



City of Colton
Development Services Department
Building Division

659 North La Cadena Drive | Colton, CA 92324
(909) 370-5079 | Fax: 909-783-0875 | www.ci.colton.ca.us

Requirements for Permit Application
Solar Photovoltaic Installations under 10KW
in Single-Family Dwellings

This information bulletin is published to guide applicants through the permitting process for solar photovoltaic (PV) projects under 10 KW in size. This bulletin provides information about submittal requirements for plan review, required fees, and inspections in accordance to the requirements of the latest adopted California Building Code and California Residential Codes.

1. Permit/Approval Requirements

The following permits are required to install a solar PV system under 10KW:

- a) Building Permit for Photovoltaic
- b) Planning review is required for solar PV installations of this size.
- c) Fire Construction Services approval is required for solar PV installations of this size on buildings located in the Very-High Fire Hazard Severity Zones. (VHFHSZ).

2. Submittal Requirements

- a) Completed permit application form.
- b) A completed Standard Electrical Plan. The standard plan may be used for proposed solar installations under 10KW in size and can be downloaded at <http://ca-colton.civicplus.com/DocumentCenter/View/1652>
- c) Provide three (3) complete sets of plans for permit review and approval.
- d) If the attached Standard Electrical Plan within this package is not available for use, a designed Electrical Plan prepared by an electrical contractor or electrical engineer shall be submitted that includes the following:
 - Locations of main service or utility disconnect
 - Total number of modules, number of modules per string, and the total number of strings
 - Make and model of inverter(s) and/or combiner box if used
 - One-line diagram of system
 - Specify grounding/bonding, conductor type and size, conduit type and size, and number of conductors in each section of conduit
 - If batteries are to be installed, include them in the diagram and show their locations and venting
 - Equipment cut sheets including inverters, modules, AC and DC disconnects, combiners, and wind generators
 - Labeling of equipment as required by CEC, Sections 690 and 705
 - Site diagram showing the arrangement of panels on the roof or ground, north arrow, lot dimensions, and EXISTED SHADING ELEMENTS the distance from property lines to adjacent buildings/structures (existing and proposed).
- d) Demonstrate compliance with structural requirements if needed.

If a prescriptive approach has not been developed to ensure structural requirements, structural support information for roof-mounted systems including the following SHOULD INCLUDE:

- The type of roof covering and the number of roof coverings installed
- Type of roof framing, size of members, and spacing
- Weight of panels, support locations, and method of attachment
- Framing plan and details for any work necessary to strengthen the existing roof structure
- Any relevant calculations (if required)
- Where an approved racking system is used, provide documentation showing manufacturer 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

3. Plan Review

Permit applications can be submitted to the Building and Safety Division public counter for plan review proposes.

Permit applications utilizing attached standard plan may be approved over the counter. Permits not approved over the counter due to the complexity or specifically designed, may need to be submitted for further review.

4. Fees

Building permits fees will be subject to the latest adopted fee schedule.

5. Inspections

Once all permits to construct the solar installation have 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 contacting the Building and Safety Division by telephone at (909) 3705079.

Permit applicant/contractor 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.

Below are common points of inspection with which the applicant/contractor should be prepared to show compliance:

- Number of PV modules and model number matches plans, and specification sheets number matches plans and specification sheets
- Array conductors and components are installed in a neat and workman-like manner.
- PV array is properly grounded
- Electrical boxes are accessible and connections are suitable for environment
- Array is fastened and sealed according to attachment detail
- Conductors ratings and sizes match plans
- Appropriate signs are properly constructed, installed, and displayed, including:
 - Sign identifying PV power source system attributes at DC disconnect
 - Sign identifying AC point of connection
 - Sign identifying switch for alternative power system

- Equipment ratings are consistent with application and installed signs on the installation, including:
 - Inverter has a rating as high as max voltage on PV power source sign
 - DC-side overcurrent circuit protection devices (OCPDs) are DC rated at least as high as max voltage on sign
 - 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)
 - Inverter is rated for the site AC voltage supplied and shown on the AC point of connection sign
 - 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
 - Sum of the main OCPD and the inverter OCPD is rated for not more than 120% of the bus bar rating

6. Departmental Contact information

For additional information regarding this Solar PV permit process, please consult our departmental website at <http://www.ci.colton.ca.us> or contact Building and Safety Division at 909-370-5079 for permit process and inspection process questions.