

## **Required Submittal Documents – Commercial Projects**

*For All Applications: 2 Paper Copies of Plans (1 to Keep on File/ 1 to be Returned to Applicant) and 1 Electronic Copy of Plans*

### **Fire Suppression System - 13/13R**

1. Point of compass.
2. 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.
3. Location of partitions.
4. Location of fire walls.
5. Occupancy class of each area or room.
6. Location and size of concealed spaces, closets, attics, and bathrooms.
7. Any small enclosures in which no sprinklers are to be installed.
8. Size of city main in street and whether dead end or circulating; if dead end, direction and distance to nearest circulating main; and city main test results and system elevation relative to test hydrant.
9. Other sources of water supply, with pressure or elevation.
10. Make, type, model, and nominal K-factor of sprinklers, including sprinkler identification number.
11. Temperature rating and location of high-temperature sprinklers.
12. Total area protected by each system on each floor.
13. Number of sprinklers on each riser per floor.
14. Total number of sprinklers on each dry pipe system, pre-action system, combined dry pipe-pre-action system, or deluge system.
15. Approximate capacity in gallons of each dry pipe system.
16. Pipe type and schedule of wall thickness.
17. 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.
18. Location and size of riser nipples.
19. 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.
20. Type and locations of hangers, sleeves, braces, and methods of securing sprinklers when applicable.
21. All control valves, check valves, drain pipes, and test connections.
22. Make, type, model, and size of alarm or dry pipe valve.
23. Make, type, model, and size of pre-action or deluge valve.
24. Kind and location of alarm bells.
25. Size and location of standpipe risers, hose outlets, hand hose, monitor nozzles, and related equipment.
26. 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.
27. Piping provisions for flushing.
28. 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.
29. For hydraulically designed systems, the information on the hydraulic data nameplate.
30. A graphic representation of the scale used on all plans.
31. Hydraulic reference points shown on the plan that correspond with comparable reference points on the hydraulic calculation sheets.

32. The minimum rate of water application (density or flow or discharge pressure), the design area of water application, in-rack sprinkler demand, and the water required for hose streams both inside and outside.
33. The total quantity of water and the pressure required noted at a common reference point for each system.
34. Relative elevations of sprinklers, junction points, and supply or reference points.
35. If room design method is used, all unprotected wall openings throughout the floor protected.
36. Calculation of loads for sizing and details of sway bracing.
37. The setting for pressure-reducing valves.
38. Information about backflow preventers (manufacturer, size, type).
39. Information about listed antifreeze solution used (type and amount).
40. 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.
41. Static and residual hydrants that were used in flow tests shall be shown.
42. Size, location, and piping arrangement of fire department connections.
43. Ceiling/roof heights and slopes not shown in the full height cross section.
44. Edition year of NFPA 13 to which the sprinkler system is designed.
45. Boundaries for remote area calculations.
46. Completed contractor's materials and test certificates at time of acceptance testing.
47. Details for any exhausters and quick opening devices – where applicable.

## **Fire Alarm**

1. Written narrative providing intent and system description.
2. Riser diagram – where applicable.
3. Floor plan layout showing locations of all devices, control equipment, and supervising station and shared communications equipment with each sheet showing the following:
  - a. Point of compass (north arrow).
  - b. A graphic representation of the scale used.
  - c. Room use identification.
  - d. Building features that will affect the placement of initiating devices and notification appliances.
4. Sequence of operation in either an input/output matrix or narrative form.
5. Equipment technical data sheets.
6. Manufacturers' published instructions, including operation and maintenance instructions.
7. Battery capacity and de-rating calculations (where batteries are provided).
8. Voltage drop calculations for notification appliance circuits.
9. Mounting height elevation for wall-mounted devices and appliances.
10. Where occupant notification is required, minimum sound pressure levels that must be produced by the audible notification appliances in applicable covered areas.
11. Pathway diagrams between the control unit and the supervising station and shared communications equipment.
12. Completed record of completion in accordance with NFPA 72 Section 7.5.6 and 7.8.2 at the time of the acceptance test.
13. For software-based systems, a copy of site-specific software, including specific instructions on how to obtain the means of system and software access (password).
14. Record (as-built) drawings.

15. Records, record retention, and record maintenance in accordance with NFPA 72 Section 7.7.
16. Completed record of inspection and testing in accordance with NFPA 72 Section 7.6.6 and 7.8.2 at the time of acceptance testing.

### **Kitchen Hood**

1. Fully dimensioned plans.
2. Kitchen layout, including exits, pantry and access to dining area, and type and location of protected appliances.
3. Hood dimensions.
4. Exhaust duct and appliance dimensions, along with the interface of the fire extinguishing system detectors.
5. Piping (size and length).
6. Nozzles (type and distance to the appliance).
7. Fuel shut-off devices and their listing type.
8. Agent storage container (type and size). CO<sub>2</sub> propellant size and type of cartridge.
9. Manual actuation device and related cable installation in the kitchen.
10. Type and size of systems.
11. Provide pipe length equivalency calculations.
12. Provide flow point calculations.
13. Point of compass.
14. A graphical representation of the scale. Scale shall be suitable to provide legible drawings.

