

MONTECITO FIRE PROTECTION DISTRICT STANDARD 88-4

Installation Requirements for Residential Fire Sprinkler Systems

It is the policy of this fire district and its Board of Directors to require an approved residential fire sprinkler system as a mitigation measure when water supply for fire protection is inadequate or in residences of three thousand five hundred (3500) square feet or more in overall floor area.

This residential sprinkler standard is based upon the National Fire Code Pamphlet 13D, 2002 Edition published by the National Fire Protection Association NFPA. The fire district has made the following modifications and clarifications to the NFPA 13D Standard:

- a. All connections to domestic water supply shall be made in accordance with applicable codes and standards of the County of Santa Barbara Health Care Services and the water purveyor. At present a double check valve assembly (Febco Model 805 or approved) shall be installed at system riser.
- b. No work shall be covered up prior to field inspection. Provide the fire district with 24 hours minimum advance notice for all field inspections. Coordinate piping inspection/flow test to occur ahead of trades following (including insulation). The sprinkler contractor will be charged a fee of one hundred dollars for each inspection required beyond the piping inspection/flow test and the final acceptance inspection in the event that reinspections are required to demonstrate compliance with this standard.
- c. Provide non-threaded one-half inch hose bibbs at the remote test connection as an inspector's test valve and at the riser as a system drain valve. Any threads on these outlets are to be removed.
- d. Sprinkler coverage shall include garages with sprinkler coverage at one hundred square foot spacing intervals.
- e. A single 212 degree upright sprinkler head shall be located within six inches of the roof ridge beam in each discrete attic area or at fifty foot maximum intervals along any main piping.
- f. System shall hold a 200 psi pressure for a period of two hours.
- g. Copies of Manufacturer's data for all installed system components shall be provided upon request prior to final system acceptance. All system components shall be installed following all Manufacturer's guidelines unless specific relief is granted by the Fire Marshal.
- h. Sprinkler spray patterns shall not be obstructed. Provide head clearances as required by NFPA 13D.
- i. The sprinkler contractor shall provide the property owner with maintenance information as described in NFPA 13D. It shall then become owner's obligation to maintain the system.

- j. System hydraulic design shall provide for an allowance of five gallons per minute for domestic demand.
- k. An approved water hammer arrestor shall be installed on the sprinkler system riser.
- l. Sprinkler system shall be supervised by an approved alarm service.
- m. Any required shut off valving shall be locked in the open position prior to final system acceptance.
- n. Flow testing of system is required. Flow shall be measured for a thirty second flow period and shall conform with the Manufacturer's listing criteria for the installed sprinkler heads. Contractors shall provide all equipment necessary for conducting test.
- o. Approved shop drawings shall be maintained on the job site during all phases of system installation. Any field changes shall be noted on the drawings. The drawings shall be submitted to the fire district prior to final clearance.
- p. Allow 24 hours minimum advance notice for the following required inspections:
 - 1. piping/flow test.
 - 2. final system acceptance
- q. The following shall appear on each sheet of required shop drawings: "I certify that this sprinkler system is in full compliance with the design criteria of MFD Standard 88-4 (rev. 2/03)". This note shall appear along with the sprinkler contractor's dated signature and seal.
- r. All materials delivered to the job site shall be protected from the physical elements and damage. Any damaged, gouged, cut, scratched heads, pipe or fittings shall be removed and replaced.
- s. No corrosive or self cleaning fluxes shall be used. Joints shall be wiped clean of excess flux and solder.
- t. All piping running through studs or masonry shall be protected by elastomeric or plastic sleeves at three foot maximum intervals.
- u. Nails are unacceptable as a means of securing hangers and supports. Piping shall be supported at the following maximum intervals:
 - 1. within six inches of all sprinkler drops
 - 2. within eighteen inches of all joints
 - 3. within four foot intervals on CPVC piping
 - 4. within six foot intervals on copper tubing
- v. Heads shall not be located within eighteen inches of any lighting fixtures or HVAC diffuser grille.

- w. Pendant head diffusers may be located a maximum of eight inches below the finished ceiling level. A three head design will be required for any system installed in barreled, coffered, exposed beam or cathedral type ceilings.
- x. The project applicant shall submit three (3) sets of plans, data sheets, and calculations for the proposed sprinkler system to the fire district for review and approval prior to installation.
- y. The system shall be operational prior to receiving final occupancy clearance.
- z. A 1/2"poppet type pressure relief valve by Watts Model FP53L, or fire district approved equal, shall be installed between the required backflow prevention device and the flow switch. Design pressure shall be no greater than 160 psi. A pressure regulator shall be installed where incoming pressures are in excess of 160 psi.

