



RESIDENTIAL PHOTOVOLTAIC SOLAR PANEL POLICY

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Kittitas County requires a building permit to install Photovoltaic (PV) Solar Panel(s) for residential and commercial uses. This policy governs Residential uses only.

Other permits may be required per Washington State Labor and Industries or Utility Providers.

An Administrative Permit is required and may be obtained Over the Counter for a Roof Mounted PV Solar System with the following minimum requirements:

1. Complete site plan.
2. Roof plan. Please show panel layout with spaces as required per IFC 611.
4. Manufacturer's specifications.
5. Engineering (if required, see below).

R324.3 Photovoltaic systems. Installation, modification, or alteration of solar photovoltaic power systems shall comply with this section and the *International Fire Code*. Section R104.11 alternate materials and methods of this code shall be considered when approving the installation of solar photovoltaic power systems. Photovoltaic systems shall be designed and installed in accordance with Sections R324.3.1 through R324.6 and chapter 19.28 RCW. Inverters shall be listed and labeled in accordance with UL 1741. Systems connected to the utility grid shall use inverters listed for utility interaction.

EXCEPTION: Detached, non-habitable Group U structures shall not be subject to the requirements of this section for structural and fire safety. A residential ground mounted system shall be deemed a Group U structure per IBC 312.

R324.3.1 Equipment listing. Photovoltaic panels and modules shall be listed and labeled in accordance with UL 1703.

R324.4 Rooftop-mounted photovoltaic systems. Rooftop-mounted photovoltaic panel systems installed on or above the roof covering shall be designed and installed in accordance with Section 907.

EXCEPTION: The roof structure shall be deemed adequate to support the load of the rooftop solar photovoltaic system if all of the following requirements are met:

1. The solar photovoltaic panel system shall be designed for the wind speed of the local area, and shall be installed per the manufacturer's specifications.
2. The ground snow load does not exceed 70 pounds per square foot. (See exceptions to engineering)
3. The total dead load of modules, supports, mountings, raceways, and all other appurtenances weigh no more than 4 pounds per square foot.
4. Photovoltaic modules are not mounted higher than 18 inches above the surface of the roofing to which they are affixed.
5. Supports for solar modules are to be installed to spread the dead load across as many roof-framing members as needed, so that no point load exceeds 50 pounds.

R324.4.1 Roof load. Portions of roof structures not covered with photovoltaic panel systems shall be designed for dead loads and roof loads in accordance with Sections R301.4 and R301.6. Portions of roof structures covered by photovoltaic panel systems shall be designed for the following load cases:

1. Dead load (including photovoltaic panel weight) plus snow load in accordance with Table R301.2(1).
2. Dead load (excluding photovoltaic panel weight), plus roof live load or snow load, whichever is greater, in accordance with Section R301.6.

R324.4.2 Wind resistance. Rooftop-mounted photovoltaic panel or module systems and their supports shall be designed to resist the component and cladding loads specified in Table R301.2(2), adjusted for height and exposure in accordance with Table R301.2(3).

R324.5 Building-integrated photovoltaic systems. Building-integrated photovoltaic systems that serve as roof coverings shall be designed and installed in accordance with Section R905.

R324.5.1 Photovoltaic shingles. Photovoltaic shingles shall comply with Section R905.16.

R324.6 Ground-mounted photovoltaic systems. Ground-mounted photovoltaic systems shall be designed and installed in accordance with Section R301.

Exception to Engineering above 70 psf ground snow for Roof Mounted systems:

1. Trussed roof structures completely covered in metal roofing of any pitch and configuration.
2. Trussed roof structures with composition or other non-slippery roofing materials if panels are mounted from ridge to eave and there are no other roofs, obstructions or structures below. (Panels must maintain a minimum of 12" space below the ridge.)
3. Stick framed structures built after 1974 and also meeting the conditions of 1 or 2 above.

Limited Engineering above 70 psf ground snow for Roof Mounted systems:

(engineering need only address the ability of the roof framing to carry the additional weight of the panels)

Stick framed roof structures built before 1974 completely covered in metal roofing of any pitch and configuration; or with composition or other non-slippery roofing materials if panels are mounted from ridge to eave and there are no other roofs, obstructions or other structures below. (Panels must maintain a minimum of 12" space below the ridge.)

Complete Engineering above 70 psf ground snow for Roof Mounted systems:

(this will require a plan review and will be placed in line with other permits and reviewed in the order it was received)

1. If unable to meet any of the exceptions listed above, complete engineering shall be required.
2. Engineering shall consist of the following:
 - a. The ability of the roof to support the additional weight of the panels combined with how it affects the roof live load and;
 - b. If panels do not extend to the ridge or the eave, engineering to address the probability of ice damming and specify methods of preventing or modifying roof to eliminate damage and;
 - c. If there are other roofs, obstructions or structures below, engineering to address impact loading, drifting snow and other snow load issues as deemed necessary by the engineer.

Required documentation for permitting:

1. Building Permit application with parcel map number or tax parcel identification.
2. Site plan.
3. Roof plan. Include emergency disconnect location and identification.
4. Manufacturer's installation specifications and guidelines.
5. Engineering for roof mounted installations over 70 psf snow load according to the exceptions above.

All required electrical permit(s), review and inspection(s) must be obtained from Washington State Labor and Industries.

Inspection Requirements:

1. Roof mount panels require two (2) inspections minimum. The first inspection is for the roof mount racking hardware to verify compliance and attachment. (You may schedule this inspection for the day the panels are being installed. You may begin mounting panels over the racking prior to inspection but there must be enough racking exposed for the inspector to verify compliance.) The final inspection shall be scheduled when the project is complete and after Labor and Industries has approved the electrical.

DATE: 9/8/16 BUILDING OFFICIAL: MELROY