



ARCADIA COMMUNITY DEVELOPMENT  
DIVISION  
240 W HUNTINGTON DRIVE, ARCADIA, CA 91007  
(626) 574-5441

ARCADIA FIRE DEPARTMENT  
710 S SANTA ANITA AVE, ARCADIA, CA 91006  
(626) 574-5104

## Photovoltaic Submittal & Installation Requirements

### ADMINISTRATIVE

1. The following clearances or approvals are required before a building permit can be issued:
  - a. Building Division
  - b. Planning Division
  - c. Fire Department

### SITE PLAN

1. Provide fully dimensioned site plan. Show lot size, streets, alleys, easements, parking spaces, location, size and use of all structures on the lot. Identify property lines, lot dimensions, and distance to property line. Show size and location of the service meter, and location of all solar photovoltaic systems.

### LINE DIAGRAMS

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

### INVERTER / PV MODULE / ARRAY INFORMATION

1. Provide inverter manufacturer specification sheet. (**Note: Solar panels installed in the Very High Fire Hazard Severity Zone shall have a Class A rating.**)
2. Provide module manufacturer specification sheet.
3. Show the following on the plan:
  - a. Number of modules 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 / OVERCURRENT PROTECTION

1. Show the overcurrent protection on inverter output circuit and verify it is sufficient.
2. Show location of all conduit. Conduit installed within attic spaces shall have a minimum 2 feet distance from the roof joists/rafters. Conduit shall not be installed in exterior gable end walls.

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**ROOF INFORMATION (ROOF TOP SYSTEM)**

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

**REQUIRED PHOTOVOLTAIC SIGNAGE/MARKING**

Signage/Marking Format:

- Minimum 1/2" letter height on contrasting background
- All capital letters
- Reflective, weather resistant material (approved adhesive material may be used)

Locations:

1. Direct Current Conduit, Raceways, Enclosures, Cable Assemblies, and Junction Boxes
  - a. Marking should be placed on all interior and exterior DC conduit, raceways, enclosures, and cable assemblies, every 10 feet, at turns and above and/or below penetrations and at all DC combiner and junction boxes.
  - b. Marking should read - "CAUTION: SOLAR CIRCUIT"
2. DC Disconnect
  - a. Signage should read – "PV SYSTEM - DC DISCONNECT"
3. INVERTER:
  - a. Signage should read – "PV SYSTEM – INVERTER – WARNING: ELECTRICAL SHOCK HAZARD"
4. AC DISCONNECT:
  - a. Signage should read – "PV SYSTEM – AC DISCONNECT"
5. Permanent directory or plaque providing location of service disconnecting means and photovoltaic system disconnecting means, if not located at the same location.

**EMERGENCY ACCESS PATHWAYS**

1. Residential Systems:
  - a. Residential Buildings with hip roof layouts: Modules should be located in a manner that provides 1' – 3' wide clear access pathway from the eave to the ridge on each roof slope where modules are located. The access pathway should be located at a structurally strong location on the building (such as a bearing wall).
  - b. Residential Buildings with a single ridge: Modules should be located in a manner that provides 2' - 3' wide access pathways from the eave to the ridge on each roof slope where modules are located.
  - c. Hips and valleys: Modules should be located no closer than 1.5' to a hip or a valley if modules are to be placed on both sides of a hip or valley. If the modules are to be located on only one side of a hip or valley that is of equal length then the modules may be placed directly adjacent to the hip or valley.
  - d. The modules should be located no higher than 3' below the ridge.

