



PREVENTION AND TECHNICAL SERVICES MANUAL
ADMINISTRATIVE REQUIREMENTS
301.011 FIRE SPRINKLER SYSTEM PLAN
SPECIFICATIONS
EFFECTIVE: JANUARY 2017

SCOPE

This policy clarifies the Selma Fire Department (SFD or Department) requirements for the preparation and submission of fire sprinkler system plans within the City of Selma and contract service areas. These requirements apply to both required and voluntary systems.

PURPOSE

This policy has been established to provide direction regarding the requirements for the preparation and submission of fire sprinkler plans.

BACKGROUND

As noted in the *California Fire Code (CFC)*, the fire code official has the authority to formulate policies they deem necessary based upon local conditions related to plan submittals for all systems.

REQUIREMENTS

Based upon the need for uniformity in application across the Department's diverse service delivery area, and after careful deliberation, the Department has determined the following:

1. Automatic fire sprinkler systems shall be drawn with care by a trained person meeting the requirements found within the applicable law, code, ordinance, or standard.
2. A proper submittal will include three sets of each: plans, hydro calculations, and product specifications, and any other pertinent documentation determined by the Selma Fire Department.
3. Plans shall be drawn on a minimum of 24 inch x 36 inch paper and shall be drawn to an indicated scale of not less than 1/8 inch = 1 foot. Buildings over 50,000 sq. ft. shall have an overview plan showing the entire building, including all fire protection features.

4. An area no less than 4 inch x 6 inch, located in the bottom right hand corner of each plan sheet, shall be left free of any text, mark, etc. to facilitate the marking of plans by Department staff.
5. Drawings shall be organized based upon the *United States Department of Energy, Fundamentals Handbook for Engineering Symbology, Prints, and Drawings (Vols. 1 & 2) (1993 edition)*. Available for download at: <http://edtech2.boisestate.edu/jasonclemens/512/files/DOE-v1.pdf>
6. Drawing line weights, matchlines (where used) and legibility (including printed pages) shall be in accordance with either the *United States Department of Energy, Fundamentals Handbook for Engineering Symbology, Prints, and Drawings (Vols. 1 & 2) (1993 edition)*, or the latest American Institute of Architects design guidelines.
7. All fire sprinkler symbols shall be in accordance with *National Fire Protection Association (NFPA) 170 – Standard for Fire Safety and Emergency Symbols (2012 ed.)* where a symbol is provided. For each type of sprinkler to be installed a different symbol shall be used.
8. In addition to all of the information that is required in this document, plans shall also include all of the information noted in *NFPA 13 – Automatic Sprinkler Systems (2016 ed.) section 23.1.3 et. al.* As noted in the referenced standard, this information constitutes the minimum amount of information required to be submitted to the authority having jurisdiction.
9. Each of the following items shall be included on either a single page of an automatic fire sprinkler system plan or submittal booklet. These items will be verified at the counter and plans will be rejected when not present:
 - a. A detailed scope of work for the project including a description sufficient to clearly indicate the location, nature and extent of the work. A scope of work indicating “installation of a fire sprinkler system”, or similar non-descript scoping is inadequate and plans will be rejected without review.
 - b. Name of owner, occupant, or contracted construction firm.
 - c. Location of the project, including the City of Selma officially assigned address (if possible) and the City of Selma building permit number.
 - d. Name of water purveyor.
 - e. Name of the installing contractor, address, phone number, type of

license and license number, with wet stamp and signature on each plan sheet.

- f. A site plan of the location on the drawing. A site plan shall show the layout of the building relative to public streets and private drives. A location pin from mapping software does not meet the requirements of a site plan.
- g. The *California Building Code (CBC)* and *NFPA* construction type (i.e. obstructed, unobstructed, etc.) and *CBC* occupancy group of the proposed building.

10. Standard notes required to be on plans:

- a. Apply the applicable storage note:
 - I. Storage limited to 12 feet with minimum 18 inches from pendant sprinkler deflector to top of the storage.
 - II. Storage limited to 12 feet with minimum 36 inches from sprinkler deflector to top of the storage.
 - III. No high piled storage permitted.
- b. It is the contractor's responsibility to make work available for inspection.
- c. A copy of the approved plan set shall be on site during any fire department inspection.
- d. A copy of the permanent and durable general information sign to be displayed per *NFPA 13, Section 25.6* or a note as follows: "A permanent and durable general information sign per *NFPA 13, Section 25.6* shall be installed in addition to the hydraulic design information sign".
- e. All *CBC* or *CFC* substitutions shall be noted. It is the designer/contractors responsibility to provide adequate and necessary documentation when using these kinds of exceptions per *CFC, Section 105*.
- f. Mechanical tees shall have coupon hung within six inches of tee.
- g. All applicable code references shall be provided (i.e., *NFPA 13, 2016 Edition w/California Amendments, etc.*)

