

THIS RESIDENTIAL SPRINKLER SYSTEM SHALL BE DESIGNED AND INSTALLED AS PER NFPA 13D OR THE CALIFORNIA RESIDENTIAL CODE AND VENTURA COUNTY FIRE CODE.

THE OVERHEAD SYSTEM SHALL BE INSPECTED AT THE FOLLOWING STAGES:

- ROUGH / HYDRO.
- BUCKET TEST.
- FINAL.

DEDICATED FIRELINE UNDERGROUND MAINS AND LEAD-IN CONNECTIONS SHALL BE INSPECTED AT THE ROUGH / HYDRO STAGE AND FLUSHED IN THE PRESENCE OF A VCFD FIRE INSPECTOR BEFORE CONNECTION IS MADE TO OVERHEAD SPRINKLER PIPING. CALL ONE WORKING DAY IN ADVANCE TO SCHEDULE ALL INSPECTIONS.

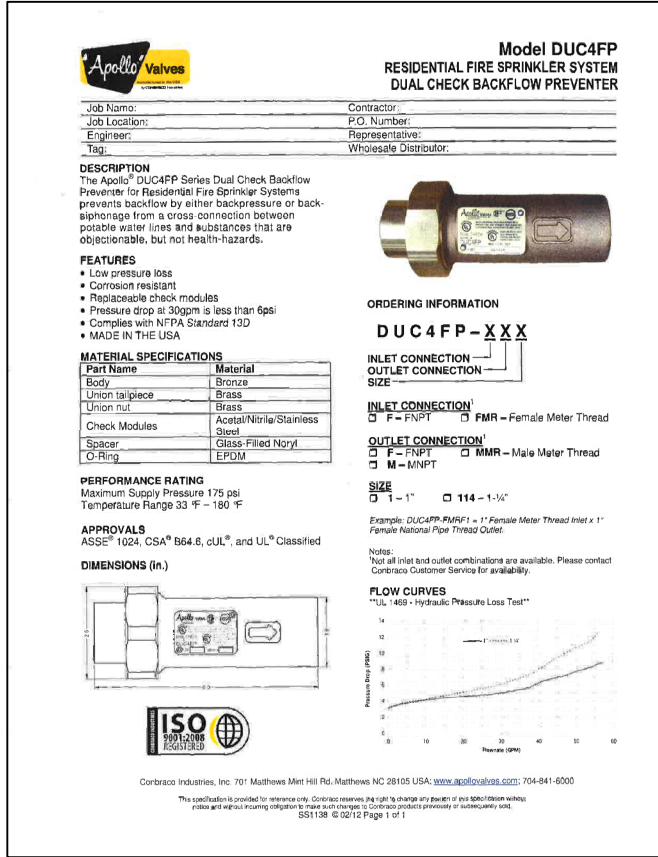
PASSIVE PURGE SYSTEMS NOT ALLOWED IN VCFD JURISDICTION.

NO SPRINKLER HEADS ABOVE ATTIC FAU UNIT.

VCFD INSPECTION LINE: 805.389.9744

A
FIRE SPRINKLER
MAIN CONTROL

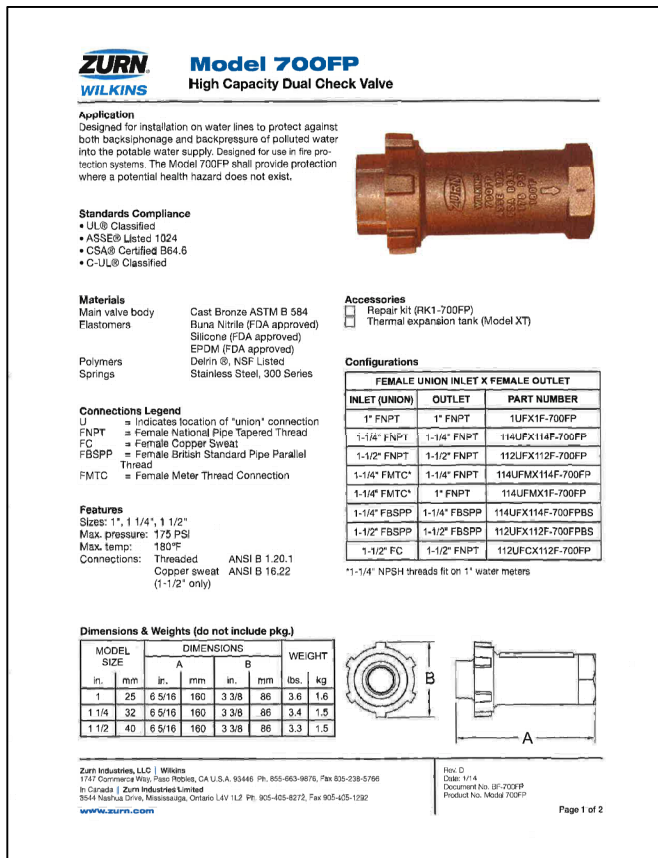
B
FIRE SPRINKLER
SHUT OFF AT
WATER METER