12/91 rev.
11/93 rev.
12/02 rev.
2/03 rev.

MONTECITO FIRE PROTECTION DISTRICT STANDARD 89-1

Installation Requirements for Non-residential Fire Sprinkler Systems

It is the policy of this fire district and its Board of Directors to require an approved automatic fire sprinkler system in all non-residential structures with three thousand, five hundred (3500) square feet or more of overall area.

This sprinkler standard is based upon the National Fire Code Pamphlet 13, 2002 Edition published by the National Fire Protection Association (NFPA). The fire district has made the following modifications to the NFPA 13 Standard:

1. Sprinkler Contractor's shop drawings (3 sets) shall be received by the Montecito Fire Protection District three weeks prior to any sprinkler system installation. Drawings shall meet all conditions of this Standard. All field changes shall be initialed and shown on a stamped, approved set of drawings by the job foreman. Approved shop drawings shall be maintained and retained on the job site at all times that pipe is being installed.
2. Sprinkler shop drawings shall be subject to review by M & M Protection Consultants at the Fire Marshal's discretion. All costs associated with this review shall be the responsibility of the Sprinkler Contractor. The Sprinkler Contractor shall submit a cashier's check made payable to the Montecito Fire Protection District for the cost of this plan review and its related costs when indicated.
3. Sprinkler Contractor's shop drawings shall be in compliance with NFPA 13 guidelines. It shall be the decision of the Fire Marshal of the Montecito Fire Protection District as to whether compliance has been met. Required information on the drawings shall include the following:
 - a. Cross-sectional drawings for all typical sprinklered areas.
 - b. Riser schematic details to include all valving, jointing and support bracing.
 - c. Control diagram for flow switch.
 - d. Details of all typical hanger and bracing applications for this work.
 - e. All applicable support and drainage provisions as described in NFPA 13 shall be met by the Sprinkler Contractor. Auxiliary drains shall be routed to the building exterior.
 - f. A list of all abbreviations and symbols shall be provided on the drawings.
 - g. Certification required for all welding. All welding to be indicated on shop drawings.
4. The following note shall appear on each sheet of required shop drawings: "I certify that this sprinkler system is in full compliance with the design criteria of MFD Standard 89-1 (rev.2/03)". This note shall appear along with the Sprinkler Contractor's dated signature and seal.
5. The sprinkler shop drawings shall bear the signature and registration number of a NICET Level III sprinkler designer. At the discretion of the Fire Marshal the sprinkler designer may submit resume and credentials which demonstrate an equivalent level of expertise.
6. Maximum flow rate for any underground pipe shall not exceed 16 feet per second. Maximum flow rate for any above ground pipe shall not exceed 20 feet per second.

7. All pipe and materials delivered to the job site shall be protected from the elements and physical damage.
8. All penetrations of fire separation walls by sprinkler piping shall be sealed with a suitable sealant prior to final inspection.
9. The sprinkler system shall be inspected at the following intervals:
 - a. All welded sections shall be field inspected prior to installation. All burrs, slag, and welding residue shall be filed and removed prior to inspection.
 - b. All piping shall be inspected prior to being covered, buried or concealed.
 - c. Hydrostatic testing will be required upon completion of piping installation.
 - d. Final inspection for system acceptance shall be completed prior to granting occupancy clearance. A set of approved shop drawings with all field changes shall be produced for this inspection. All components of this system shall be operational and in compliance with this Standard.

All required inspections shall be arranged to allow the fire district 48 hours advance notice. Any work completed without the required inspections shall be removed and replaced at the discretion of the Fire Marshal.

10. All underground pipe shall be bedded on a puddled and tamped 4 inch thick base of yellow sand prior to hydrostatic testing. Backfilling shall consist of an initial 12 inch lift of tamped yellow sand. Subsequent compacted lifts of 12 inches, or a fraction thereof, shall be made with clean backfill.

11. The Manufacturer's published design and installation guidelines shall prevail over NFPA guidelines. The Sprinkler Contractor shall provide all information as deemed necessary by the Fire Marshal to establish evidence of compliance with the Manufacturer's guidelines.

12. All system valving shall be UL and/or FM listed for fire sprinkler service.

13. Any deviations from procedures described within this Standard shall be allowed only with the express written consent of the Fire Marshal.