- h. Piping plan showing underground lead in with hydraulic nodes.
- i. Full height cross-sections which show sprinkler system piping, sprinkler head locations, and all full height walls.
- j. Riser detail showing supply pressure gauge, check valve, system pressure gauge, main control valve, pressure relief valve, main drain including size, water flow switch, and fire department connection(s) including size. All system pipe sizes and calculation nodes shall be shown.
- k. Pipe stand detail as applicable. Pipe stands shall be in accordance with *NFPA 13, Section 9.2.6* and *Section 9.3.8*. Pipe stands will not be approved without the requisite documentation from a registered professional engineer where required.
- l. The following table(s) shall be shown on the plans:
 - I. Sprinkler head spacing and coverage area per sprinkler.
 - II. Location of design area(s).
 - III. Discharge density over design area(s).
 - IV. Occupancy classification, commodity classification, and maximum storage height and configuration. When using *NFPA section 12.1.2.4*, the designer shall provide a section figure in accordance *12.1.2.4* showing the applicable protection points. These points shall also be shown on the plan view of the applicable drawing.
 - V. Hose stream allowance in addition to sprinkler demand.
 - VI. Where riser nipples are used, each typical length shall be identified and calculated where necessary per *NFPA 13, Section 9.3.5.9.6.1*.
- m. Sprinkler head legend which indicates the manufacturer, style, model, orifice size and “K” factor of each sprinkler used. “Generic”, “Equivalent” or “Equal” etc. is not permitted.
- n. The type and size of each pipe. Where included, existing piping shall be shown as a dashed line.
- o. Each hanger and seismic sway bracing detail. This detail shall include the proposed fastener. Use of standard details shall show the manufacturer of the fastener, hanger, etc. and the manufacturer's information sheet shall be included with the submittal. Plans showing details which specify a specific manufacturer that do not include the manufacturer's information sheet or have a different manufacturer's information sheets

submitted will be rejected.

- p. Use of each room.
- q. Fire sprinkler system bell. The bell shall be facing the main public entrance or the street that the building is addressed to. (*See SFD policy number 405.029 Fire Sprinkler System Bells*).
- r. Fire department connection. The fire department connection shall be located, sized and installed in accordance with *SFD policy number 405.025 Fire Department Connection Requirements*.
- s. A piped inspector's test valve (ITV). ITVs shall be piped from the most remote branch line down to grade. (*See SFD policy number 405.13 Location of Inspector's Test Valves*). Test and drains are not a substitute for ITVs.
- t. An air vent in accordance with *NFPA 13, Section 8.16.6*. An inspector's test valve may be used for this purpose subject to the requirements of SFD policy number 405.013
- u. Spare head kit location. Spare head kits shall be installed on the building's interior in an approved location.
- v. Dedicated function fire alarm control unit (DFFACU) for fire sprinkler monitoring locations. DFFACU shall be installed on the building's interior.
- w. A pressure test will be conducted with the Selma Fire Department at 200 psi for 2 hours for commercial and multi-family residential and 175 psi for 2 hours for single family residential.
- x. If underground is also done on the project an underground thrust block inspection, hydro pressure test and flush for at least 5 minutes will also be conducted with the Selma Fire Department.
- w. Resubmittals. Revisions or changes shall be called out with a cloud or delta. Each re-submittal shall have a new numbered delta, and previous clouds or deltas shall be removed. Submittals, addendums, revisions, etc. without proper clouding, an associated delta, or other substantial clarifying notes regarding the scope of work will be rejected without review. Changes made on plans between versions, etc. that are not identified with a cloud or delta are not approved. Addendum plans shall be in accordance with *SFD policy number 401.016 Fire Related Construction Addenda*.

REFERENCES

California Fire Code (CFC)

United States Department of Energy, Fundamentals Handbook for Engineering Symbology, Prints, and Drawings (Vols. 1 & 2) (1993 edition)

National Fire Protection Association (NFPA 13) – Automatic Sprinkler Systems (2016 ed. With California Amendments)

National Fire Protection Association (NFPA 170) – Standard for Fire Safety and Emergency Symbols (2012 ed.)

Selma Fire Department Policy 405.025 Fire Department Connection Requirements

Selma Fire Department Policy 405.029 Fire Sprinkler System Bells

Selma Fire Department Policy 405.013 Location of Inspector's Test Valves

Selma Fire Department Policy 401.016 Fire Related Construction Addenda