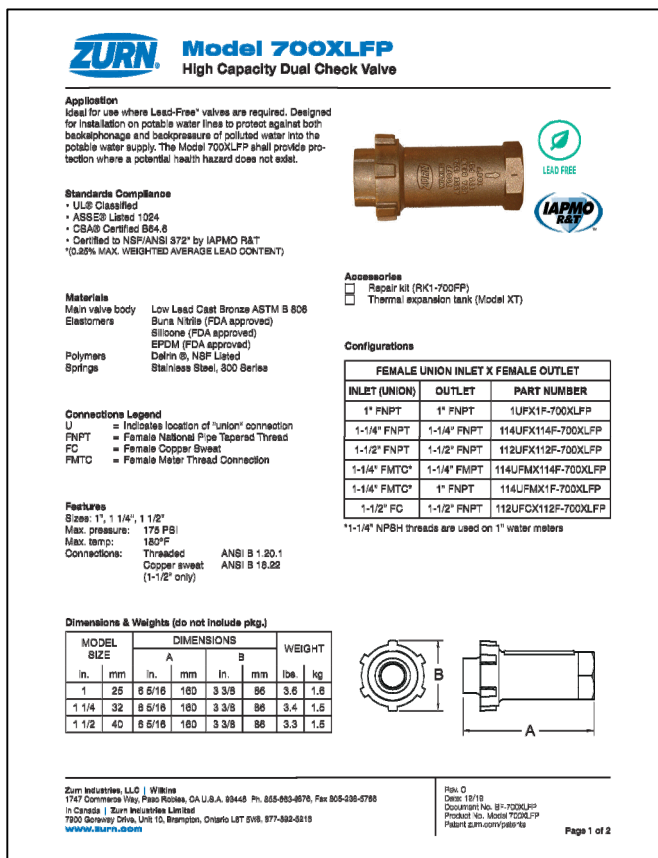
APOLLO: DUC4FP



WATTS: LF07S

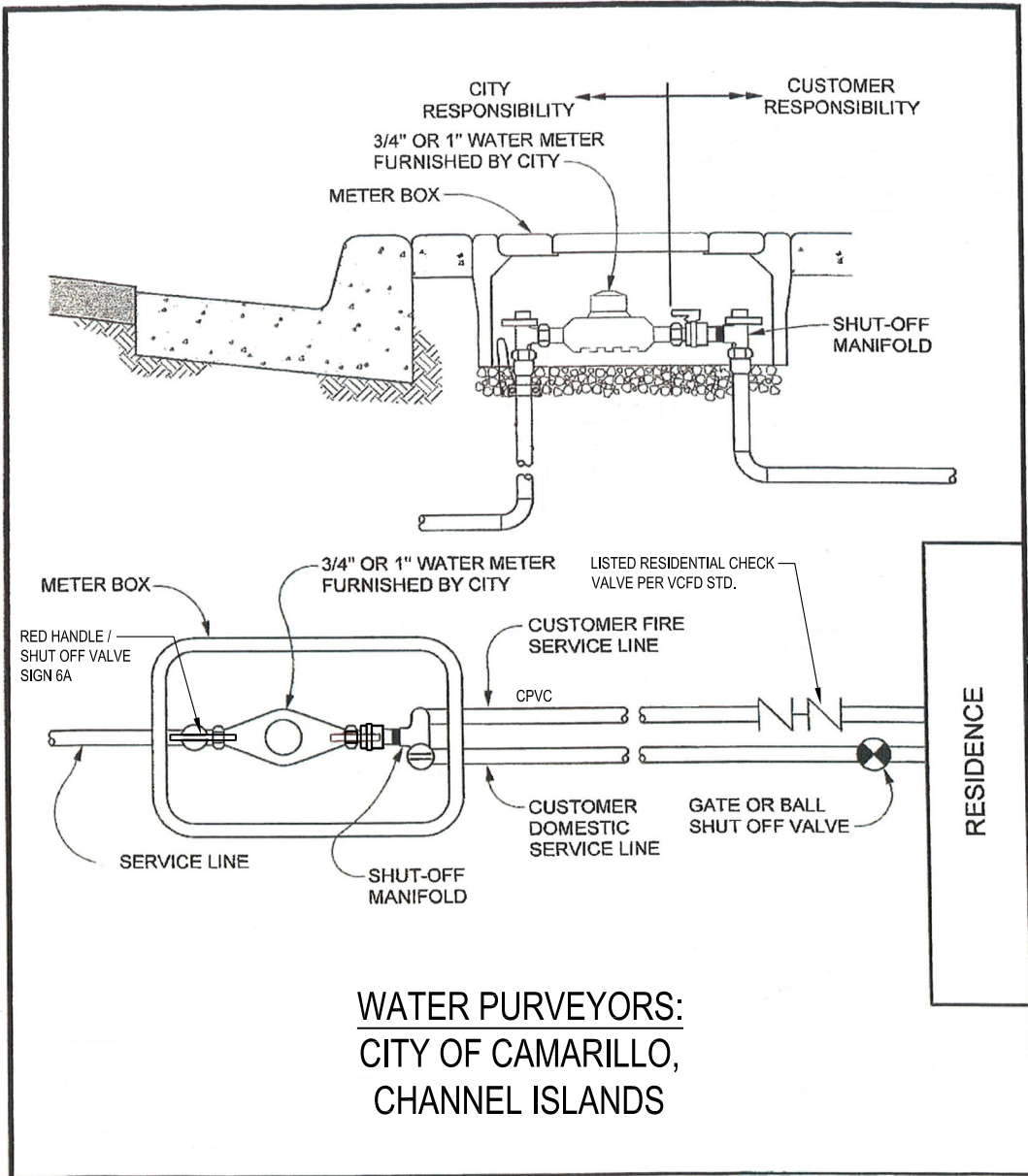


