

MOUNTAIN VIEW FIRE AND RESCUE CITY OF BLACK DIAMOND FIRE

AUTOMATIC FIRE SPRINKLER SUBMITTAL INFORMATION

To insure proper plans review and a fast turn around time on plans for Automatic Fire Sprinkler systems the following information needs to be included with plan submittals.

1. Three (3) sets of fire sprinkler drawings which meet NFPA 13 Chapter 14 and current edition IFC Chapter 9 requirements.

Drawings are to be drawn on sheets of uniform size and must include:

1. Name of owner and occupant
2. Name and address of the sprinkler contractor
3. Location, including street address, point of compass and a graphic scale
4. Full height cross sections or schematic diagrams
5. Location of partitions and/or fire walls
6. Occupancy class of each area or room
7. Location of any concealed spaces, closets, attics and bathrooms
8. Any small enclosures in which no sprinklers will be installed
9. Water supply source information, including location and size of water mains, pressures and flows required/available.
10. Make, type, model and nominal K-factor of sprinklers.
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 sprinkler on each dry pipe system, preaction system, combined dry pipe-preaction system, or deluge system.
15. Approximate capacity in gallons of water 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). (When typical branch lines prevail only one line needs to be sized)
18. Types of fittings and joints and location of welds and bends.
19. Type and locations of hangers, sleeves, braches, and methods of securing sprinklers when applicable.
20. All control valves, check valves, drain pipes, and test connections
21. Make, type and size of alarm or dry pipe valve
22. Make, type and size of preaction or deluge valve
23. Kind and location of any alarm bells
24. Kind and location of standpipe risers, hose outlets, hand hose, monitor nozzles, and related equipment.
25. Private fire service water mains sizes, lengths, locations, weights, materials, point of connection to the city water supply source, sizes, types and locations of valves, valve indicators, regulators, meters, and the location of any valve pits.
26. Provisions for flushing of piping.
27. For hydraulically designed systems, the information on the hydraulic data nameplate.
28. Hydraulic reference points shown on the plan that correspond to reference points on the hydraulic calculation sheets
29. Minimum rate of water application/density, the design area of water application, any in-rack sprinkler demand, and water flow requirements for hose streams, both inside and outside.
30. The total quantity of water and the pressure required noted at a common reference point for each system.
31. Relative elevation of sprinklers, junction points, and supply or reference points.

32. If the room design method is used, all unprotected wall openings throughout the floor being protected.
 33. Calculation of loads for sizing and details of sway bracing
 34. The setting for any pressure reducing valves used
 35. Manufacture, size, and type of backflow prevention valves
 36. Location of fire hydrants (note may be omitted if previously supplied with other plan sets)
 37. Size, location and piping arrangements for fire department connections.
2. Water supply capacity information is to be included, (date of test, test location, flow, static and residual pressures, and who supplied the test data)
 3. Hydraulic Calculation Forms:
 1. Calculations must be provided on forms sheets and include a summary sheet, detailed worksheet(s) and a graph sheet.
 2. Summary sheet must contain: date, location, name of owner and occupant, bldg. Identification, description of hazard, name and address of contractor or designer, system design requirements, total water requirements with allowances for inside and outside hose streams, in rack sprinkler allowances if present, limitations on extended coverage or any other special sprinklers.
 3. Detailed worksheets must include: Sheet number, sprinkler descriptions and discharge constant (K factor), flow in gpm, pipe size, pipe lengths for fitting and devices, total friction loss between reference points, any in-rack sprinkler demand balanced to ceiling demand, elevation head in psi between reference points, velocity and normal pressures if used in calculations, indication of starting points or references to other sheets to clarify data shown, diagram to accompany gridded system calculations to indicate flow quantities and directions for lines with sprinklers operating in the remote area, and combined K-factor calculations for sprinklers on drops, armovers, or sprigs where calculations do not begin at the sprinkler.
 4. Graph Sheet shall include: A water supply curve, sprinkler system demand, hose (inside and outside) demands, and if required in-rack sprinkler demands.
 4. Drawings must be developed by qualified individuals meeting NFPA 13 and Washington State requirements for experience and education in the field.
 5. A Mountain View Fire & Rescue / City of Black Diamond Owner's Information Certificate MUST be included with the plans submittal.

With properly submitted automatic fire sprinkler construction documents plan review goals are to have the plans reviewed and returned to the submitter within 2 weeks. In some cases do to system complexity, questions that come up during review, or work load it may take somewhat longer.

If you have any questions regarding the requirements for the automatic fire sprinkler system, please feel free to contact the Fire Marshal at Mountain View Fire & Rescue.

Robert Young, Asst Fire Chief / Fire Marshal
 Mountain View Fire & Rescue / City of Black Diamond Fire
 (office) 253-735-0284 (fax) 253-735-0287
 (email) pkramlich@kcf44.org