### **Other Suppression System**

1. The plans shall be drawn to an indicated scale or be suitably dimensioned and shall be reproducible.
2. The plans shall contain sufficient detail to enable the authority having jurisdiction to evaluate the hazard or hazards and to evaluate the effectiveness of the system.
3. The details on the hazards shall include the materials involved, the location and arrangement, and the exposure to the hazard.
4. The details on the system shall include sufficient information and calculations on the following:
  - a. The amount of dry chemical.
  - b. The size, length, and arrangement of connected piping or of piping and hose.
  - c. The description and location of nozzles so that the adequacy of the system can be determined.
5. Flow rates of nozzles used shall be provided for engineered systems.
6. Information shall be submitted pertaining to the location and function of detection devices, operating devices, auxiliary equipment, and electrical circuitry, if used.
7. Sufficient information shall be indicated to properly identify the apparatus and devices used.

## Operating/Special Hazard Permits (As Defined by International Fire Code)

1. Types, Quantities, and Detailed Information of Materials for hazardous processes and operations for the following types of permits:
  1. Aerosol Products
  2. Amusement Buildings
  3. Application of Flammable Finishes
  4. Aviation Facilities
  5. Candles and Open Flames in Places of Assembly
  6. Carbon Dioxide Monitoring Systems
  7. Carbon Dioxide Products
  8. Carbon Dioxide Systems Used in Beverage Dispensing Applications
  9. Carnivals and Fairs
  10. Cellulose Nitrate Film
  11. Combustible Dust-Producing Operations
  12. Combustible Fibers
  13. Combustible Liquids
  14. Combustible Liquids Above Ground Tanks – Dispensing and Use
  15. Combustible Solids
  16. Commercial Drying Ovens
  17. Compressed Gas System (Greater Than Exempt Amounts)
  18. Compressed Gases
  19. Covered and Open Mall Buildings
  20. Cryogenic Fluid Products
  21. Cryogenic Systems Process
  22. Cutting and Welding
  23. Decommissioned Underground Storage Tank(s)
  24. Dry Cleaning
  25. Each Additional Bulk Tank or Vessel
  26. Emergency Generators
  27. Exhibits and Trade Shows
  28. Explosive Storage and Use/Blast Permit
  29. Explosives
  30. Fire Hydrants and Valves
  31. Fireworks Display
  32. Fireworks Stand
  33. Flammable Finish Products
  34. Flammable Liquids
  35. Flammable Liquids Above Ground Tanks – Dispensing and Use
  36. Flammable Solids
  37. Floor Finishing
  38. Fruit and Crop Ripening
  39. Fumigation and Insecticidal Fogging
  40. Gates – Private/Security
  41. Hazardous Materials Identification System (HIMS)
  42. Hazardous Materials Management Program (HMMP)
  43. Hazardous Production Materials (HPM) Facilities
  44. High-Piled Combustible Storage
  45. Hot Work
  46. Industrial Ovens
  47. Liquefied Petroleum Gas (LPG) – Dispensing and Use
  48. Liquefied Petroleum Gas (LPG) – Tank Installation (Greater than 125 Gallons)
  49. Liquefied Petroleum Gas (LPG) Products
  50. Liquid- or Gas-Fueled Vehicles or Equipment in Assembly Buildings
  51. Listed Dip Tanks/ Spray Booth Operations
  52. Lumber Yards and Woodworking Plants
  53. Magnesium Products
  54. Miscellaneous Combustible Products
  55. Miscellaneous Combustible Storage
  56. Motor Fuel-Dispensing Facilities
  57. Open Burning
  58. Open Flames and Torches
  59. Organic Coating Products
  60. Organic Coating Systems
  61. Other Hazardous Material Equipment and Systems
  62. Other Hazardous Materials
  63. Places of Assembly
  64. Private Fire Hydrants
  65. Pyrotechnic Special Effects Materials
  66. Pyroxylin Plastics
  67. Refrigeration Systems
  68. Repair Garages
  69. Rooftop Heliports
  70. Semiconductor Fabrication HPM Tool Installation
  71. Smoke Removal Systems
  72. Storage of Scrap Tires and Tire Byproducts
  73. Storage/Dispensing/Use of Hazardous Materials
  74. Tents/Temporary Membrane (Greater than 400 square feet)
  75. Tire-Rebuilding Plants
  76. Unlisted Dip Tanks/Spray Booth Operations
  77. Waste Handling
  78. Wood Products