## 2. Commercial Systems:

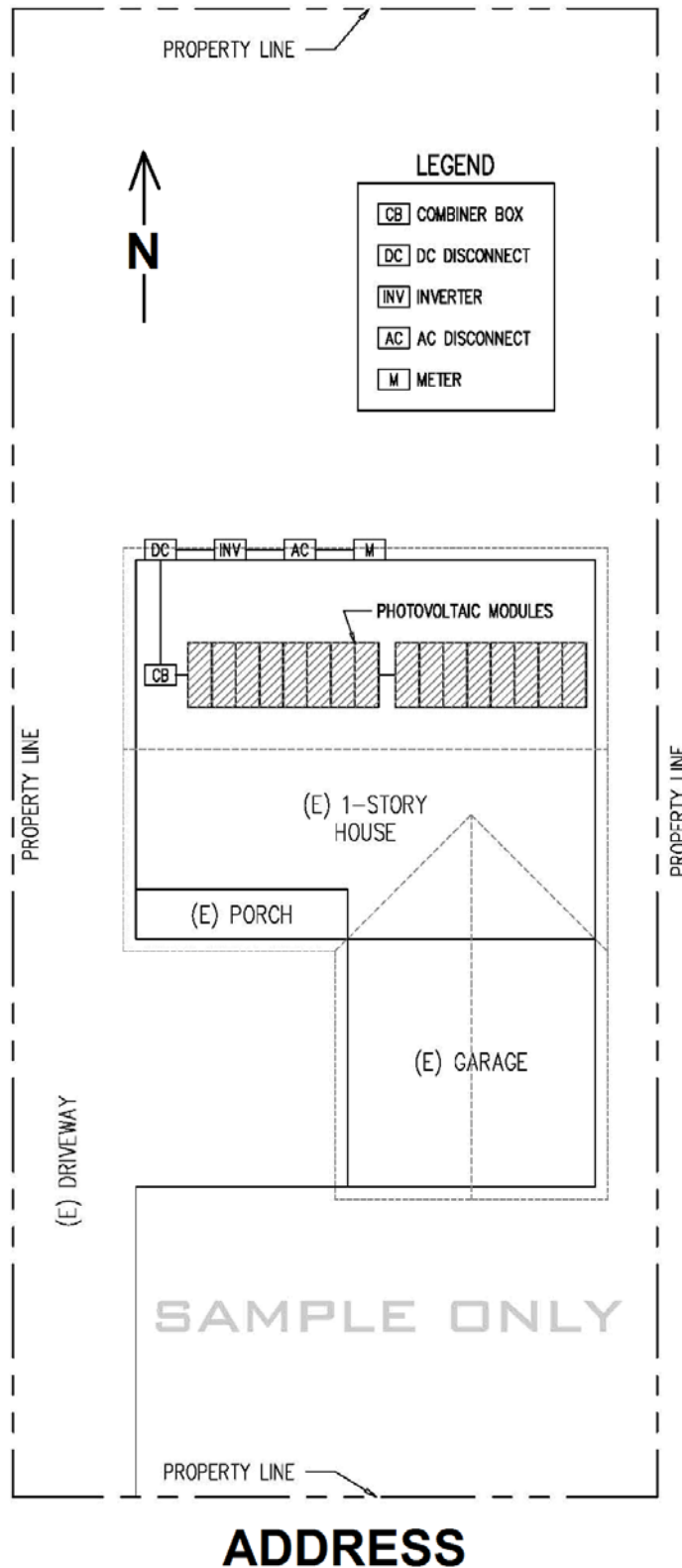
- a. Should be over structural members.
- b. Centerline axis pathways should be provided in both axes of the roof. Centerline axis pathways should run on structural members or over the next closest structural member nearest to the center lines of the roof.
- c. Should be straight line not less than 4' clear to skylights and/or ventilation hatches.
- d. Should be straight line not less than 3' clear to roof standpipes.
- e. Should provide not less than 3' clear around roof access hatch with a single minimum 4' clear pathway to parapet or roof edge.
- f. Arrays should be no greater than 150 feet by 150 feet in size measured in either axis.
- g. Pathway width options between array sections should be either:
  1. 8' or greater in width.
  2. 4' or greater in width and bordering on existing roof skylights or ventilation hatches.
  3. 4' or greater in width and bordering 4' x 8' "venting cutouts" every 20' on alternating sides of the pathway.

## 3. Ground Mounted Arrays:

- a. A clear brush area of 10' is required for ground mounted photovoltaic arrays.

