City Of Calimesa

Building & Safety Department
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PHOTOVOLTAIC (SOLAR) SYSTEMS

Residential - Small Solar System

In response to the State's mandate to promote and encourage the installation of solar energy systems, the Building and Safety Division has provided the following items to assist in expediting our plan check and permitting process.

Minimum Submittal Requirements for Residential Solar:

1. Completed permit application form. This permit application form and all other required PV forms can be downloaded at: http://www.cityofcalimesa.net/Forms/Application%20for%20Permit.pdf
2. Plot Plan showing the location of the PV modules, route of conduit/ conductors, the equipment (inverter, batteries, etc.) and the electrical service interface.
3. Single-Line Diagram
4. Attachment details of the PV modules to the support rack and the rack to roof structure.
5. Grounding detail for the connection to the PV modules and bonding of the AC system.
6. Calculations for the added load to the roof **if it is over 6.5 lbs per s.f. submit roof load calculations**.
7. Manufacture's Specifications for PV modules, inverter, batteries, conductors, disconnects and over-current devices.
8. Justification for all conductor and over-current device sizing.
9. Signage locations for permanent plaque per California Electrical Code.
10. Roof Plan showing 3' setbacks per California Fire Code.
11. The City of Calimesa is in a Special Wind Region. Provide design per 130 MPH (stand- off maximum spacing @ 48" O.C.).

Submittal Package

1. Two (2) complete sets of the following documents:
    - A completed Eligibility Checklist form (Form PV2).
    - A completed Solar PV Standard Plan (Form PV3 & PV3S or PV4).
    - A Roof Plan showing roof layout, PV panels and the following fire safety items: approximate location of roof access point, location of code-compliant access pathways, PV system fire classification and the locations of all required labels and markings.
    - A Site Plan showing all structures on property, property lines, PV panels, service meter, subpanels, inverters, disconnects, etc.

- Listed/approved manufacturer Specification Sheets for all proposed equipment including modules, inverters, panels, racking system, support mounts, etc.
- A completed Structural Criteria form (Form PV5). For non-qualifying systems, provide structural drawings and calculations stamped and signed by a California licensed architect or registered professional civil or structural engineer, along with the following information:
    a) The type of roof covering and the number of roof coverings installed.
    b) Type of roof framing, size of members and spacing.
    c) Weight of panels, support locations and method of attachment.
    d) Framing plan and details for any work necessary to strengthen the existing roof structure.
    e) Site-specific structural calculations.
    f) Wind Design: 130 MPH Ultimate Design Wind Speed (Vult), Exposure C (max. stand- off spacing @ 48" O.C. for landscape).
    g) Where an approved racking system is used, provide documentation showing manufacture of the rack system, maximum allowable weight the system can support, attachment method to the roof or ground, and product evaluation information or structural design for the rack system.

PLAN REVIEW

Permit applications can be submitted in person to the Building and Safety Division public counter. Only permit applications utilizing all standard plans (PV2, PV3 or PV4, and PV5) qualify for an expedited plan review timeframe within one to three working days.

- Strong Motion Instrumentation Program (SMIP) and Building Standards fees are based on overall project valuation cost.
- Additional fees apply for main panel upgrades.

*Permit fee may vary.

INSPECTIONS

Once permit to construct the solar installation has been issued and the system has been installed, it must be inspected before final approval is granted for the solar system. On-site inspections can be scheduled by calling the Building and safety electronic voice response system at (909) 795-9801 Ext 228. Inspection requests received by 4pm the business day before will be scheduled for the next business day.

Contractor/owner-builder must be prepared to show conformance with all technical requirements in the field at the time of inspection. The inspector will verify that the installation is in conformance with applicable code requirements and with the approved plans.

The inspection checklist provides an overview of common points of inspection that the applicant should be prepared to show compliance, common checks include the following:

1) Number of PV modules and model number match plans and specification sheets.

2) Array conductors and components are installed in a neat and workman-like manner. 3) Conductors ratings and sizes match plans.

4) Appropriate signs are properly constructed, installed and displayed, including the following:

a. Sign identifying PV system attributes at DC disconnect

b. Sign identifying AC disconnect

c. Warning sign indicating Dual Power Sources

5) Equipment ratings are consistent with application and installed signs on the installation, including the following:

a. Inverter has a rating as high as max voltage on PV power source sign.

b. DC-side over current circuit protection devices (OCPDs) are DC rated at least as high as max voltage on sign.

c. Switches and OCPDs are installed according to the manufacturer's specifications (i.e., many 600VDC switches require passing through the switch poles twice in a specific way).

d. Inverter is rated for the site AC voltage supplied and shown on the AC point of connection sign.

e. OCPD connected to the AC output of the inverter is rated at least 125% of maximum current on sign and is no larger than the maximum OCPD on the inverter listing label.

f. Sum of the main OCPD and the inverter OCPD is rated for not more than 120% of the bus bar rating for end fed main panels.

g. Sum of the main OCPD and the inverter OCPD is rated for not more than 100% of the bus bar rating for center fed main panels.

6) All exterior equipment including but not limited to raceways, junction boxes, combiner boxes, load centers, disconnects etc. are painted to match exterior of building.

DEPARTMENTAL CONTACT INFORMATION

For additional information regarding this permit process, please consult our departmental website at (909) 795-9801 Ext 226

Additional information may be obtained by clicking on the following link:
http://www.opr.ca.gov/docs/Solar_Permitting_Guidebook_Winter_2017_Update.pdf