



Basic Information Required for Photovoltaic Plan Check Submittal

**Informational Purposes Only* 2010 CEC*

ADMINISTRATIVE

1. The following clearances or approvals are required before a building permit can be issued:
 - a. Planning Department
 - b. Building and Safety
 - c. Fire Department when required (see Santa Monica Fire Department Solar Photovoltaic Installation Guideline 2008 for additional requirement)

SITE PLAN

2. Provide full dimensioned site plan. Show lot size, street, alley, easements, parking spaces, location, size and use of all structures on the lot, and property line. Identify property lines, lot dimensions, and distance to property line.
3. Show size and location of the service meter, and location of all solar photovoltaic system

LINE DIAGRAM

4. 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

INVERTER INFORMATION

5. Provide inverter manufacturer specification sheet

PV MODULE INFORMATION

6. Provide module manufacturer specification sheet

ARRAY INFORMATION

7. 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

8. Show the following on plan:
- Wire type shall be 90° C wet and continuous rated
 - Overcurrent protection on inverter output circuit is sufficient

ROOF INFORMATION (ROOF TOP SYSTEM)

9. Show the following information on plan:
- Weight of the arrays (pounds per square foot including mounting hardware)
 - Describe and show the roof structural elements
 - Identify roof type
 - Provide detail of photovoltaic panel mounting hardware attachment to the roof framing members
 - Provide mounting hardware manufacturer specification
 - Provide engineering calculations and details demonstrating adequacy of supporting members, including wind uplift effects and where required, seismic effects

REQUIRED PHOTOVOLTAIC SIGNS**10. PHOTOVOLTAIC MODULES:**

- “Warning. Bipolar photovoltaic array. Disconnection of neutral or grounded conductors may result in overvoltage on array or inverter”*

11. DC COMBINER/ JUNCTION BOX:

- “Warning. Bipolar photovoltaic array. Disconnection of neutral or grounded conductors may result in overvoltage on array or inverter”*
- “Warning. Electrical shock hazard. The dc conductors of this photovoltaic system are ungrounded and may be energized.”*
- “CAUTION: SOLAR CIRCUIT”* 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
 - Red background
 - White lettering
 - Minimum 3/8” letter height
 - All capital letters
 - Arial or similar font, non-bold
 - Reflective, weather resistant material suitable for the environment

12. DC DISCONNECT:

- “Warning. Bipolar photovoltaic array. Disconnection of neutral or grounded conductors may result in overvoltage on array or inverter”*
- “Warning. Electrical shock hazard. The dc conductors of this photovoltaic system are ungrounded and may be energized.”*
- “PV system- DC disconnect”*
- *At accessible location*

1) Rated maximum power- point current	4) Short-circuit current
2) Rated maximum power-point voltage	5) Maximum rated output current of the charge controller (if installed)
3) Maximum system voltage	

13. INVERTER:

- a) *“Warning. Electrical shock hazard. If a ground fault is indicated, normally grounded conductors may be ungrounded and energized.”*
- b) *“Warning. Bipolar photovoltaic array. Disconnection of neutral or grounded conductors may result in overvoltage on array or inverter”*
- c) *“Warning. Electrical shock hazard. Do not touch terminals. Terminals on both the line and load sides may be energized in the open position.”*
- d) *At accessible location*
 - 1) Rated maximum power- point current
 - 2) Rated maximum power-point voltage
 - 3) Maximum system voltage
 - 4) Short-circuit current
 - 5) Maximum rated output current of the charge controller (if installed)

14. INTERACTIVE SYSTEM POINT OF INTERCONNECTION:

- a) *At disconnecting means*
 - 1) *“Photovoltaic power source. AC output current _____ amperes. Nominal operating ac voltage ___/___”*
 - 2) *“Dual power sources. Photovoltaic and Utility power”*
 - 3) *Where the rating of the panelboard is the sum of the ampere ratings of all overcurrent devices supplying it*
 - i. *“Warning. Inverter output connection. Do not relocate this overcurrent device”*

