Firefighter Access for Roof Mounted Solar Array Residential Systems (IFC 1204)

Roof Access Points

- Roof access points are required to be located in areas that do not require the placement of ground ladders over openings such as windows or doors and located at strong points of building construction in locations where the access point does not conflict with overhead obstructions such as tree limbs, wires, or signs.
- The access pathway shall be located at a structurally strong location on the building capable of supporting the live load of fire fighters accessing the roof.

Hip Roof Layout (Roof slope greater than 2/12)

- Panels/modules installed on residential buildings with hip roof layouts shall be located in a manner that provides a 3-foot-wide clear access pathway from the eave to the ridge on each roof slope where panels/modules are located.

Single Ridge Layout (Roof slope greater than 2/12)

- Panels/modules installed on residential buildings with a single ridge shall be located in a manner that provides two, 3-foot-wide (914 mm) access pathways from the eave to the ridge on each roof slope where panels/modules are located

Roof Hip and Valley Layout

- Where panels/modules are to be placed on both sides of a hip or valley, the panels shall be located no closer than 18 inches (457 mm) to a hip or a valley.
- Where panels are to be located on only one side of a hip or valley, the panels shall be permitted to be placed directly adjacent to the hip or valley. Smoke Ventilation
- When solar arrays are installed on roofs, there should be a minimum of 18” of clearance at the ridgeline to allow for smoke ventilation.

Exceptions

- Where any of the following conditions exist, the access requirements listed above are not required:
  - Residential dwellings with an approved automatic fire sprinkler system installed.
  - Residential dwellings with an approved mechanical or passive ventilation system.
  - Where the Fire Code Official determines that the slope of the roof is too steep for emergency access.
  - Where the Fire Code Official determines that vertical ventilation tactics will not be utilized.
  - These requirements shall not apply to roofs where all of the following conditions are met:
    - The total combined area of the solar array does not exceed 33% as measured in plain view of the total roof area of the structure and,
    - The solar array will measure 1000 sq. ft. or less in area and,
    - A minimum 18” unobstructed pathway shall be maintained along each side of any horizontal ridge.

