Permit Applicant Checklist for Residential Solar Energy Installations

Before approval and issuance of permit (s) for Solar Thermal/Photovoltaic installations, applicant shall submit the following minimum information. Required drawings shall be scaled and dimensioned, readable, and legible. Additional information may be requested for the building permit. Other permits are also required.

Building integrated solar installations, where the solar collector replaces or substitutes for a component of a building or structure such as roof, shingle, or awning, do not require completion of this checklist separately from the permit application for the building, structure, or building modification.

1. Fully completed application for a building permit, including the following information:
   a. Project address;
   b. Owner's name, address, phone number;
   c. Name, address and phone number of the person preparing the plans;
   d. Description of proposed work, including both solar equipment installation and all associated construction;
2. Contractor's license _____
3. Name of company conducting the installation _____
   _____
4. For ***electric*** (photovoltaic) systems:
   a. What is the system KW rating (DC)? _____
   b. Is this an inter-tie or stand alone system? (Circle one)
   c. Does the system include battery backup or an uninterrupted power supply (UPS) ?
      yes____ no____
      If yes, give the number, size and location of the batteries.
      _____
5. For ***thermal*** systems:
   a. What is the total size of the solar collectors (sq. ft.) ? _____
6. If rooftop mounted, identify the following:
   a. Roof type: ☐ Flat roof (nominal pitch) ☐ Sloped (identify pitch) _____
   b. The type of existing roofing (shingles, tile, metal, ballasted, membrane, etc).
      _____
   c. The number of roofing layers that will be under the panels _____ (no more than 2 layers of roof shingles are allowed).
   d. Identify the condition of the roofing material and appropriate age.
      _____
      _____

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Required Drawings and Plans

7. For rooftop-mounted systems, provide construction drawings that include a building section detail and complete notation of method of fastening equipment to the roof of the subject property, including the following details:

   a. Cross section that identifies rafter size, spacing and span dimension and approximate roof slope.

   b. Identify style, diameter, length of embedment of bolts (i.e., 5/16" lags with minimum 3" embedment into framing, blocking, or bracing).

   _____

   _____

   _____

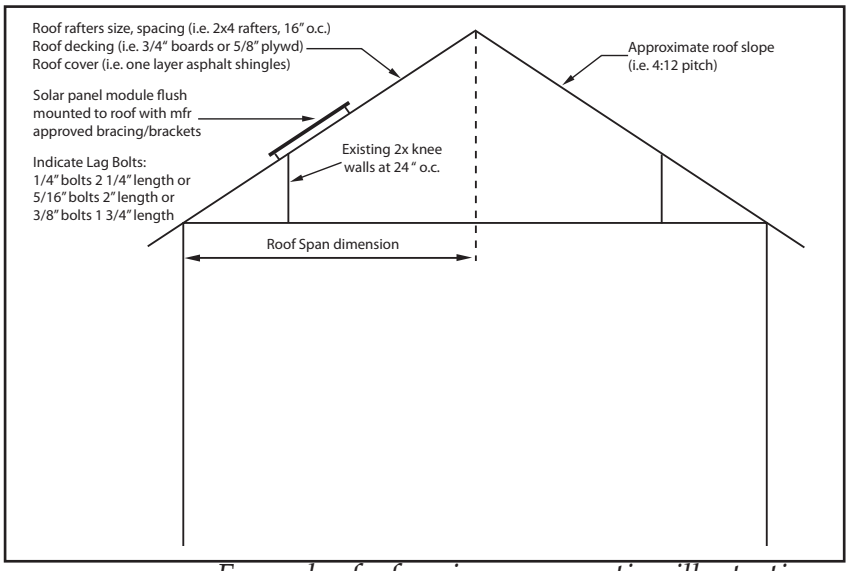
   c. Is system to be mounted according to panel and rack manufacturers' instructions?

   yes____ no____

   If no, please explain. Attach explanation if more space is needed.

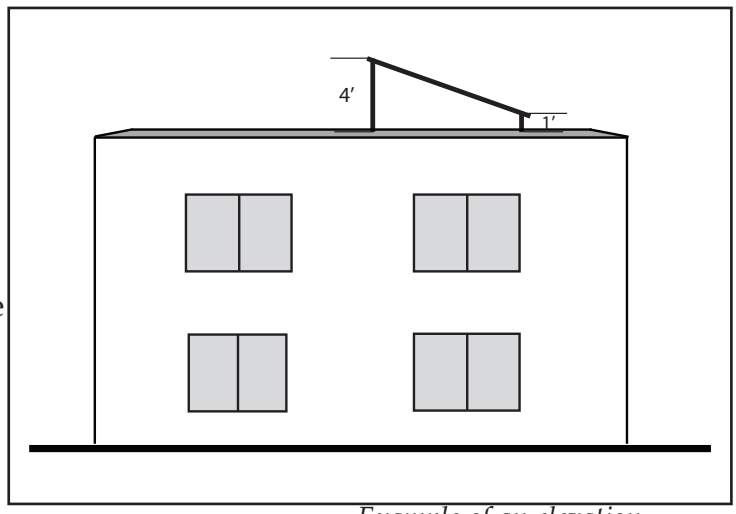
   _____

   _____



Example of a framing cross-section illustration

8. Provide an elevation of the structure indicating the appearance of the proposed solar installation (see example on the right). Note the finished height of the system above the roof or, if ground -mounted, above the ground.