ZURN: 700FP

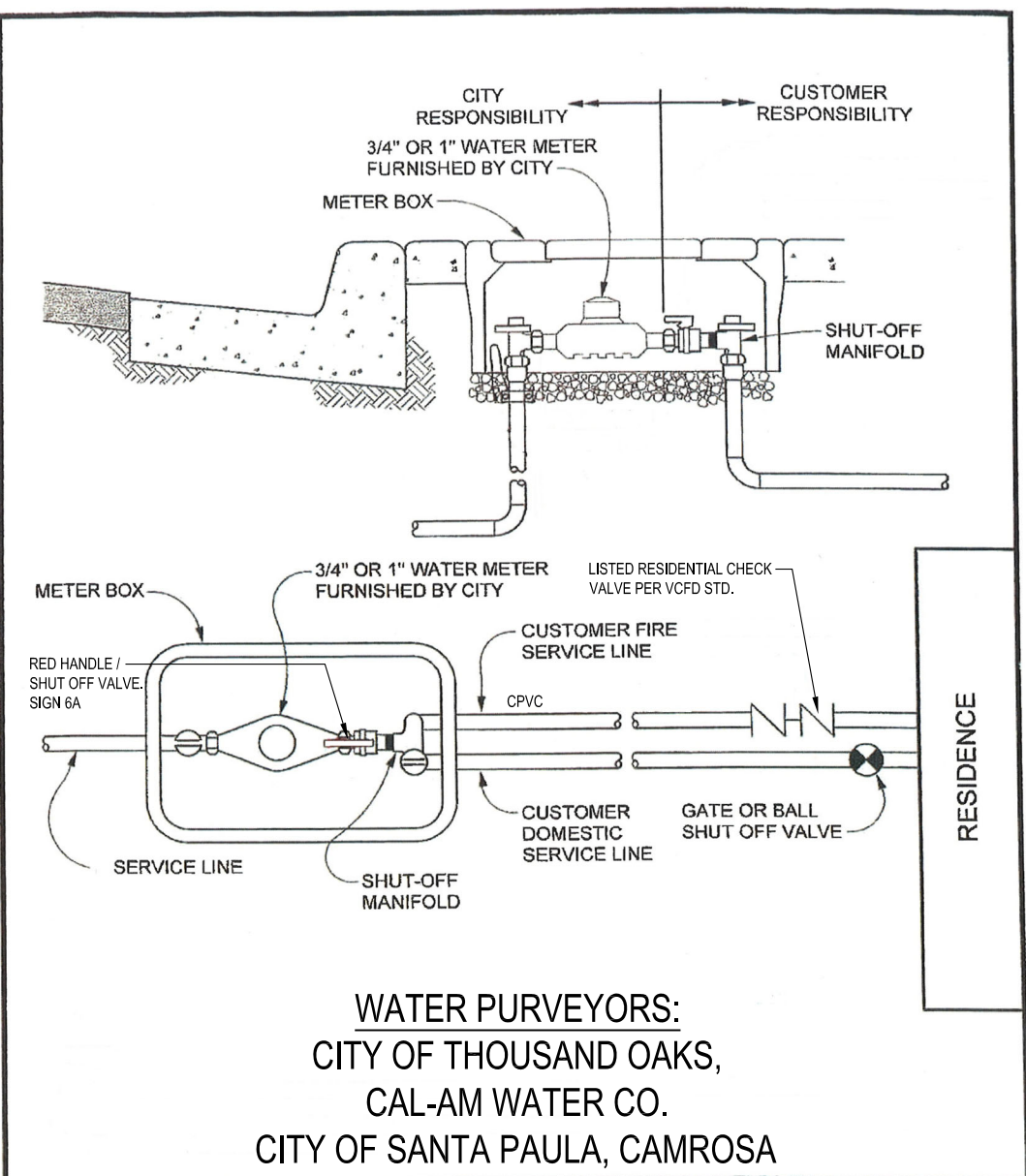


ZURN: 700XLPF

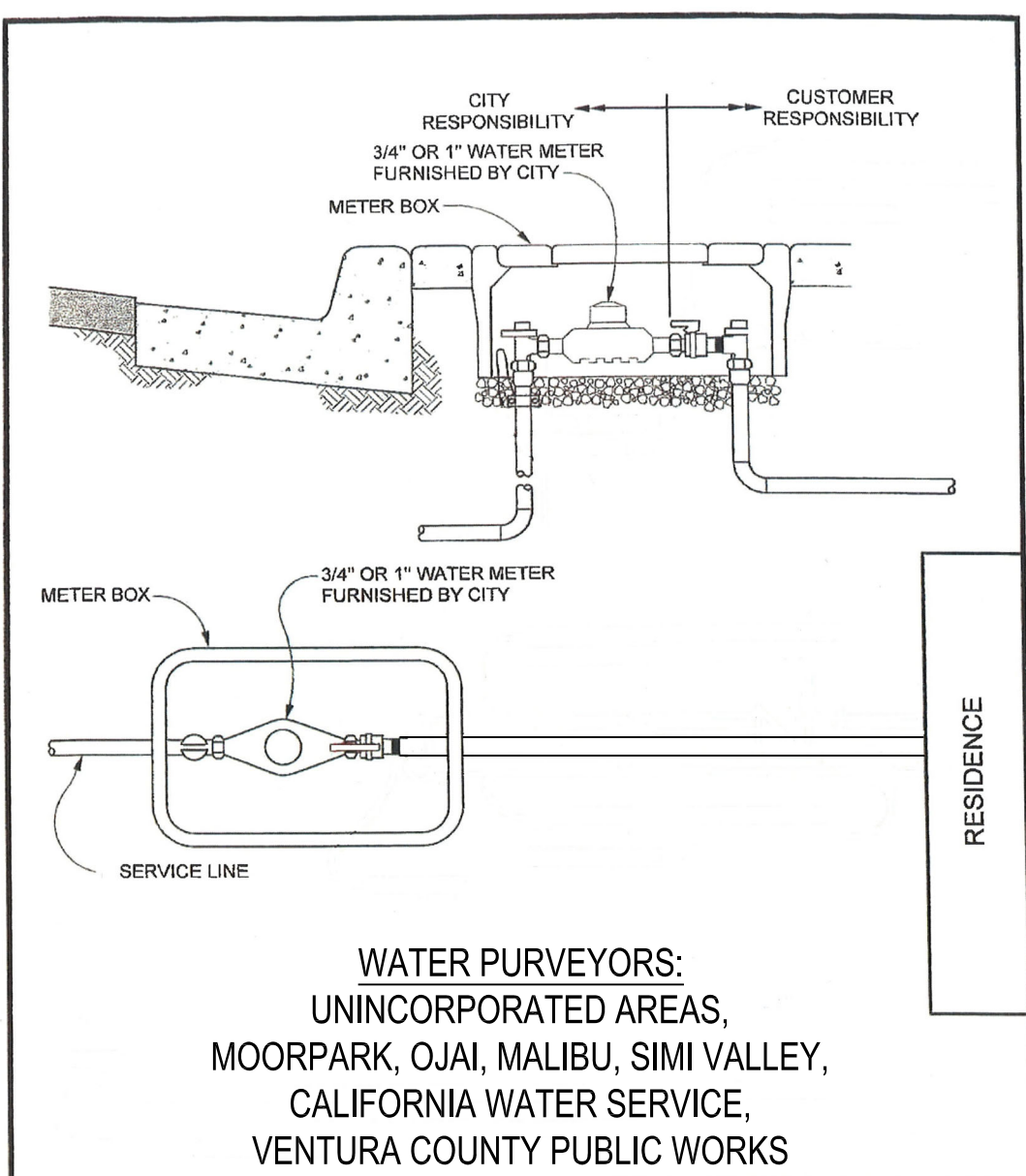
A LISTED RESIDENTIAL CHECK VALVE SHALL BE INSTALLED ON THE SYSTEM SIDE OF THE MAIN CONTROL VALVE.



