



City of Carmel-by-the-Sea
Building Safety Division
Standard Operating Guidance (SOG)

18-10 Permitting Solar PV Systems 10 kW or less in 1-2 Family Dwellings

Background

California leads the world in renewable energy generation – powering the state’s economy, reducing reliance on imported energy resources, and decreasing air pollution. Small scale renewable energy systems benefit our communities through increased energy reliability by generating electricity where it is used. The 1979 California Solar Rights Act and follow-up legislation has established statewide requirements for encouraging installation of solar energy systems; and for standardizing and expediting local, small, solar photo-voltaic (PV) system permitting and inspections. Since 2014, AB 2188 has required jurisdictions to adopt an expedited permitting process that “substantially conforms” with that described in the *California Solar Permitting Guidebook* (Governor’s Office of Planning and Research, 2017, Retrieved from: http://opr.ca.gov/docs/Solar_Permitting_Guidebook_Winter_2017_Update.pdf).

This SOG describes the City of Carmel-by-the-Sea’s process and requirements for permitting small, solar PV systems 10 kW or less in one- and two-family dwellings in accordance with the state’s solar permitting guidebook. See the eligibility checklist that follows for expedited review eligibility.

Approval Requirements

The City’s Community Planning and Building Department requires an electrical permit for the installation of solar PV systems. Permit applications are made at the Community Planning and Building Department counter, or may be applied for on-line through the department’s electronic permitting system. Applications are reviewed by the Planning Division for compliance with zoning requirements, and by the Building Safety Division for electrical and building code compliance. Both building and planning reviews are conducted on an expedited, staff-review basis.

Submittal Requirements

The following documents and information makes up a complete permit application. Incomplete applications will be returned to the applicant for revision prior to review.

- A completed permit application form. This form can be downloaded at:
https://ci.carmel.ca.us/sites/main/files/file-attachments/building_permit_application_fillable_1-1-2018_0.pdf
- Demonstrated compliance with the eligibility checklist for expedited permitting. These criteria can be downloaded at _____
- A completed *Standard Solar PV System Electrical Plan*
- 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
 - Locations of all required labels and markings.

Examples of clear path access pathways are available in the State Fire Marshal Solar PV Installation Guide at: <http://osfm.fire.ca.gov/pdf/reports/solarphotovoltaicguideline.pdf>

- A completed expedited Structural Criteria form along with required documentation. Structural Criteria can be downloaded at: _____
For non-qualifying systems, a building permit may also be required. Provide structural drawings and calculations stamped and signed by a California licensed civil or structural engineer, along with the following information:
- The type of roof covering and the number of roof coverings (layers) 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
 - Site-specific structural calculations
 - 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.

Plan Review

Permit applications can be submitted in person at the Community Planning and Building Department, Carmel-by-the-Sea City Hall, Monte Verde St. between Ocean and 7th or electronically through our e-permit system by contacting the Permit Technician at 831-620-2065. Permit applications utilizing the standard plan may be approved “by appointment”. Permits not approved “by appointment” should be reviewed in 2-4 business days.

Fees

The fee for eligible solar PV permits and inspections is specified in the most current Master Fee Schedule approved by the City Council. The schedule may be accessed at:
https://ci.carmel.ca.us/sites/main/files/file-attachments/fy_18-19_proposed_pb_fees.pdf

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 Safety Division by telephone at 831-620-2010, or electronically at _____ Inspections must be requested at least 24 hours in advance and are conducted the next day in most cases. If an inspection the next business day is not available, the inspection will be scheduled on the next available business day.

Permits must be posted on-site and visible from the street accessing the site. Permit holders 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 *Solar PV System Inspection Checklist* provides an overview of common points of inspection that the applicant should be prepared to show compliance with.

For More Information

For additional information consult our website at: <https://ci.carmel.ca.us/building-safety> or call 831-620-2065.

Eligibility Checklist for Expedited Solar Photovoltaic System Permitting for One- and Two Family Dwellings

General Requirements

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|--|----------------------------|----------------------------|
| A. System size is 10 kW AC CEC rating or less. | <input type="checkbox"/> Y | <input type="checkbox"/> N |
| B. The solar array is roof-mounted on a 1 or 2 family dwelling or accessory structure. | <input type="checkbox"/> Y | <input type="checkbox"/> N |
| C. The solar panel/module arrays will not exceed the maximum legal building height. | <input type="checkbox"/> Y | <input type="checkbox"/> N |
| D. Solar system is utility interactive and without battery storage. | <input type="checkbox"/> Y | <input type="checkbox"/> N |
| E. Permit application is completed and attached. | <input type="checkbox"/> Y | <input type="checkbox"/> N |

Electrical Requirements

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|---|----------------------------|----------------------------|
| A. No more than four PV module strings are connected to each Maximum Power Point Tracking (MPPT) input where source circuit fusing is included in the inverter. | <input type="checkbox"/> Y | <input type="checkbox"/> N |
| B. No more than two strings per MPPT input where source circuit fusing is not included. | <input type="checkbox"/> Y | <input type="checkbox"/> N |
| C. Fuses (if needed) are rated to the series fuse rating of the PV module. | <input type="checkbox"/> Y | <input type="checkbox"/> N |
| D. No more than one non-inverter –integrated DC combiner is utilized per inverter. | <input type="checkbox"/> Y | <input type="checkbox"/> N |
| E. For central inverter systems, no more than two inverters are utilized | <input type="checkbox"/> Y | <input type="checkbox"/> N |

Structural Requirements

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|--|----------------------------|----------------------------|
| A. A completed Structural Criteria and supporting documentation is attached (if required). | <input type="checkbox"/> Y | <input type="checkbox"/> N |
|--|----------------------------|----------------------------|

Fire Safety Requirements

- | | | |
|--|----------------------------|----------------------------|
| A. Clear access pathways provided. | <input type="checkbox"/> Y | <input type="checkbox"/> N |
| B. Fire classification of solar system is provided. | <input type="checkbox"/> Y | <input type="checkbox"/> N |
| C. All required markings and labels are provided. | <input type="checkbox"/> Y | <input type="checkbox"/> N |
| F. A diagram of the roof layout of all panels, modules, clear access pathways, and approximate locations of electrical disconnecting means and roof access points is completed and attached. | <input type="checkbox"/> Y | <input type="checkbox"/> N |

Notes:

1. These criteria are intended for expedited solar permitting process.
2. If any items are checked “N”, revise the design to fit eligibility requirements, otherwise permit may go through the standard process.