Example of an elevation

9. Provide a site plan indicating the buildings and features of the property (see example on following page). The site plan shall show property line locations, approximate location of all structures, the location(s) of the panel installations, setback from property lines, the main service location, and, if applicable, the solar easement across adjoining properties. For roof-mounted systems identify the setback dimension from the peak and from all edges of the roof.

Rooftop Solar Installations

10. Is the equipment to be ***flush-mounted*** to the roof (mounted such that the collector surface is parallel to the roof)?

    yes____ no____ (If no, go to question 12)

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11. The minimum structural threshold for installing a ***flush-mounted*** PV system is a roof structure with at least 2 x 4 rafters no more than 24" on-center spacing.
    a. Does the roof structure use 2x4 or larger rafters, spaced no wider than 24 inches on center?

       yes____ no____

    b. If a ***solar thermal*** installation, is the collector/racking system fastened to each rafter passing under the collector?

       yes____ no____

12. ***Non-flush-mounted installations*** have different potential structural considerations. If the answer to question 10 (is the system flush-mounted?) is no, please provide the following additional information.
    a. Is the finished pitch of the collector at or less than a 12/12 pitch?

       yes____ no____

    b. Is the collector or racking fastened to the roof within one foot of the roof peak?

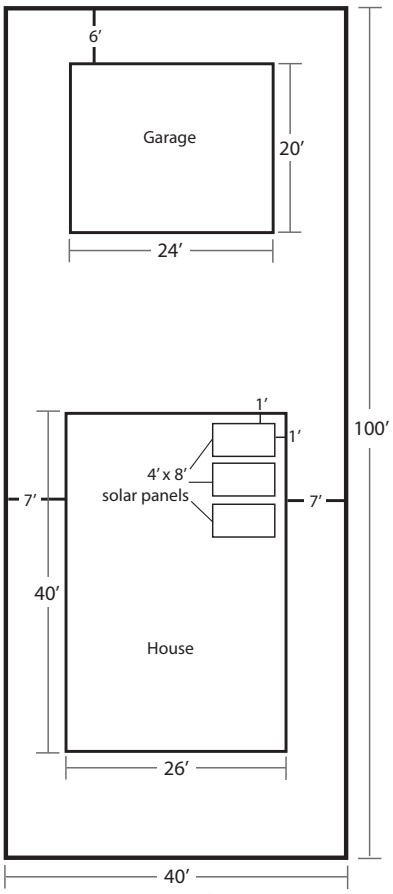
       yes____ no____

    c. Is the collector/racking system fastened to each rafter passing under the collector?

       yes____ no____

    d. Is the horizontal span (roof span dimension) of the rafter less than 7.75 feet for 2x4 rafters or 11.5 feet for 2x6 rafters?

       yes____ no____



Example of a site plan

13. Roof decking and structural supports should all be in good condition without visible roof sag/deflection. Is the roof structure in good condition, having no visible sag, cracking or splintering of rafters, or other potential structural defect? If roof structure is accessible, please provide a photo showing the condition of the roof. If roof structure is not accessible, provide an exterior photo, side view, of the roof.

    yes____ no____

14. If the answer is no to question 11, 12 a. - d., or 13 please provide a study or statement regarding the proposed solar installation and all proposed structural modifications stamped by a Minnesota licensed/certified structural engineer. Approval can come in the following forms:
    a. Construction plans denoting the roof structure and any modifications to the structure if required, as well as the method of installation of solar collector on the subject property.
    b. Letter from engineer accomplishing the same as above if the engineer feels that letter format will provide the necessary information.

Ground Solar Installations

15. For ***ground-mounted*** solar energy systems, the installation must meet property line setback standards for solar accessory structures, as identified in the Minneapolis Zoning Code (Article XII, 535.820-870). Verification of the property line and appropriate setback is required, either through identification of property pins or completing a survey. Identify the method used to verify property lines and setbacks.

☐ Located property pins ☐ Completed survey (attach) ☐ Other (attach explanation)

Heritage Preservation

16. Exterior work, including installation of solar energy systems, within city designated heritage preservation sites and districts is subject to review and approval by the Heritage Preservation Commission (HPC) prior to the issuance of city permits. For a city map showing individual sites and district boundaries go to the city website (www.ci.minneapolis.mn.us/hpc/landmarks/). You may also search by a specific address by using "property look-up" at www.ci.minneapolis.mn.us/propertyinfo/)

    Is the installation address within a heritage preservation district, or on a landmark property or building?

    yes____ no____

    Solar installations on properties with heritage preservation considerations will require additional review, either administrative review by staff or review by the Heritage Preservation Commission.