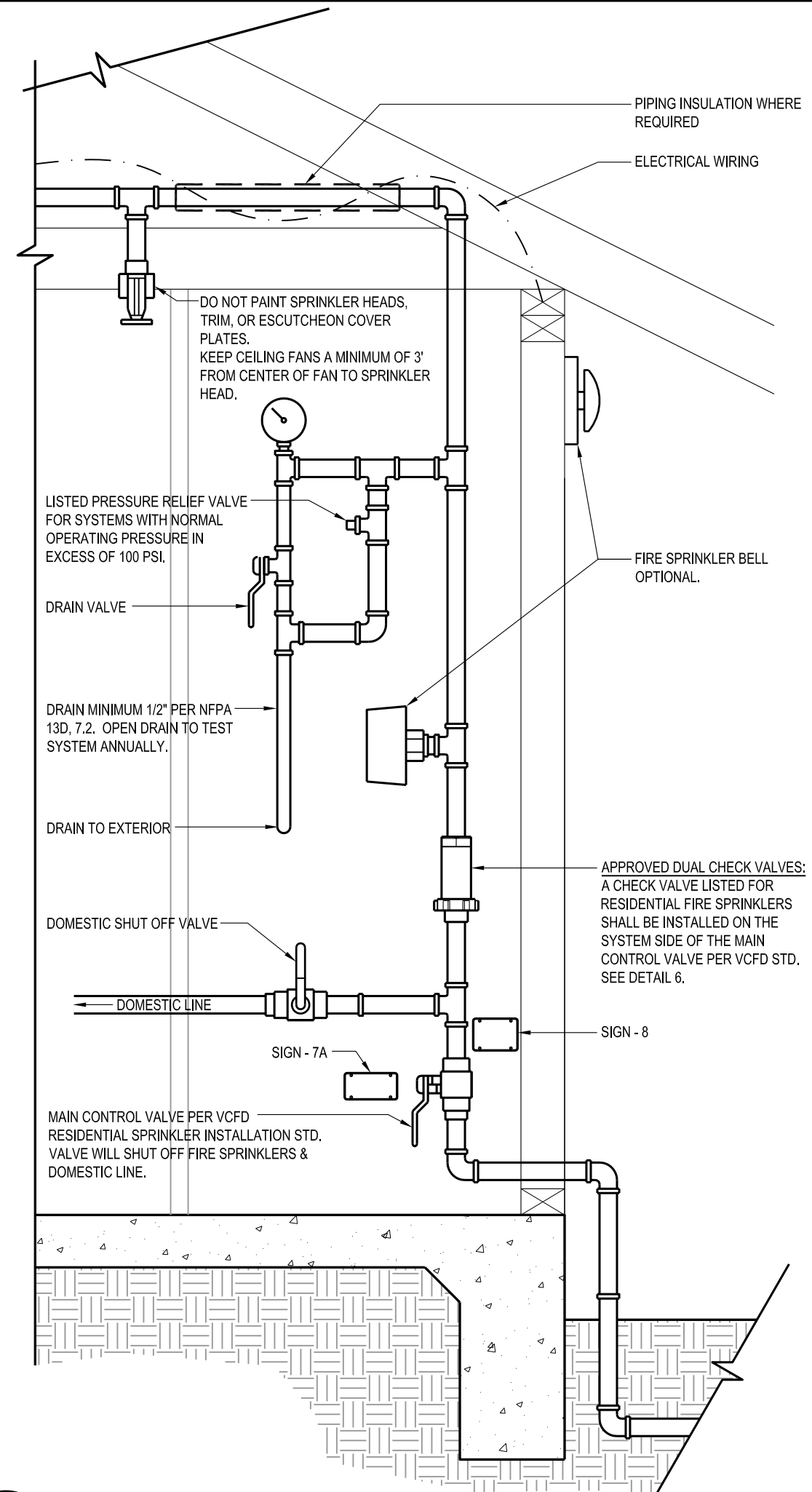
3 FIRE SPRINKLER UNDERGROUND



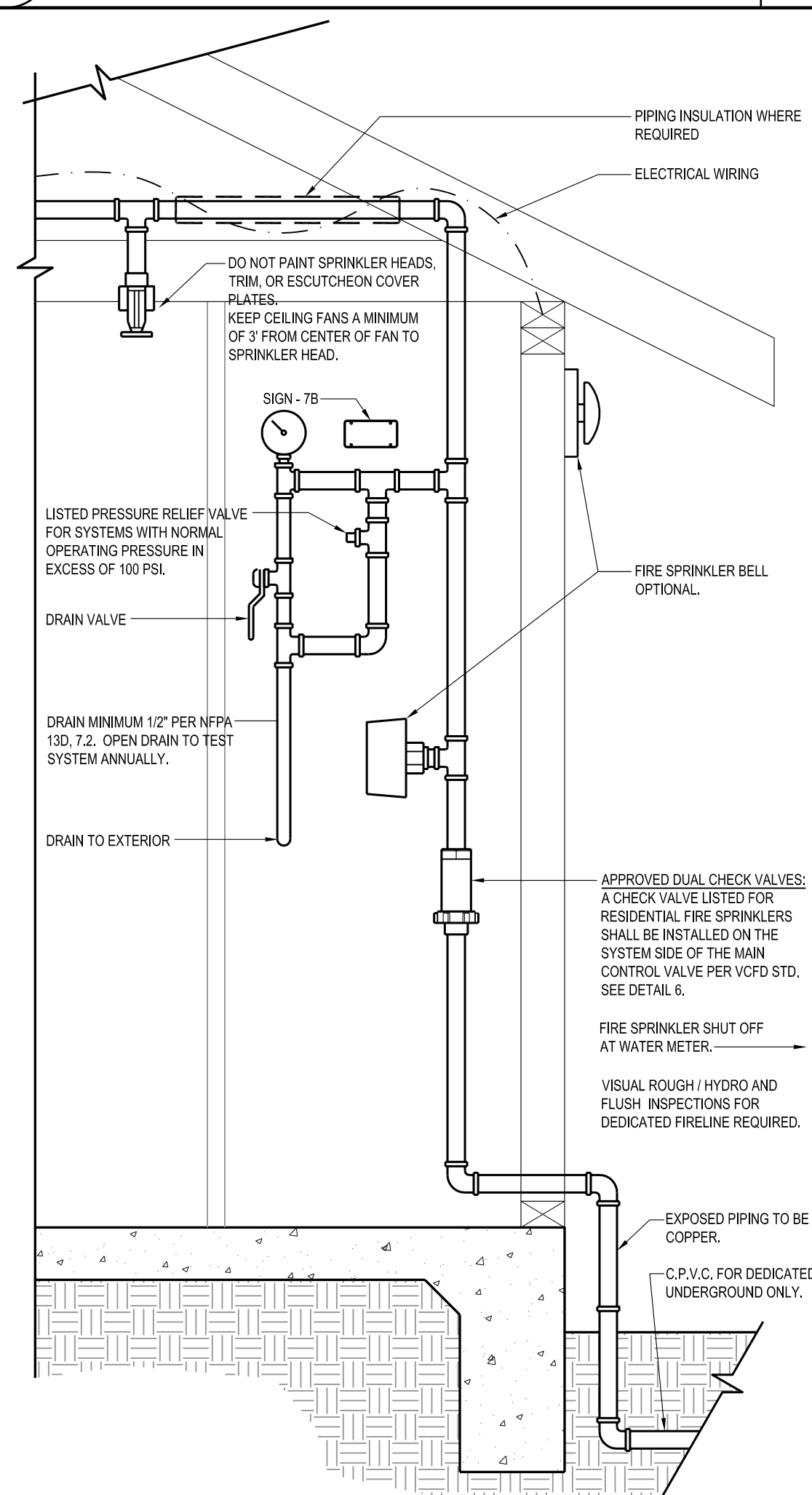
4 FIRE SPRINKLER UNDERGROUND



5 FIRE SPRINKLER UNDERGROUND



1 FIRE SPRINKLER & DOMESTIC RISER



2 FIRE SPRINKLER W/ DEDICATED UNDERGROUND



THIS DOCUMENT PROVIDED TO THE CONTRACTOR AND HOMEOWNER BY VENTURA COUNTY FIRE DEPT. FOR MORE INFORMATION GO TO VCFD.ORG.

