



**Boulder County  
Land Use Department  
Publications**

# Solar Thermal Systems Checklist

**Land Use Department**  
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**Office Hours:**

Mon., Wed., Thurs., Fri. 8 a.m. to 4:30 p.m.  
Tuesday 10 a.m. to 4:30 p.m.

Building Permits can be applied for  
and issued until 4 p.m.

## Solar Thermal Systems Checklist

Per the 2015 International Residential Code. Solar Thermal applications are reviewed by the county plans examiners. The following checklist shall be submitted with your plans. Each item on the list shall be marked to verify it is part of the submittal. Incomplete information may result in plan rejection or delay in the approval of your project.

As of June 30, 2009, all ground-mounted solar arrays will require Site Plan Review Waiver (SPRW) approval. Schedule a SPRW pre-application conference to begin the process. See publication *P04 Planning Review Fees* for the current planning fee schedule.

### Plan Submittal Requirements

Provide the following information:

1. A completed application form. Include a description of the proposed Solar Thermal System. Indicate if the system is roof mounted or ground mounted, closed loop or drain back, and provide the heat transfer fluid.
2. An application deposit (the balance of fees is due at the time of permit issuance).
3. Two complete sets of plans and a CD of the electronic PDF files are to be submitted to Building Safety & Inspection Services for plan review.

### Site Plan - Equipment Outside a Building

#### Ground Mounted

- Show the location of all solar thermal panels.
- Show dimensions between equipment and structures.
- Show dimensions between equipment and property lines.

**Note:** Crushed rock/gravel over weed barrier material must be installed under an array.

#### Roof Mounted

- Show on a plan view of existing roof and the proposed panel location.

### Floor Plan – Equipment Within a Building

- A Floor plan showing the location of all equipment within structures.
- Label the use of the room in which the equipment is placed.
- Show clearances of the equipment.

## Mechanical Design Requirements

Provide a one-line diagram that includes the following information:

- Panel type and number of panels/Solar Rating
- and Certification Corporation (SRCC) sling.
- Pipe materials
- Heat transfer fluid
- Pumps
- Controllers
- Back check valves
- Isolation valves
- Air admittance devices
- Expansion tanks
- Heat dumps
- Heat exchange tanks
- Storage tanks

If the new system is integrated into an existing mechanical system, this system must also be shown on the one line diagram.

## Equipment Requirements

Provide the following general information and product listing sheets.

- Panel
- Controller
- Pumps
- Storage and heat exchange tanks
- Rack system

If the storage tank is site built, an engineered design or listed assembly is required.



## Roof Mounted Panels

Provide the Following Information:

- An Engineers evaluation regarding the dead-load capability of the existing roof structure and its ability to support the added weight of the solar thermal system. The Engineer must reference the required wind and snow load for the site. If the panels project above the ridge line of the roof, this must also be part of engineers evaluation.
- For flat roof installations provide method of repair for roof penetrations.

## Pole or Ground Mounted Panels

Provide The Following Information:

- Site Plan to include the following:
  - Location of panel(s) on property.
  - Dimensions from panel(s) to property lines.
  - Dimensions from panel(s) to other structures on the property and property easements.
- Engineered footings.
  - Dimensioned plan view drawing.
- Attachment details – listed and tested connectors or engineered design.