plumbing vents. Vents may not be blocked & must extend 6" above the roof or panel.

### **NON-ROOF-TOP SYSTEM**

- 12. For non-roof top of ground mounted systems, provide 10' clear brush area and security fences, per Fire Dept. requirements.
- 13. Provide foundation design structural calculations.

## **REQUIRED PHOTOVOLTAIC SIGNS**

### **14. DC COMBINER/JUNCTION BOX:**

- a. "Warning. Electrical shock hazard. The direct current circuit conductors of this photovoltaic power system are ungrounded but may be energized with respect to ground due to leakage paths and/or ground faults."
- b. "CAUTION: SOLAR ELECTRIC SYSTEM CONNECTED & ENERGIZED" marking on all interior and exterior DC conduits, raceways, enclosures, cable assemblies, every 10 feet, at turns and above and below penetrations and all DC combiner and junction boxes;
  - 1) Red background
  - 2) White lettering
  - 3) Minimum 3/8" letter height
  - 4) All capital letters
  - 5) Arial or similar font, non-bold
  - 6) Reflective, weather resistant material suitable for the environment

### **15. DC DISCONNECT:**

- a. "Warning. Electrical shock hazard. The direct current circuit conductors of this photovoltaic power system are ungrounded but may be energized with respect to ground due to leakage paths and/or ground faults."
- b. "PV system-DC disconnect"
- c. \*At accessible location\*
  - 1) Operating current
  - 2) Operating voltage
  - 3) Maximum system voltage
  - 4) Short-circuit current

### **16. INVERTER:**

- a. "If a ground fault is indicated, the normally grounded conductors may be energized and ungrounded."
- b. "Warning. Electrical shock hazard. Do not touch terminals. Terminals on both the line and load sides may be energized in the open position"
- c. "The maximum AC output operating current\_\_\_\_\_"
- d. "The operating AC voltage\_\_\_\_\_"
- e. PV power source (DC)
  - 1) Operating current
  - 2) Operating voltage
  - 3) Maximum system voltage
  - 4) Short-circuit current

### **17. AC DISCONNECT:**

- a. "PV system- AC disconnect" PV Signage

### **18. METER:**

- a. "The maximum AC output operating current\_\_\_\_\_"
- b. "The operating AC voltage\_\_\_\_\_"
- c. "Dual sources: Second source is Photovoltaic"
- d. "CAUTION: SOLAR ELECTRIC SYSTEM"
  - 1) Red background
  - 2) White lettering
  - 3) Minimum 3/8" letter height
  - 4) All capital letters
  - 5) Arial or similar font, non-bold
  - 6) Reflective, weather resistant material suitable for the environment

- 19. Systems equipped with Rapid Shutdown:** The following plaque shall be affixed on or next to the equipment making the location of the rapid shutdown initiation switch evident:

**"PHOTOVOLTAIC SYSTEM EQUIPPED WITH RAPID SHUTDOWN"**

The plaque shall be reflective, with all letters capitalized and having a minimum height of 3/8 in. in white on a red background. Systems not equipped with rapid shutdown shall not have this label installed.

- 20. Permanent directory or plaque providing location of service disconnecting means and photovoltaic system disconnecting means, if not located at the same location. A directory shall also be provided showing the location of all power sources feeding the building.**

**21. SIGNAGE:**

Plaques shall be metal or plastic, with engraved or machine printed letters, or electro-photo plating, in a contrasting color to the plaque. Plaques shall be permanently attached to the equipment or in the required locations using an approved method that is suitable to withstand the environment to which it is exposed. Plaques and signage shall meet the legibility, defacement, exposure and adhesion requirements of Underwriters Laboratories marking and labeling system 969 (UL969).

**RESIDENTIAL INSTALLATIONS**

- 22.** Residential PV system installations must also comply with the California Residential Code for the installation of smoke alarms and carbon monoxide alarms.

***Alarms must be installed and maintained in the following specified locations:***

**Carbon Monoxide Alarm:** On the ceiling or wall outside of each separate sleeping area in the immediate vicinity of bedrooms and on each story of the dwelling.

**Smoke Alarms:** Installed in each room used for sleeping purposes, outside each sleeping area in the immediate vicinity of bedrooms, and on each story of the dwelling unit.

**Include the following note on the plans:** "Smoke Alarms and Carbon Monoxide Alarms must be installed per the California Residential Code and verified prior to Final Inspection Approval."

**Utilities Department**

Below is a map that shows general areas of the city that have electrical service provided by the City of Corona Utilities Department. If your solar project will be in these areas, an application for interconnect and plans will need to be submitted directly to the Utilities Department at 755 Public Safety Way or by emailing a digital set to [Erin.Kunkle@CoronaCA.gov](mailto:Erin.Kunkle@CoronaCA.gov). To verify the serving utility or to obtain more information about the Utilities application and interconnection process please contact the Utilities Department at 951-736-2234. An interactive map is available [here](#).

**Note: The "Tesla Backup Switch" and similar devices installed in the City of Corona Utilities Department electric service areas are not permitted to be installed in the main service panel or attached to the utility meter. These types of devices shall be installed in a separate panel/meter enclosure downstream of the main service panel. City of Corona Utility Department approval required prior to installation.**