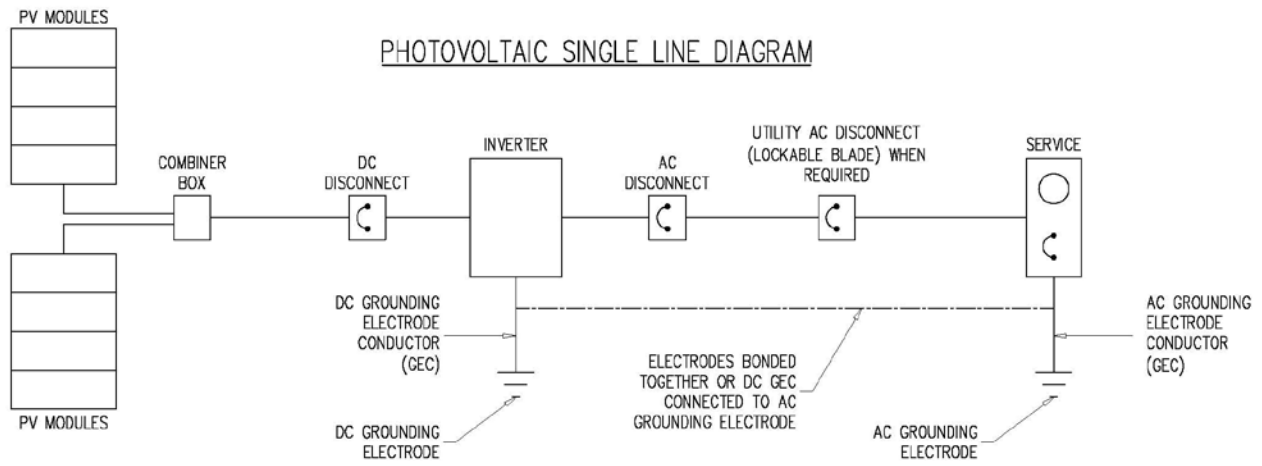
**SAMPLE SITE PLAN**

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.