C-16 STAMP

C-16 CONTRACTOR:

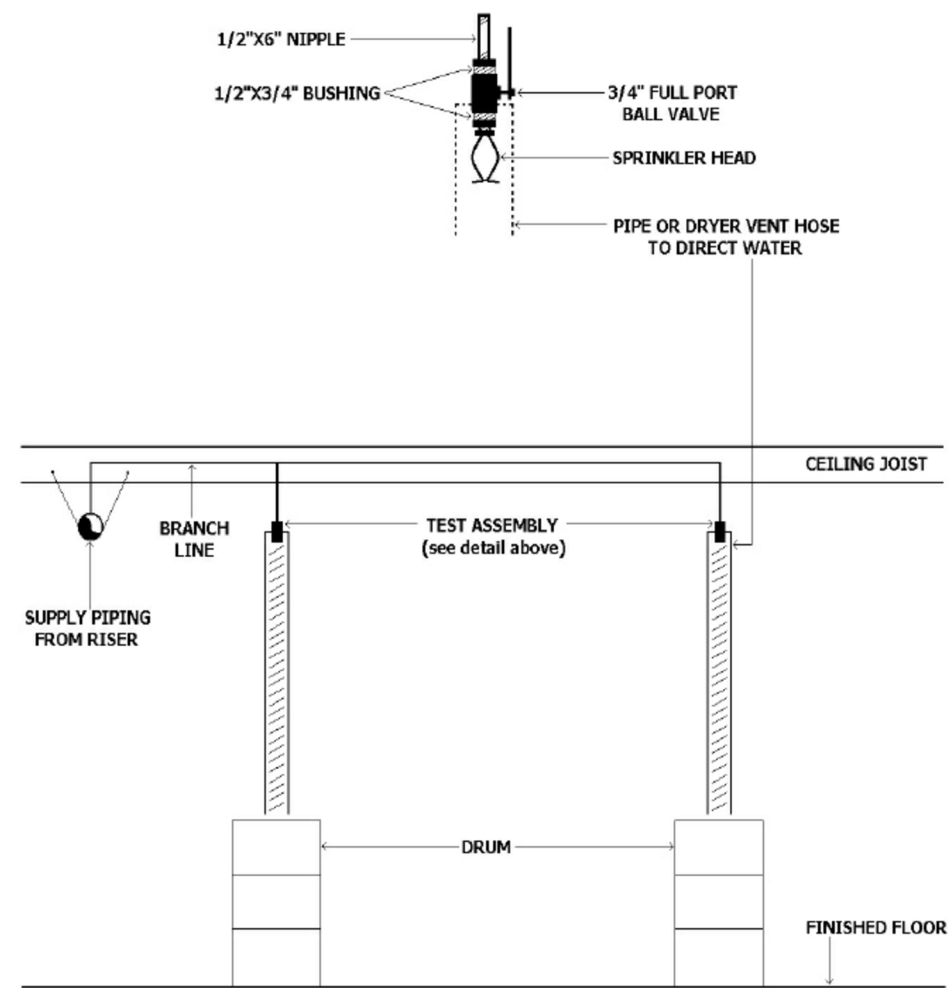
PROJECT ADDRESS:

VCFD RECORD NUMBER:

VCFD
RESIDENTIAL
SPRINKLER STD.
OVER THE
COUNTER

Updated: 8/28/2023

10 VCFD INSPECTIONS & GENERAL NOTES



11 BUCKET TEST SET UP

WATER SUPPLY INFORMATION

NAME OF WATER PURVEYOR: _____

WATER METER SIZE: _____ (IN.)