15. METER:

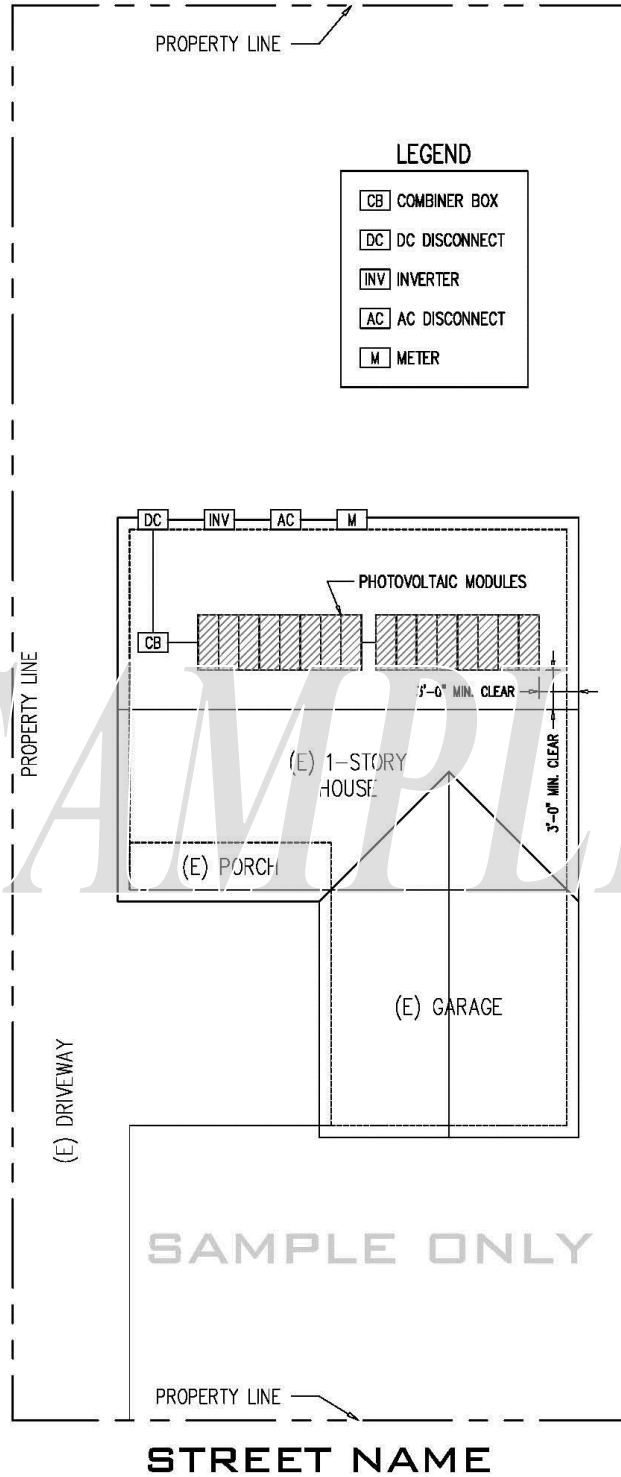
- a) *At disconnecting means*
 - 1) *“Photovoltaic power source. AC output current _____ amperes. Nominal operating ac voltage ___/___”*
- b) *“Dual power sources. Photovoltaic and Utility power”*
- c) *Where the rating of the panelboard is the sum of the ampere ratings of all overcurrent devices supplying it*
 - 1) *“Warning. Inverter output connection. Do not relocate this overcurrent device”*
- 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

16. PERMANENT DIRECTORY OR PLAQUE:

- a. Providing location of service disconnecting means and photovoltaic system disconnecting means, if not located at the same location.

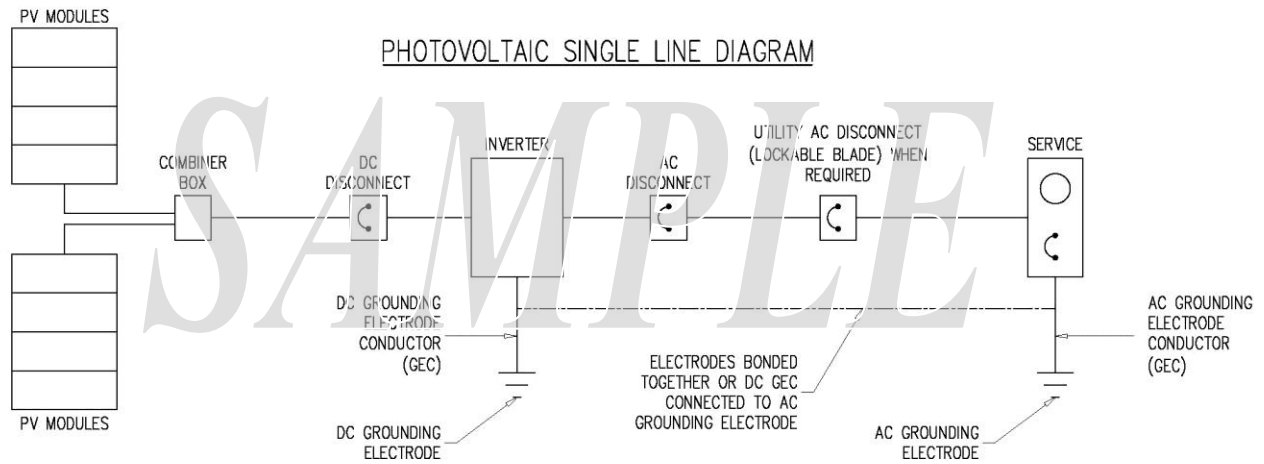
SAMPLE SITE PLAN

Site plan shown is to illustrate the necessary information required for full plan review. Complete and accurate site plan is required for review and approval.



SAMPLE LINE DIAGRAM

For informational purposes only



- ALL WIRING IN A SOLAR PHOTOVOLTAIC SYSTEM SHALL BE IDENTIFIED
- FOR INFORMATIONAL PURPOSES ONLY.