Sprinkler System Standard for One- and Two- Family Dwellings

(NFPA 13D-2010)
Effective Date: July 1, 2012

NFPA 13D – 2010 edition, referenced in Chapter 47 of the 2010 California Fire Code, is modified with the following amendments:

Section 4.2.1	Replaced with: All piping and attached appurtenances subjected to system working pressure shall be hydrostatically tested at 200 psi and shall maintain that pressure without loss for 2 hours.
Section 4.2.2	Deleted
Section 6.2	Deleted sections 6.2.3.1 and 6.2.3.2.
Section 6.3	Deleted
Section 7.1.1	Replaced with: No valve shall be allowed which shuts off the automatic sprinkler system without turning off the domestic water supply.
Section 7.1.2	Deleted
Section 7.5	Added the following: 7.5.9 Spare sprinklers shall be provided as required by NFPA 13 – 2010, Section 6.2.9
Section 7.6	Replaced with: Local water flow alarms shall be provided on all sprinkler systems.
Section 8.4.4	

Hydraulic Calculations

3.14.1 The pressure cushion for hydraulic calculations shall be the greatest of 10% of the water supply data or 8 psi.

3.14.2 All hydraulic calculations shall include a copy of the letter from the Water Company that states the water-flow data verified within six months of the submittal date. Water-flow data may be obtained from the San Jose Water Company, San Jose Municipal Water Company or Great Oaks Water. If you wish, San Jose Fire Department can perform a water-flow test and provide the water-flow data at an hourly rate (3 hours minimum). However, this test will not take the place of the water company declaration.

3.14.3 The backflow prevention requirements for each water company are unique. San Jose Water Company and Great Oaks Water Company require an additional check valve after their meter. San Jose Municipal Water Company requires a "Lead Free Dual Check Valve Backflow Device (or equivalent)". We will need verification that the correct devices have been represented in the calculations.

3.14.4 The minimum operating pressure shall be as listed for the sprinkler head but in no case shall it be less than 7 psi, regardless of the provisions in NFPA 13 to allow use of sprinklers in accordance with their listing.

3.14.5 A maximum flow velocity of 20 feet/second shall not be exceeded when providing calculation based on the Hazen-Williams formula. See SJFD Handout Titled "20 FPS CHART"

3.14.6 The area of operation may **not** be reduced as allowed by NFPA 13, sections 11.2.3.1.4 & 11.2.3.2.3.1, where quick-response sprinklers are installed.

3.14.7 The area of operation shall be increased by 30% as required by NFPA 13, sections 11.2.3.2.4 and 11.2.3.2.5, for pitched roofs (> 2" in 12") where SSU, SSP, HSW, and Large Drop sprinklers are used, and for dry pipe or gas charged pre-action systems.

3.14.8 Provide documentation for all pipe length equivalents used to develop your calculations. As an Example, Tyco CPVC fittings are "special" in that they get reduced equivalent lengths (for 90° elbow) compared to other manufacturers, you need to provide note on plans and in the calculations that only Tyco CPVC fittings will be used. We will check these in the field, so, the fittings must be readily identified as Tyco CPVC fittings. If not, then you will need to revise your calculations to reflect the "normal" equivalent lengths.

Section 8.4.10 Deleted

Section 8.6 Added the following:

8.6.1.1 Pilot sprinklers shall be provided in the attics and between floors where floor/ceiling assemblies consist of open web wood joists or trusses. Pilot sprinklers shall be quick response, intermediate temperature rated, K=4.2. Pilot sprinklers shall be located within twelve inches of the structure and/or at the apex of each ridgeline when applicable. A sprinkler is required where the ridgeline and hips converge. Maximum spacing between sprinklers shall be thirty feet, and maximum spacing from walls shall be fifteen feet. Also, sprinklers shall be located at all heat and fire sources including furnaces, hot water heaters, above kitchen ranges, etc.

8.6.1.2 Sprinklers shall be required in garages. Sprinklers shall be standard spray, quick response, and intermediate temperature rated. The maximum sprinkler protection area shall be 144 square feet. The design area shall be commensurate with the design area for the residence.

Section 8.6 Deleted sections 8.6.4, 8.6.5, and 8.6.6.

Group U private garages and carports accessory to R-3 occupancies: Carports with habitable space above and attached garages, accessory to Group R-3 occupancies, shall be protected by residential fire sprinklers in accordance with this section. Residential fire sprinklers shall be connected to and installed in accordance with an automatic residential fire sprinkler system that complies with NFPA 13D as amended by San José. Fire sprinklers shall be residential sprinklers or quick-response sprinklers, design to provide a minimum density of 0.05 gpm/ft2 (2.04 mm/min.) over the area to the garage and/or carport, but not to exceed two sprinklers for hydraulic calculation purposes. Garage doors shall not be consider obstructions with respect to sprinkler placement

INSPECTIONS: Inspection shall be scheduled by the installing contractor only. When scheduling for inspection, request sufficient time to complete a thorough inspection of the work performed. Travel time is included in your inspection time.

DOCUMENT REVISONS: This document is subject to revisions. For general information and to verify that you have the most current document, please call 408-535-7750, and request the current version date.