RESIDENTIAL SPRINKLER INFORMATION

MANUFACTURER AND MODEL: _____

TEMPERATURE: _____ (°F)

ORIFICE SIZE: _____ (K' FACTOR)

MAX. COVERAGE AREA PER SPRINKLER: _____ (FT. x FT.)

PIPING INFORMATION

MATERIAL (OVERHEAD): _____

MATERIAL (UNDERGROUND): _____

*NO GALVANIZED OR STEEL PIPE ALLOWED IN VENTURA COUNTY FIRE JURISDICTION FOR 13D SYSTEMS.

HYDRAULICALLY MOST DEMANDING AREA

MINIMUM FLOW RATE FOR A SINGLE SPRINKLER: _____ (GPM)

ARE THERE ANY AREAS WHERE IT DOES NOT MEET ONE OF THE CONDITIONS

OF 10.2.1? YES _____ NO _____

IF YES, ARE RESIDENTIAL SPRINKLERS LISTED FOR USE IN SPECIFIC CEILING CONFIGURATIONS BEING USED IN ACCORDANCE WITH THEIR LISTING?

YES _____ NO _____

IF NO, THE NUMBER OF SPRINKLERS IN THE DESIGN AREA SHALL BE THREE.

CONTRACTOR TO SUBMIT PLANS FOR DESIGNS OUTSIDE OF 10.2.1 CRITERIA.

12 SYSTEM DESIGN

7 SIGN AT SINGLE CONTROL VALVE

WARNING: THE WATER SYSTEM FOR THIS HOME SUPPLIES FIRE SPRINKLERS THAT REQUIRE CERTAIN FLOWS NO PRESSURES TO FIGHT A FIRE. DEVICES THAT RESTRICT THE FLOW OR DECREASE THE PRESSURE OR AUTOMATICALLY SHUT OFF THE WATER TO THE FIRE SPRINKLER SYSTEM, SUCH AS WATER SOFTENERS, FILTRATION SYSTEMS, AND AUTOMATIC SHUTOFF VALVES, SHALL NOT BE ADDED TO THIS SYSTEM WITHOUT A REVIEW OF THE FIRE SPRINKLER SYSTEM BY A FIRE PROTECTION SPECIALIST. DO NOT REMOVE THIS SIGN.

* PLACE SIGN AT DOMESTIC / FIRE SPRINKLER SHARED SYSTEMS ONLY.

8 WARNING SIGN

NUMBER OF DESIGN SPRINKLERS:

10.2.1. FOR EACH OF THE FOLLOWING SITUATIONS, THE NUMBER OF SPRINKLERS IN THE DESIGN AREA SHALL BE ALL OF THE SPRINKLERS WITHIN A COMPARTMENT, UP TO A MAXIMUM OF TWO SPRINKLERS, THAT REQUIRE THE GREATEST HYDRAULIC DEMAND:

- 1) A FLAT, SMOOTH, HORIZONTAL CEILING WITH NO BEAMS UP TO A MAXIMUM OF 24 FT. (7.3 M) ABOVE THE FLOOR.
- 2) A FLAT, SMOOTH, HORIZONTAL CEILING, WITH A MAXIMUM CEILING HEIGHT OF 24 FT. (7.3M), WITH BEAMS UP TO 14 IN. (350 MM) DEEP WITH PENDENT SPRINKLERS UNDER THE BEAMS. THE COMPARTMENT CONTAINING THE BEAMED CEILING SHALL BE A MAXIMUM OF 600 SQ. FT. IN AREA. THE HIGHEST SPRINKLER IN THE COMPARTMENT SHALL BE ABOVE ALL OPENINGS FROM THE COMPARTMENT INTO ANY COMMUNICATING SPACES.
- 3) A SMOOTH, FLAT, SLOPED CEILING WITH NO BEAMS UP TO A MAXIMUM SLOPE OF 8 IN 12. THE HIGHEST PORTION OF THE CEILING SHALL NOT BE MORE THAN 24 FT. (7.3 M) ABOVE THE FLOOR. THE HIGHEST SPRINKLER IN THE SLOPED PORTION OF THE CEILING SHALL BE ABOVE ALL OPENINGS FROM THE COMPARTMENT CONTAINING THE SLOPED CEILING INTO ANY COMMUNICATING SPACES.
- 4) A SLOPED CEILING WITH BEAMS UP TO 14 IN. (350 MM) DEEP WITH PENDENT SPRINKLERS UNDER THE BEAMS. THE COMPARTMENT CONTAINING THE SLOPED, BEAMED CEILING SHALL BE A MAXIMUM OF 600 SQ. FT. IN AREA. THE SLOPE OF THE CEILING SHALL BE BETWEEN 2 IN 12 AND 8 IN 12. THE HIGHEST PORTION OF THE CEILING SHALL NOT BE MORE THAN 24 FT. (7.3 M) ABOVE THE FLOOR. THE HIGHEST SPRINKLER IN THE SLOPED PORTION OF THE CEILING SHALL BE ABOVE ALL OPENINGS FROM THE COMPARTMENT CONTAINING THE SLOPED CEILING INTO ANY COMMUNICATING SPACES.
- 5) A SLOPED CEILING WITH BEAMS OF ANY DEPTH WITH SIDEWALL OR PENDENT SPRINKLERS IN EACH POCKET FORMED BY THE BEAMS. THE COMPARTMENT CONTAINING THE SLOPED, BEAMED CEILING SHALL BE A MAXIMUM OF 600 SQ. FT. IN AREA. THE SLOPE OF THE CEILING SHALL BE BETWEEN 2 IN 12 AND 8 IN 12. THE HIGHEST PORTION OF THE CEILING SHALL NOT BE MORE THAN 24 FT. ABOVE THE FLOOR.

