



CHINO VALLEY FIRE DISTRICT FIRE PROTECTION STANDARD

ONE AND TWO FAMILY DWELLING SPRINKLER STANDARD

STANDARD # 126 REVISED 9/17/2015 PAGES 1-3

1. ADMINISTRATIVE

- 1.1 **AUTHORITY:** The standard is adopted under authority of the 2013 California Fire Code, Chapter 9 as adopted by the Chino Valley Fire District.
- 1.2 **SCOPE:** This standard provides specific requirements for the installation of automatic fire sprinkler systems, within one and two family dwellings.
- 1.3 **PURPOSE:** The purpose of this standard is to establish a policy for standardization of the installation of said systems and to set forth inspection and policy requirements within our District.
- 1.4 **PLANS SUBMITTAL:** A minimum of three (3) complete sets of plans shall be submitted for approval by Chino Valley Independent Fire District. All plans shall include elevation gains depicting any changes in elevation and a full height cross section of the building. It shall also include in elevation from the point of the flow test to finished grade (hydrant calculation) and finished floor (system calculation). Plans shall be drawn to scale and shall include a minimum of two (2) sets of the following items:
 - 1.4.1 Hydraulic Calculations
 - 1.4.2 Material Specifications (Cut/Data Sheets)
 - 1.4.3 Current Fire Flow (See Section 3)

2. GENERAL

- 2.1 All sprinkler systems shall be designed and installed to the requirements of the current adopted edition of NFPA 13D, the California Residential Code (CRC), California Fire Code (CFC), other applicable Chino Valley Fire District (CVFD) Standards, and NFPA Standards as they may apply to the hazard being protected.
- 2.2 No deviations from the requirements outlined in this standard will be made without prior approval from the Fire District. In the event a deviation is desired, said deviation shall be submitted through an Alternative Means & Methods process. The deviation shall be designed so that the level of safety is not lowered.

3. HYDRAULIC CALCULATIONS

- 3.1 All hydraulic calculations shall be designed not to exceed 90% of the available city water supply or shall have at least a 10% cushion, whichever is greater. Should the building be equipped with standpipe systems, the demand for said system shall be included in the hydraulic calculations.
- 3.2 The calculations shall include a current fire flow from the water purveyor. A current fire flow is defined to be less than 1 year old from the date of submittal for review. In the event the project is delayed for a period of more than 1 year or more, a new fire flow shall be submitted for review.

4. SYSTEM REQUIREMENTS

- 4.1 Systems shall be supplied by a water meter of sufficient size to meet hydraulically calculated demand and approved for fire sprinklers by the water purveyor. A water meter may be less than 1 inch if approved by the Community Risk Reduction Section.
- 4.2 Water flow alarm and bell shall be installed and be recognized by testing laboratory. The alarm shall ring within 20-40 seconds of the water flow from the Inspector's test valve.
- 4.3 The bell shall be installed in line with the sprinkler riser. The bell shall be provided with a sign that reads "When Bell Rings, Call 9-1-1".
- 4.4 Sprinkler risers shall not be located outside the building. All riser assemblies shall be enclosed in a wall with an approved access door.
- 4.5 Attached garages shall be provided with full sprinkler coverage.
- 4.6 To protect against mechanical damage, protection guards shall be installed over all sprinkler heads in the garage and storage areas if required by the Community Risk Reduction Section.
- 4.7 Each sprinkler system shall have a ½ inch or larger drain valve and test connection. The valve shall be located in a readily accessible area at the furthest end of the system.
- 4.8 Each sprinkler system shall be equipped with a spare head box installed adjacent the riser. A minimum of two (2) sprinkler heads of each type shall be provided.
- 4.9 All valves shall be identified with signs permanently affixed with minimum ¼" letters on contrasting background. Paper signs are not allowed.

5. INSPECTION REQUIREMENTS

- 5.1 All sprinkler systems shall be tested and inspected in accordance with the proper NFPA standards. All tests shall be witnessed by a Fire District Inspector, as required. The following inspections are required, as applicable, for sprinkler systems:
 - 5.1.1 Material and Weld Inspection, if applicable
 - 5.1.2 Hydrostatic Test performed in accordance with NFPA 13
 - 5.1.3 Underground System Flush, if dedicated line
 - 5.1.4 Sprinkler Final

- 5.2 Failure to comply with the Inspection Requirements will result in the inspection not being completed and a re-inspection fee being charged. All inspections shall be scheduled a minimum of 48 hours in advance. Please call Community Risk Reduction Section at (909) 902-5280 for an appointment.
- 5.3 Approved plans and permit shall remain on site for the inspection.
- 5.4 All underground piping shall be tested and flushed in accordance with the proper NFPA standards, prior to connection to any overhead sprinkler piping.
- 5.5 All sprinkler piping shall remain uncovered until a rough inspection has been completed.
- 5.7 At final inspection, ceilings shall have final finishes and have all patches and repairs completed. Cover plates for recessed or semi-recessed sprinklers shall not be installed, but shall be available on-site for inspection.

6. MITIGATING MEASURES

The policy is as follows when the sprinkler system is required as a mitigating measure:

- 6.1 Attics, built-ups or crawl spaces with any portion in excess of five feet (5') in height will be required to have total coverage as in the living spaces. One head, centrally located, will also be required when heating equipment is installed in an area less than 5 feet in height.
 - 6.2 Attics with a stairway or access doors in excess of two feet (2') by three feet (3') shall have total coverage as in the living area.
 - 6.3 Detached garages may require total coverage as in the living area.
 - 6.4 All bathrooms are required to have sprinkler coverage, regardless of size.
 - 6.5 Dwellings exceeding 5,000 square feet in size shall design to 13R standards. Calculation of four (4) most remote heads is required.
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