



FIRE ALARM AND FIRE SPRINKLER

The Building Safety Department and the Fire Department will not accept plans for fire sprinkler or fire alarm systems without the following information:

1. Full name, address, phone number, and email address of contractor
2. Full name, exact street address and phone number of where the system is to be installed
3. Valuation of job
4. Minimum three (3) sets of plans (two to be kept by the Fire Department, one to be returned to the contractor), or plans may be submitted electronically.
5. Supporting documentation, including the following:

For Fire Alarm Systems:

Plans and specifications for fire alarm systems shall include, but not be limited to:

- a) Scaled floor plans(s) (with cross-sectional views)
- b) Location of all equipment, including alarm control panel, monitoring and supervisory devices, annunciators, alarm-initiating devices, etc.
- c) Complete list of detection, evacuation signaling, and annunciator zones
- d) Candela output of each strobe
- e) Power connection
- f) Secondary power calculations
- g) Conductor type and sizes
- h) Voltage Drop Calculations
- i) Manufacture model numbers and listing information of all equipment, devices & materials

For Fire Sprinkler Systems:

Plans and specifications for fire sprinkler systems shall include, but not be limited to:

- a) Scaled floor plan(s) (with cross-sectional views)
- b) Location and detail of all components, including sprinkler heads, piping, hangers, bracing, riser, vault, etc.
- c) Hydraulic calculations (See NFPA 13, Section 14.2-14.3)
- d) Seismic bracing calculations, detail, and documentation (See NFPA 13, Section 9.3.5)
- e) If storage, storage arrangement, storage & roof height, rack detail, commodity type, etc.
- f) All other necessary supporting documentation (see back of this page for complete detail)

NO FIELD INSPECTIONS WILL TAKE PLACE PRIOR TO PERMITS BEING PICKED UP AND PAID FOR.

Working plans shall be drawn to an indicated scale, on sheets of uniform size, with a plan of each floor, and shall show those items from the following list that pertain to the design of the system.

- 1) Make, type, model, and size of preaction or deluge valve.
- 2) Kind and location of alarm bells.
- 3) Size and location of standpipe risers, hose outlets, hand hose, monitor nozzles, and related equipment.
- 4) Private fire service main sizes, lengths, locations, weights, materials, point of connection to city main; the sizes, types and locations of valves, valve indicators, regulators, meters, and valve pits; and the depth that the top of the pipe is laid below grade.
- 5) Piping provisions for flushing.
- 6) Where the equipment is to be installed as an addition to an existing system, enough of the existing system indicated on the plans to make all conditions clear.
- 7) For hydraulically designed systems, the information on the hydraulic data nameplate.
- 8) A graphic representation of the scale used on all plans.
- 9) Name and address of contractor.
- 10) Hydraulic reference points shown on the plan that correspond with comparable reference points on the hydraulic calculation sheets.
- 11) The minimum rate of water application (density), the design area of water application, in-rack sprinkler demand, and the water required for hose streams both inside and outside.
- 12) The total quantity of water and the pressure required noted at a common reference point for each system.
- 13) Relative elevations of sprinklers, junction points, and supply or reference points.
- 14) If room design method is used, all unprotected wall openings throughout the floor protected.
- 15) Calculation of loads for sizing and detail of sway bracing.
- 16) The setting for pressure-reducing valves.
- 17) Information about backflow preventers (manufacturer, size, type).
- 18) Information about antifreeze solution used (type and amount).
- 19) Size and location of hydrants, showing size and number of outlets and if outlets are to be equipped with independent gate valves. Whether hose houses and equipment are to be provided, and by whom, shall be indicated. Static and residual hydrants that were used in flow tests shall be shown.
- 20) Size, location, and piping arrangement of fire department connections.

- 41) Name of owner and occupant.
- 42) Location, including street address.
- 43) Point of compass.
- 44) Full height cross section, or schematic diagram, including structural member information if required for clarity and including ceiling construction and method of protection for nonmetallic piping.
- 45) Location of partitions.
- 46) Location of fire walls.
- 47) Occupancy class of each area or room.
- 48) Location and size of concealed spaces, closets, attics, and bathrooms.
- 49) Any small enclosures in which no sprinklers are to be installed.
- 50) Size of city main in street and whether dead end or circulating; if dead end, direction and distance to nearest circulation main; and city main test results and system elevation relative to test hydrant (see A-9-2.1).
- 51) Other sources of water supply, with pressure or elevation.
- 52) Make, type, model and nominal K-factor of sprinklers including sprinkler identification number.
- 53) Temperature rating and location of high-temperature sprinklers.
- 54) Total area protected by each riser per floor.
- 55) Number of sprinklers on each riser per floor.
- 56) Total number of sprinklers on each dry pipe system, preaction system, combined dry pipe-reaction system, or deluge system.
- 57) Approximate capacity in gallons of each dry pipe system.
- 58) Pipe type and schedule of wall thickness.
- 59) Nominal pipe size and cutting lengths of pipe (or center-to-center dimensions). Where typical branch lines prevail, it shall be necessary to size only one typical line.
- 60) Location and size of riser nipples.
- 61) Type of fittings and joints and location of all welds and bends. The contractor shall specify on drawing any sections to be shop welded and the type of fittings or formations to be used.
- 62) Type and locations of hangers, sleeves, braces, and methods of securing sprinklers when applicable.
- 63) All control valves, check valves, drain pipes, and test connections.
- 64) Make, type, model, and size of alarm or dry pipe valve.
- 65) Name of owner and occupant.
- 66) Location, including street address.
- 67) Point of compass.

The working plan submittal shall include the manufacturer's installation instructions for any specially listed equipment, including descriptions, applications, and limitations for any sprinklers, devices, piping, or fittings.

(NFPA 14.1.3-4)