10.2.2. LISTED FLOWS ASSOCIATED WITH TESTING UNDER A SMOOTH, FLAT, HORIZONTAL 8 FT. (2.4 M) HIGH CEILING SHALL BE PERMITTED TO BE USED FOR THE CEILING CONFIGURATIONS REFERENCED IN 10.2.1.

10.2.3. FOR SITUATIONS NOT MEETING ONE OF THE CONDITIONS IN 10.2.1, RESIDENTIAL SPRINKLERS LISTED FOR USE IN SPECIFIC CEILING CONFIGURATIONS SHALL BE PERMITTED TO BE USED IN ACCORDANCE WITH THEIR LISTING.

10.2.4. FOR SITUATIONS NOT MEETING ONE OF THE CONDITIONS IN 10.2.1 AND 10.2.3, THE NUMBER OF SPRINKLERS IN THE DESIGN AREA SHALL BE NOT LESS THAN (3) SPRINKLER HEADS, OR DETERMINED IN CONSULTATION WITH THE AUTHORITY HAVING JURISDICTION AS APPROPRIATE FOR THE CONDITIONS.

9 NFPA 13D



MEMORANDUM 25-901

DATE: 12-7-2025
TO: C-16 Fire Sprinkler Contractors
FROM: Alan Dearden, Senior Fire Inspector
SUBJECT: Cross-Contamination Control for NFPA 13D Fire Sprinkler Systems
RETAIN UNTIL: 1-1-2026

Effective immediately, all NFPA 13D fire sprinkler systems shall provide cross-contamination control per the requirements of the State Water Resources Control Board, Cross-Contamination Control Policy Handbook, the County of Ventura Water and Sanitation Department, and/or the water purveyor's requirements for the property served whichever is most restrictive.

All new NFPA 13D systems shall require a backflow prevention assembly that meets the following requirements:

1. Double Check Valve BPA (DC) Sizes: 1" through 2"
Only permitted for low hazard services in residential single-family dwellings for sole feed to its non-chemical based fire protection sprinkler system and when installed immediately downstream of the domestic service meter.
2. "Low Hazard Cross-Connection"
Means a cross-connection that has been found to not pose a threat to the potability or safety of the public water supply but may adversely affect the aesthetic quality of the potable water supply. Materials entering the public water supply through a low hazard cross-connection are pollutants or non-health hazards.
3. Backflow Prevention Assembly (BPA)
Shall comply with lead-free requirements of the Safe Drinking Water Act, containing less than or equal to 0.25% lead (Pb) in wetted surfaces as determined by its weighted average, NSF/ANSI 61 & 372 compliant, and conforming to AWWA C510 or C511 as applicable.

Additionally, the assembly shall be from one of the below listed manufacturers and be listed on the latest edition of University of Southern California (USC) Foundation for Cross-Connection Control and Hydraulic Research "List of Approved Backflow Prevention Assemblies", (web site link provided for convenience: <https://fccchr.usc.edu/list.html>.)

Approved Manufacturers:

- Ames
- Febco
- Watts
- Wilkins
- Zurn

The State Water Resource Control Board, Cross-Connection Control Policy Handbook allows the use of a passive purge sprinkler system (Exhibit 1) if it meets all the criteria of Chapter 3, Article 2, Section 3.2.2(e)(3):

(3) A BPA is not necessary for a low hazard fire protection system on a residential user premises if the following criteria are satisfied:

(A) the user premises has only one service connection to the PWS;

(B) a single service line onto the user premises exists that subsequently splits on the property for domestic flow and fire protection system flow, such that the fire protection system may be isolated from the rest of the user premises;

(C) a single, water industry standard, water meter is provided to measure combined domestic flow and fire protection system flow;

(D) the fire protection system is constructed of piping materials certified as meeting NSF/ANSI Standard 61; and

(E) the fire protection system's piping is looped within the structure and is connected to one of more routinely used fixtures (such as a water closet) to prevent stagnant water.

A passive purge sprinkler system is not permitted on properties required to have a dedicated fire sprinkler underground by the water purveyor serving the project site. Additional guidance will be posted on our website as it becomes available.

EXHIBIT 1

