



CHINO VALLEY INDEPENDENT FIRE DISTRICT FIRE PROTECTION STANDARD

SPRINKLER SYSTEM STANDARD

STANDARD # 110

REVISED 12/30/1991 PAGES 4

GENERAL REQUIREMENTS

1. All sprinkler systems shall be designed to the requirements of the latest edition of NFPA 13, the Uniform Fire Code, the Chino Valley Fire Department and other NFPA Standards as they may apply to the hazard being protected. No deviations from those requirements will be made without prior approval from the Chino Valley Fire Department.

UNDERGROUND PIPING SYSTEMS

2. Underground sprinkler piping shall be installed in accordance with Fire Department Standard #103 and NFPA #24. The minimum underground supply main diameter shall be six inches (6') to any one fire hydrant. The minimum underground supply main diameter shall be eight inches (8') to any combination of two (2) or more fire hydrants and/or sprinkler system risers.
3. All non-ferrous (PVC) piping shall have minimum 14 gauge locator wire installed. This wire shall be attached to the top of the pipe at ten foot (10') intervals. The wire shall be electrically continuous between valve boxes.
4. All underground pipe shall be laid with the identification data facing up to permit inspection and verification of pipe nomenclature.
5. All sprinkler systems shall have a post-indicator valve installed in the underground line. This post-indicator valve shall be located a minimum of twenty feet (20') from the building or ten feet (10') further from the building than the height of the wall adjacent to the valve, whichever is greater. The target on the post indicator shall be placed so when looking at the target you will be facing the direction that the pipe runs.
6. Looped or double connection underground systems shall have sectional control valves (P.I.V. type) installed in the underground line to isolate sections of piping, if necessary. These valves shall be located so no more than 5 sprinkler risers and/or fire hydrants will be isolated at a time. Rack systems are not to be included in this quantity. Any looped underground system shall have at least one sectional control valve located at the far section of the loop, regardless of the number of items on the piping.

7. Sectional control valves shall be of the post-indicator type and will be monitored. Underground gate valves with roadway boxes are not acceptable as sectional control valves.
8. All sprinkler systems having 100 heads or more shall have a supervised alarm system capable of transmitting a water flow or tamper alarm to a central alarm station which, in turn, shall transmit the alarm to the Fire District Dispatch Center. All valves controlling the fire sprinkler system, including any above grade double detector check valve, shall be provided with a monitored tamper switch. This system shall be installed and in operation prior to final approval of the building.
9. All post indicator valve handles and control valves shall be locked in the open position. Contractor shall provide approved break-away locks and/or chains. All post indicator valves shall have proper signage as to what system or areas they serve or control when it is not clear what they serve.
10. Buildings which are built as "SPEC" warehouse shall have the sprinkler system designed in accordance with NFPA #231-C for Class IV commodity, double row racks, 21' high storage and 4' aisle width, without in-rack sprinklers, with a minimum operating area of 3,000 sq. ft.
11. Sprinkler heads installed at the roof area shall be of the high temperature rating.
12. Any sprinkler system which has a water supply from the city with a static pressure of 100 psi or more shall have a pressure relief valve installed on the riser trim to prevent excessive pressure buildup. This valve should be adjusted to relieve system pressure at 150 psi or 15 psi higher than the static pressure to a maximum of 175 psi, whichever is greater.
13. Sprinkler heads shall not be located within any smoke vents or skylights.
14. Prior to final acceptance, the water motor bell or electric bell and flow switch on the address side of the building shall be functional, all component identification signs shall be permanently affixed and designed to #20 specifications (page 3), system hydraulic data plaques and the spare head box, including additional sprinklers and sprinkler head wrench, shall be installed.
15. All Drains, auxiliary drains, inspector's test, etc., shall be run to the building exterior, into a roof drain downspout, floor drain or to any other suitable location approved by the Fire Department. They shall not be concealed above ceiling tiles.

CONTRACTOR DRAWINGS

16. Drawings shall be complete and all information required by NFPA #13 shall be included on the plans.
17. Each sheet of plans shall include the Fire Department file number in or about the area of the title block.

HYDRAULIC CALCULATIONS

18. All hydraulic calculations shall be designed not to exceed 90% of the available city water supply or have a least a 10 psi cushioning, whichever is greater. The demand is to include the sprinkler system demand and the combined hose requirements as outlined by the proper NFPA standard.
19. The calculations shall include information from the water company verifying the available water supply and shall be less than one year old.

FIRE DEPARTMENT CONNECTION

20. This sign shall have a minimum of four inch (4') reflective white numbers/letters with a red background (3/4" stroke). Signs shall be permanently affixed with tamper resistant hardware. They shall also be constructed of material that resists weather elements. Check with the Fire Department Inspector prior to final inspection for proper signage required. Signs shall be installed prior to final inspection.
21. The Fire Department connection shall be located on the address side of the building and be unobstructed from view by any objects. If it is not completely clear as to which building or area the FDC serves, a sign shall be placed on the FDC describing the area it protects.
22. The FDC shall be located within 50' of a fire hydrant and a minimum of 20' from the building and a maximum of 5' from the curb line.
23. When the total system demand, including hose allowance, is in excess of 1750 gpm, the FDC shall have a 6" riser with (1)-4" inlet and (2)-2 1/2" inlets.
24. One FDC may serve all buildings on a project unless property lines exist between buildings. In such case, each building shall have its own FDC. Each point of connection to the public water system shall have an FDC.

SYSTEM TESTING

25. All sprinkler systems shall be tested in accordance with the proper NFPA standards. All tests shall be witnessed as required by the Fire Department.
26. All underground piping shall be tested and flushed prior to connection to any overhead sprinkler piping.
27. It is the contractor's responsibility to give proper notification of these tests prior to any piping being concealed.

SPECIAL CONCERNS

28. Composite wood joist construction (TJI) in excess of 16” requires protection to be determined in individual circumstances.
29. When apartment, duplex, triplex or condominium projects are built over garage or trash area, either open or closed, there shall be a domestic sprinkler system installed in the garage or trash areas as approved by the Fire Department.
30. Special hazard areas, high-rise buildings and other areas of fire protection not covered in this standard may require special consideration. The contractor is encouraged to contact the Fire Department regarding areas not covered in this standard.