Solar Photovoltaic (PV) System Submittal Requirements

Planning and Development
Building & Safety Division

Issue Date: July 10, 2010
Revision Date: August 1, 2018

The City of Berkeley encourages the installation of renewable systems through low permit fees for solar photovoltaic (PV) installations and standardized solar permitting guidelines. Solar PV installations do not require zoning permits or design review (California State Code, Section 65850.5); however, a new structure, such as a canopy, that may incorporate solar PV is subject to zoning review.

All solar PV installations need an electrical permit. Building permits are needed only if structural work is necessary to support the solar PV system (such as the addition of new struts and purlins or new framing members between existing framing to reduce spacing). The required elements for permit applications for solar PV installations are detailed below.

> **NOTE:** Berkeley offers a streamlined permitting procedure with electronic submission for small solar PV rooftop systems (10kW AC or less) on single family and duplex homes. Use the Solar PV Residential Requirements for Streamlined Review in place of this document for eligible projects.

Submittal Requirements

All plans submitted for solar PV systems must comply with, and reference, the appropriate 2016 California Building Standards Code that became effective on January 1, 2017.

NOTE: Effective January 1, 2015, Berkeley homes in Hillside Fire Zones 2 and 3 must have Class A solar PV systems (photovoltaic panels with the rack support system) in compliance with the California State Fire Marshal's Information Bulletin 14-011 and submit certificates indicating compliance.

Plans must be drawn to scale (or at the very minimum are fully dimensioned), readable, and legible. Plans must include the following (elements can be combined if clarity is maintained):

1. **Cover Sheet** showing the following information: (a) project address; (b) owner's name, address, and phone number; (c) name, address, and phone number of the person preparing the plans; (d) scope of work statement; (e) number of stories and number of dwelling units; (f) sheet index indicating each sheet title and number; (g) legend for symbols, abbreviations, and notations used in the drawings.
2. **Schematic Site Plan** showing building footprint with locations of property lines, distances of building walls to property lines, location of the solar PV systems, location of the main electrical service panel and subpanels (if any), exterior and interior locations of all equipment and disconnects with working space clearances, and locations of other

structures (if any) on the property. For multi-story buildings, indicate the roofline at each floor level on the site plan.

3. **Permit Application (Building, Electrical, Mechanical, Plumbing)** (under Applications)

4. **Electrical Plan** showing the complete single line diagram of the PV and utility interconnect, existing service size and number of meters, size/type/insulation ratings (voltage, temperature, etc.) of all conductors and associated wiring components on the direct current (DC) and alternating (AC) side of the PV system, size/type/material of raceway(s), markings & labeling.

5. **Roof Plan and Cross-Section** showing roof layout, PV panels, module attachment details (in accordance with the manufacture's specifications), and fire safety items including the location of roof access point, location of code-compliant access pathways, location of DC conductors, PV system fire classification, and the locations of all required labels and markings.

   Structural code requirements including rafter span and roof framing must be demonstrated. If the roof framing exceeds the allowable spacing or span limits, provide stamped and signed engineered plan and calculations justifying the adequacy of the existing roof framing or provide stamped and signed engineered plans and calculations for framing modifications necessary to accommodate the solar panel installation.

   Panels that are not flush mounted require a licensed engineer to provide structural design calculations and details for wind uplift and all connections.

   Allow 5 working days for review of plans with calculations.

6. **Manufacturer's Specification Sheets** with make, model, listing, size, and weight for all components including, but not limited to, inverters, panels, racks, and combiner boxes. Grounding method used must comply with installation manual requirements.

Submittal

Call 510-981-7502 to make an appointment to submit an application at the Permit Service Center. The Permit Service Center does not accept paper plan submittals; plans and documents should be submitted in PDF format via USB Flash Drive with a maximum attachment size of 100 MB and a 300 dpi minimum.

Inspection

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. Inspections may be scheduled through Permits Online, through the automated phone scheduling system at (844) 216-2170, or by phone at (510) 981-7440 (option 1). Detail on scheduling inspections is available here.