

# Union City Fire Department

## Plan Review Guide For Fire Sprinkler Systems

This Plan Review Guide is designed as a baseline contents checklist prior to a detailed fire plan review by the Union City Fire Department. It is Subject to change at any time due to code adoptions. Plans will only be accepted from fire sprinkler contractors licensed by the Georgia State Fire Marshals Office. Designers will be NICET Level III or State of Georgia Licensed Engineers.

Two sets of plans and hydraulic calculations will be submitted and shall contain the following items.

### GENERAL INFORMATION ABOUT THE PROJECT

- 1  One copy of Fire Protection Contractor's Business Permit
- 2  One copy of approved engineering design document.
- 3  Indicate this is a new system or an existing system
- 4  Indicate the design Standard, such as NFPA 13, 13R, or 13D or others
- 5  Square footage of the project
- 6  Construction type of the building
- 7  Occupancy hazard classification
- 8  Special occupancy, such as flammable/combustible liquids, aircraft hanger, oxidizers, etc.
- 9  Storage height exceeding 12 feet
- 10  Commodity classification if this is a storage occupancy

### GENERAL PLANS INFORMATION

- 1  Name of owner or occupant
- 2  Name, address and license number(s) of contractor
- 3  Location, including correct street address
- 4  Date of plans (Note: Each revision should be dated)
- 5  Point of compass
- 6  Full height cross section
- 7  Ceiling construction, structure member information
- 8  Location of partitions
- 9  Location of fire walls
- 10  Occupancy Class/usage of each area or room
- 11  Location and size of concealed spaces, closets, attics and bathrooms
- 12  Small enclosures in which NO sprinklers are to be installed
- 13  The scale on all plans including reference key
- 14  A legend list with descriptions. ( Use of NFPA 170 symbols is recommended.)

### WATER SUPPLY INFORMATION

- 1  Water flow test location and date (less than six months)
  - 2  Static pressure, residual pressure and flow in GPM
  - 3  Flow test conducted by contact or information supplied by
  - 4  Size of main
  - 5  System elevation relative to flow test hydrant
- Private Fire Service Mains**
- 6  Size, length, weights and locations of main
  - 7  Pipe and fitting material
  - 8  Point of connection to city main
  - 9  Size, type and location of valves
  - 10  Size, type and location of valves indicators
  - 11  Size, type and location of backflow prevention devices
  - 12  Size, type and location of regulators
  - 13  Size, type and location of meters
  - 14  Size, type and location of valves pits
  - 15  Size and location of all thrust blocks
- Fire Pump**
- 16  Type of Fire Pump
  - 17  Indicate capacity
  - 18  Pump data provided
- Water Tank**
- 19  Material of water tank
  - 20  Capacity verification (duration, required flow and total capacity)

### SPRINKLER SYSTEM DESIGN

- 1  Indicate the type of system
  - 2  System design by schedule
  - 3  Number of sprinklers on each riser per floor if design by schedule
  - 4  System design hydraulically
  - 5  Hydraulic data name plate if design hydraulically
  - 6  Total area protected by each system on each floor
  - 7  Sprinkler spacing applied in the system
  - 8  Detail of size, location and arrangement of all auxiliary drain connections
  - 9  Where equipment is to be installed as an addition to existing system, enough detail of the existing system indicated to make all conditions clear
  - 10  Size, Location, thread type and piping arrangement of fire department connection
  - 11  Size, Location, and arrangement of inspectors test connection
  - 12  Location of main drain connection
- Dry Pipe, Pre-Action, or Deluge System**
- 13  Total number of sprinklers on each dry pipe, combined dry pipe, pre-action, or deluge system
  - 14  Approximate capacity of each dry pipe, pre-action, or deluge system
  - 15  Pitch pipe to drain for dry pipe, pre-action, or deluge system
  - 16  Size and capacity for air compressor where provided

### SPRINKLER SYSTEM COMPONENTS

- 1  Product data is included
- 2  Make, type model, nominal K-factor of sprinklers, and sprinkler ID number
- 3  Temperature rating and location of high-temperature sprinklers
- 4  Pipe type and schedule of wall thickness
- 5  Nominal pipe size and cutting lengths of pipe
- 6  Location and size of riser nipples
- 7  Type of fittings and joints
- 8  Type and location of hangers, sleeves, braces and method of securing sprinkler
- 9  Size and location of standpipe and hose connection details
- 10  Pressure-reducing valves details
- 11  Manufacturer, size, type of backflow prevention device
- 12  The placement, location and contents of the spare sprinkler head cabinet

### HYDRAULIC CALCULATION / SPECIFICATION

- 1  Design area
- 2  Room design method
- 3  Minimum water application density
- 4  Coverage area per sprinkler
- 5  C value of pipe
- 6  Most demanding area is calculated
- 7  Number of sprinklers in design area
- 8  Total water requirement as calculated, including allowance for hose stream and in-rack sprinkler
- 9  Hydraulic reference points shown on the plan that correspond with comparable reference points on the hydraulic calculation sheets
- 10  Pipe sizes and lengths shown on the plan that correspond with comparable reference points on the hydraulic calculation sheets
- 11  Total quantity of water and pressure required noted at a common reference point for each system
- 12  Relative elevations of sprinklers, junction points, and reference points
- 13  Pressure loss for backflow prevention device, meter and / or other devices included in hydraulic calculations

### ALARM

- 1  Type and location of alarm bells
- 2  Fire alarm system connection
- 3  Type and location of water flow switches
- 4  Type and location of tamper switches