



# RESIDENTIAL FIRE SPRINKLER REQUIREMENTS

DEPARTMENT OF PLANNING AND BUILDING SERVICES

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## California Building Code (CRC) R313

This handout is not intended to cover all circumstances, conditions or regulations

Since January 1, 2011, the California Residential Code (CRC) has required that sprinkler systems be installed in all new homes constructed in the State. This handout is intended to summarize the requirements for submittal of plans and inspection of residential sprinkler systems pursuant to CRC section R313.

System designs shall be submitted with the house plans or temporarily deferred with the approval of the Building Official. Fire sprinkler plans may not be deferred beyond the framing inspection.

Residential fire sprinkler plans do not have to be “engineered” (stamped), but any plans submitted must meet the requirements of this handout and the CRC. A licensed Plumber (C36), a Fire Protection Contractor (C16), or a properly licensed California Professional (Registered Civil, Mechanical or Fire Protection Engineer) may design the system.

Residential fire sprinkler plans may be installed by a Plumber, Fire Protection Contractor or by a qualified landowner. The appropriate “Declaration” from the contractor who will install the sprinkler system (or the landowner Declaration if the landowner intends to install) must be submitted with the sprinkler plans.

The sprinkler plans shall specify the type of system to be installed (i.e., Combination, Stand alone, Anti-Freeze, or other approved type); see Section 3, Design Requirements, below.

### 1. Submittal Requirements (see Section 4 for detailed checklist):

- a. For dwellings served by wells, provide the verified well log with tested GPM output or a back-up water supply source plan.
- b. Two (2) sets of plans.
- c. Two (2) sets of hydraulic calculations.
- d. Two (2) sets of manufacturer’s materials information sheets for sprinkler heads, piping, hangers, valves, gauges, and flow switch.

### 2. Approval of Plans and Inspections:

- a. The approved permit application entitles the applicant to **one (1)** hydrostatic/overhead piping inspection prior to installing insulation and **one (1)** final fire sprinkler inspection/performance test.
- b. It is the installer’s responsibility to perform sufficient pre-inspection testing to ensure operational integrity and reliability of the system in order to avoid delays at the time of inspection.
- c. If an additional inspection is required, the current \$52 inspection fee will apply.

### 3. Design Requirements:

- a. **Freeze Protection** must be adequately shown on the plans (including heat sources) which will require coordination between the Design Professional in Responsible Charge and the

Fire Sprinkler Contractor/Designer. Statements such as “Freeze Protection by Others” are not acceptable and will result in the plans being returned as incomplete.

- b. Sprinkler Systems shall be designed per National Fire Protection Act (**NFPA 13D**) or **C.R.C. Section R313.3**. (Note: Section R313.3 shall apply to stand alone and multi-purpose wet pipe sprinkler systems that DO NOT use anti-freeze. A multi-purpose system supplies domestic water to both fire sprinklers and plumbing fixtures).
- c. Freeze proofing shall be designed pursuant to the California Plumbing Code. Anti-Freeze systems shall be designed and installed pursuant to **NFPA 13D**.

4. **Plan Submittal Requirement Checklist:** A typical residential fire sprinkler plans submittal shall include the following: (**Check off completed items. Failure to provide the required information will result in the delay of your plan review.**)

- Provide a site plan, drawn to scale, showing the underground pipe size, location, water meter size, and connection point to the well or Service District main. Also, for well, tank storage, and pump systems, show equipment location, access, 120/220 volt receptacles, and freeze protection.
- Note any sloped, coffered or other non-conventional ceilings. Indicate pitch for sloped ceilings and rise or fall of coffered or dropped ceiling areas.
- Note any exposed beams, lighting fixtures, ceiling fans or other ceiling obstructions to the sprinkler heads. Indicate beam sizes.
- Provide scaled cross sections for any non-conventionally framed area(s) of the structure showing sprinkler system components and building construction.
- Indicate on the plans all heat sources.
- Indicate the type of piping being used in all areas (system piping, riser piping, and underground piping).
- Provide all pipe sizes and lengths (system piping, riser piping, and underground piping).
- Show any attic space areas with heat producing appliances and provide sprinkler coverage for those areas.
- Specify the manufacturer of the sprinkler head, orifice size, and temperature rating.
- Provide hanger details showing all components and attachment devices.
- Provide a system riser detail showing all valves and devices (no shut-off devices shall be installed on the system side).
- Show the location of the exterior all-weather horn device when provided.
- **C.R.C. R313.3.2.3** states, “Piping shall be protected from freezing as required by the California Plumbing Code.... Where fire sprinkler piping cannot be adequately protected against freezing, the system shall be designed and installed in accordance with **NFPA 13D**.” Show in *detail* how freeze protection is provided.

**Exceptions:**

Exceptions to the above requirement to install residential fire sprinklers include the following:

- Automatic fire sprinkler systems are not be required for additions or alterations to existing legally established buildings that are not already equipped with an automatic residential sprinkler system. This exemption includes attached second residences, attached guesthouses (as defined by section 18.14.480 of Lassen County Code) and attached guestrooms (as defined by

Lassen County Code section 18.14.500) where the existing residence was not required to install a residential fire sprinkler system.

- Automatic fire sprinkler systems are not be required for detached “accessory dwelling units” (ADUs), if the primary residence was not required to install sprinklers **and** if the ADU is approved through either a use permit (per Chapter 18.112 of Lassen County Code) or through a certificate of conditional use (per Lassen County Code section 18.114.030). The interim ADU policy is available upon request and is applicable until the ordinance required by section 65852.2 of the Government Code [currently codified at subsection (3) of Lassen County Code section 18.108.270] is amended. Said interim policy is dated January 7, 2021.
- Detached guesthouses (as defined by section 18.14.480 of Lassen County Code) and detached guestrooms (as defined by Lassen County Code section 18.14.500) are not required to have a residential fire sprinkler installed even if the residence on the site has a fire sprinkler system. This is because neither a guesthouse or a guestroom contain a kitchen and therefore do not meet the CRC definition of a “dwelling” (section R202).