



CITY OF NEWPORT BEACH

Fire Department

Fire Prevention Division

GUIDELINES AND STANDARDS

GUIDELINE F.06 – Residential Fire Sprinkler Requirements

F.06.1 PURPOSE

The purpose of this guideline is to provide information and requirements for the design and installation of residential fire sprinklers in one and two family dwellings in accordance with the provisions of the 2019 California Fire Code (CFC), Title 9 and Title 15 of the Newport Beach Municipal Code, and 2016 National Fire Protection Association (NFPA) Standard 13D.

F.06.2 SCOPE

This guideline shall apply to all portions of a residential fire sprinkler system in one and two family dwellings.

F.06.3 DEFINITIONS

Per NFPA 13D Section 3.3.1 Compartment. A space completely enclosed by walls and a ceiling. Each wall in the compartment is permitted to have openings to an adjoining space if the openings have a minimum lintel depth of 8 in. (200 mm) from the ceiling and the total width of the openings in a single wall does not exceed 8 ft (2.4 m) in width. A single opening of 36 in. (900 mm) or less in width without a lintel is permitted when there are no other openings to adjoining spaces.

F.06.4 PERMITS REQUIRED

An encroachment permit for the fire sprinkler water meter is required from the City of Newport Beach Public Works Department prior to the approval of the fire sprinkler plans.

A permit from the City of Newport Beach Community Development Department is required for the installation of a residential fire sprinkler system.

- Two sets of clearly identifiable fire sprinkler plans, technical data sheet for all system components, letter from water purveyor indicating the static pressure for the project (dated within six months), and hydraulic calculations.
- Plans shall clearly identify all nodes, all locations of fittings and their corresponding friction loss in the submitted hydraulic calculations.

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- Accurate length of pipes and their corresponding friction loss in the submitted hydraulic calculations and an accurate fire sprinkler legend.
- Minimum size of plan is 18" x 24". Plans shall be clear and contain minimal additional information for other aspects or design features of the project. All heat sources, fans, slope of ceilings, forced air unit(s) FAU(s) and beams shall be identified. Beams shall have the dimensions identified on the plans.
- Plans shall be legible, scaled to nationally recognized standards, and printed as blue-line or black-line drawing. The Architect or Engineer of Record shall review the sprinkler plans to assure coordination with other trades and building elements. consideration should be given to: lights, interior design, plumbing, ductwork, structural methods or attachment for sprinkler piping, and loads/impacts on structural components.
- Sprinkler heads shall not be installed in the fittings prior to the fittings being cemented in place (temporary test plugs).

F.06.5 PROCEDURE

TITLE PAGE REQUIREMENTS

A scaled drawing where required should show the following:

1. Address
2. Scale of plans shall be clearly identified
3. Size and type of domestic line, including length to city connection
4. Water meter size
5. Current static water pressure
6. Identify whether the system is looped, gridded or straight run
7. Interior walls
8. Model, manufacturer, temperature, orifice size, and spacing requirements of sprinklers
9. Type of pipe
10. Hanger spacing requirement per the pipe manufacturer

11. Riser detail
12. Installing Contractor Information Sprinkler drawings must be prepared, stamped and signed by a licensed civil, mechanical, or fire protection engineer or by a licensed sprinkler contractor holding a valid C-16 license specify the name, license number, address, and phone number of the preparer of the sprinkler drawings.
13. Hydraulic Calculations. In common water supply connections serving more than one dwelling unit, 5 GPM shall be added to the sprinkler system demand to determine the size of common piping and the size of the total water supply requirements where no provision is made to prevent flow into the domestic water system upon operation of a sprinkler.
14. Accurately identify all fittings and length of pipe in plans and hydraulic calculations.
15. Indicate all Beam locations and include the depth and the width.
16. Provide all slopes for the ceiling areas.
17. Indicate any openings in walls or rooms that are greater than 8 feet in width.
18. Provide an accurate count and all types of sprinkler heads to be used with a head legend.
19. Indicate sprinkler head locations in relation to all heat sources according to Table 7.5.6.3 in NFPA 13D.

Table 7.5.6.3 Minimum Distances for Ordinary and Intermediate Temperature Residential Sprinklers

Heat Source	From Edge of Source to Ordinary Temperature Sprinkler		From Edge of Source to Intermediate Temperature Sprinkler	
	in.	mm	in.	mm
Side of open or recessed fireplace	36	900	12	300
Front of recessed fireplace	60	1500	36	900
Coal- or wood-burning stove	42	1050	12	300
Kitchen range	18	450	9	229
Wall oven	18	450	9	229
Hot air flues	18	450	9	229
Uninsulated heat ducts	18	450	9	229
Uninsulated hot water pipes	12	300	6	150
Side of ceiling- or wall-mounted hot air diffusers	24	600	12	300
Front of wall-mounted hot air diffusers	36	900	18	450
Hot water heater or furnace	6	150	3	76
Light fixture				
0 W-250 W	6	150	3	76
250 W-499 W	12	300	6	150

20. Indicate if the basement is finished ceiling or un-finished when using non-metallic pipe.

21. Indicate all potential obstructions, ceiling fans, cabinets, beams, lights, soffits, etc.
22. Indicate all fuel fired equipment, hot water heaters, furnaces, dryers Forced Air Units and indicate if they are above or in the living space.
23. Indicate if the entryway to the home is the only egress point.
24. Sprinklers shall be required in carports with habitable space above.

RISER ASSEMBLY DESIGN

The riser assembly design shall be in accordance with the following diagram and must include the following components:

- A single control valve arranged to shut off both the domestic system and the sprinkler system shall be installed.
- A separate shutoff valve shall be installed for the domestic water supply.
- Each sprinkler system shall have a minimum ½ inch drain on the system side of the control valve, a valve shall be installed in the drain piping.