EXAMPLES OF SOLAR ARRAY FIREFIGHTER PATHWAYS

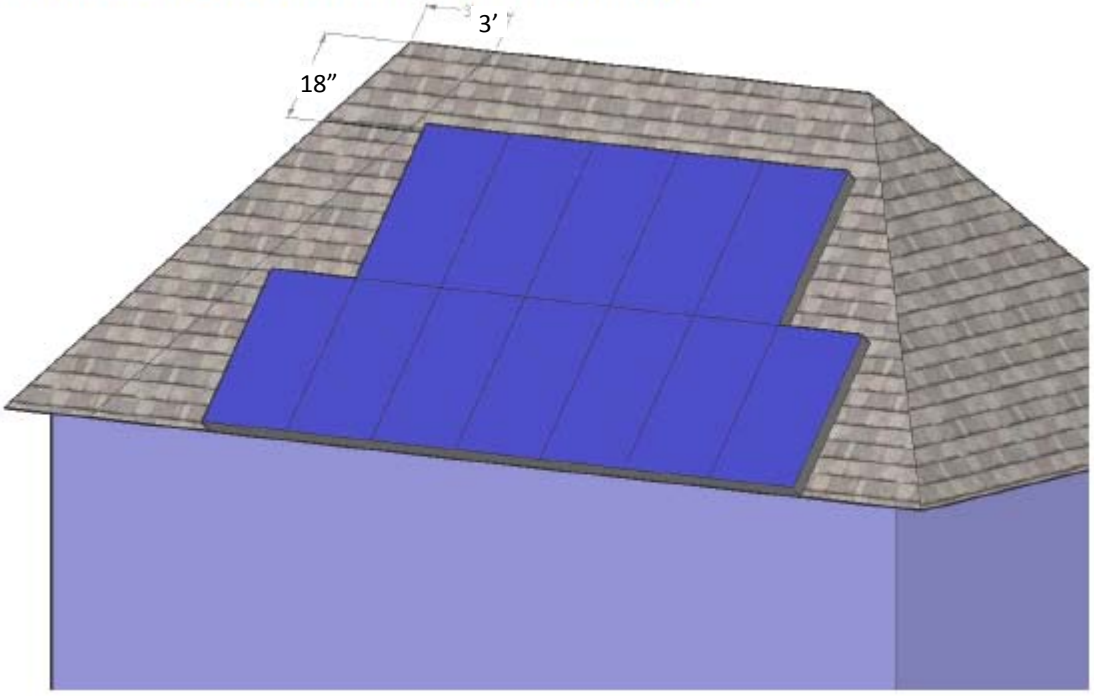


Figure 1 –Hip Roof

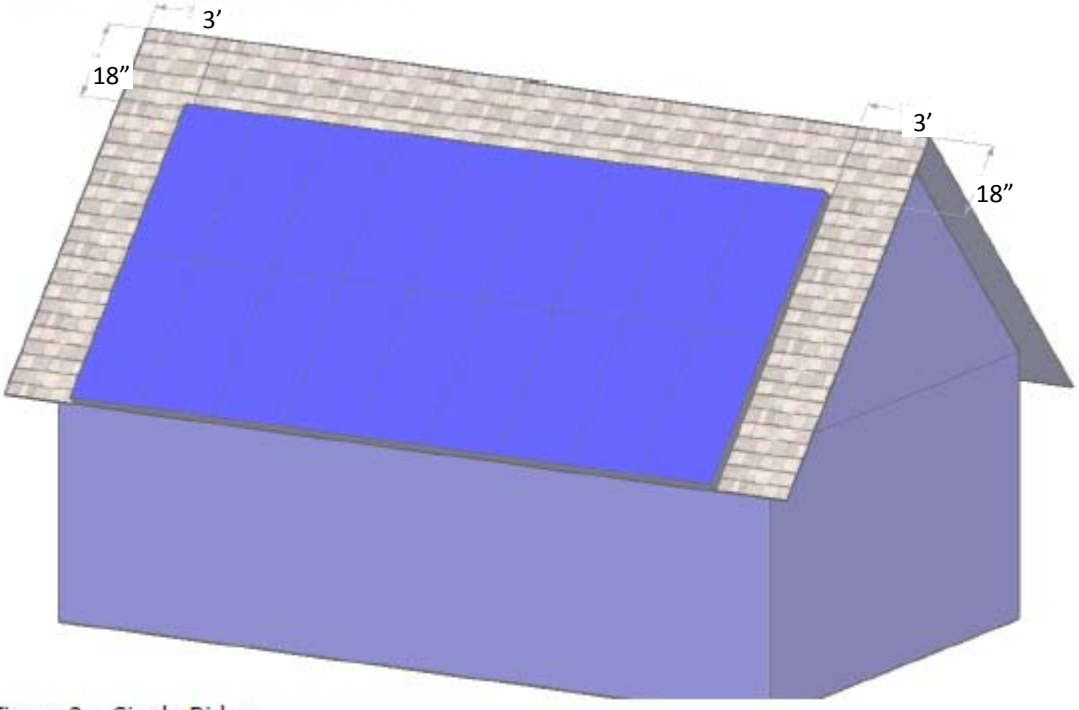


Figure 2 – Single Ridge

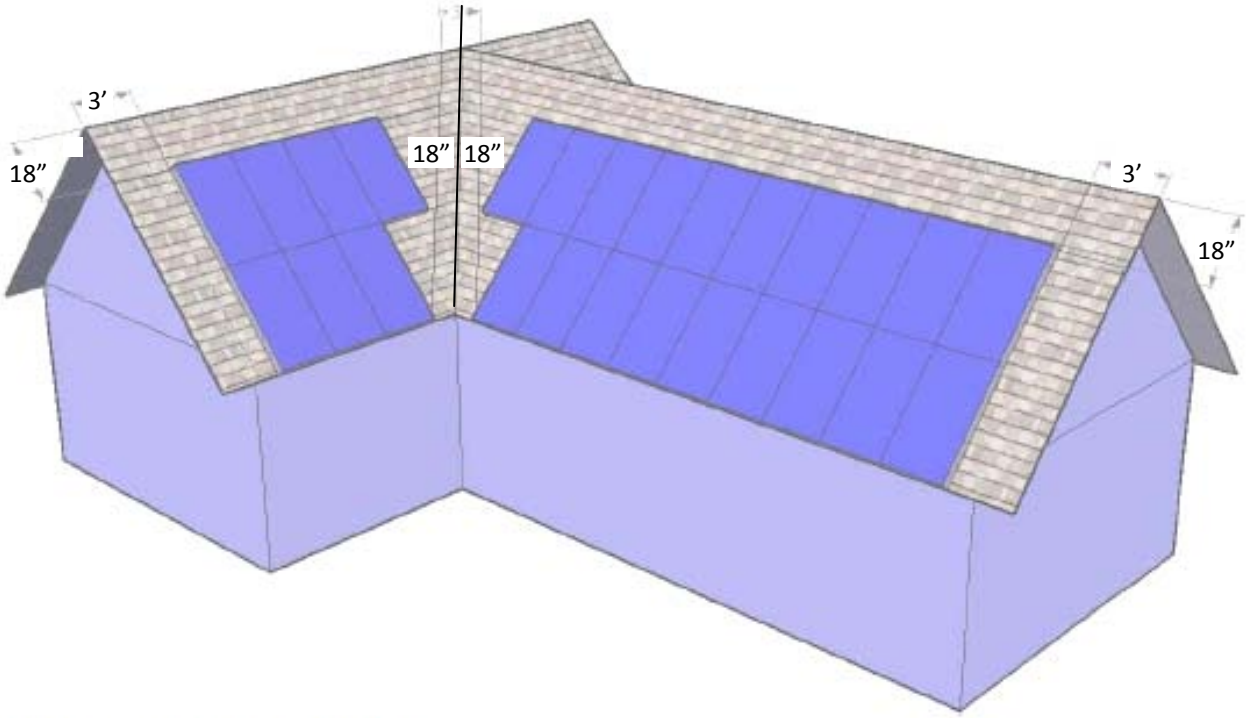


Figure 3 – Roof Hips and Valleys