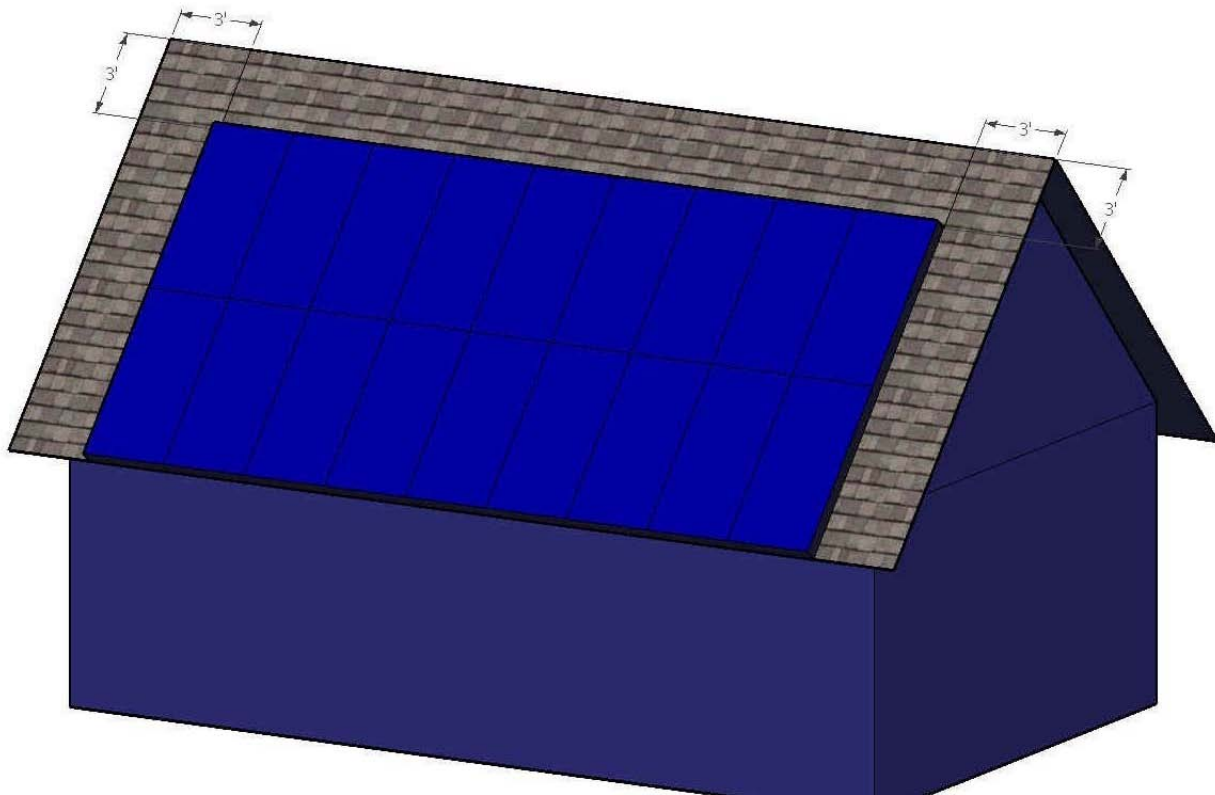


**SAMPLE LINE DIAGRAM**

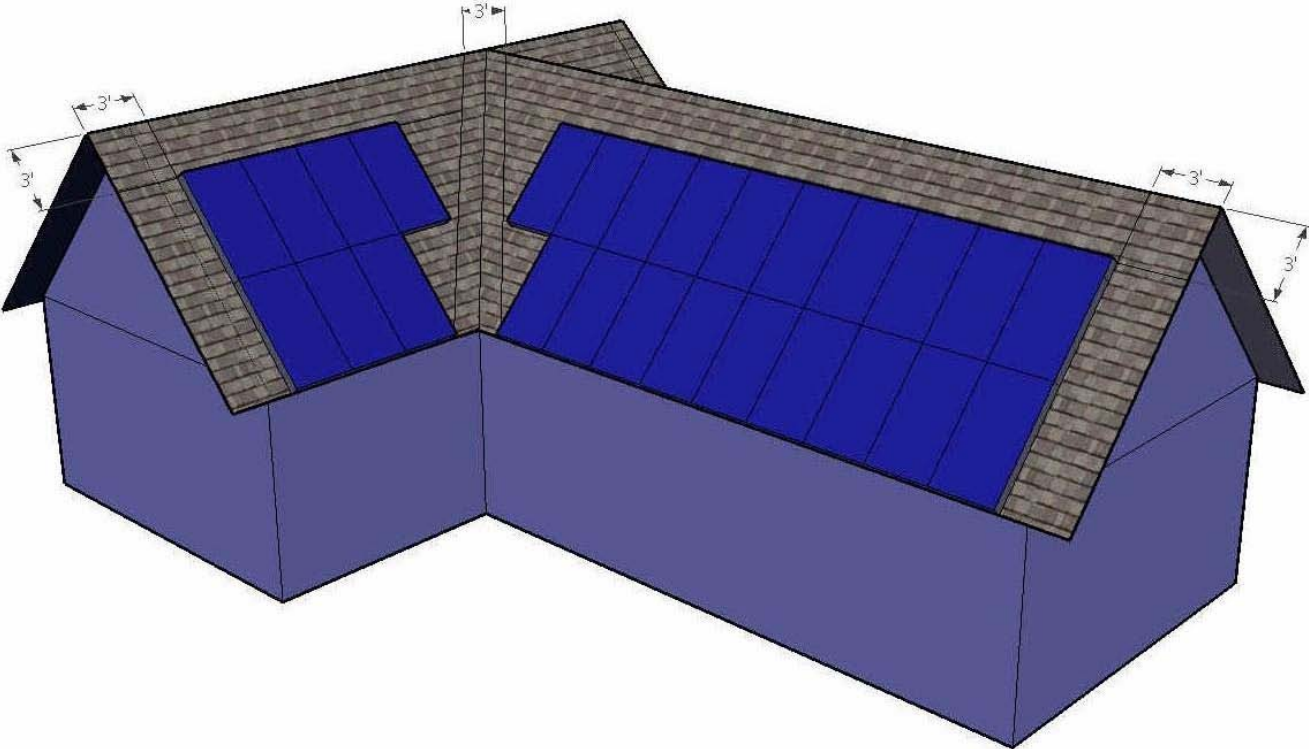
For informational purposes only



**SAMPLE RESIDENTIAL SYSTEM LAYOUT (1)**



**SAMPLE RESIDENTIAL SYSTEM LAYOUT (2)**



**SAMPLE COMMERCIAL SYSTEM LAYOUT**

