

## **Thurston County Development Services Fire Sprinkler Requirements**



The following information is required when submitting plans for a sprinkler system in a commercial building. The designer and installer of all NFPA 13 commercial automatic sprinkler systems shall be certified. Proof of certification shall be submitted along with plans and calculations.

### **PROJECT INFORMATION:**

- a. Assessor's Parcel Number
  - b. Job Name
  - c. Job Address
  - d. Owner \ Address \ Phone
  - e. General Contractor \ Phone
  - f. Sprinklers: Identify manufacturer, model and temperature rating
  - g. Pipe: Identify manufacturer, model , type, and specifications showing the UL or FM listing for residential sprinklers
- State on Plans: "Pipe will be installed per manufacturer's specifications"

### **HYDRAULIC INFORMATION**

Hydraulic information must include all of the following:

- a. Note water meter \ fire service
- b. Flow at meter \ fire service
- c. Pipe length; meter to riser
- d. Pad elevation
- e. Pressure at meter
- f. Pipe size and type; meter to riser
- g. A placard attached to the riser providing all design criteria as per NFPA 13, 7-1.2

### **PLOT PLAN**

The plot plan must include the following:

- a. Use plain view
- b. Location of water service connection.
- c. Pipe size, type and length; meter to house
- d. Water services detail
- e. All valves. (Fire Department Connection and Post Indicator Valve)
- g. Sprinkler riser.

### **RISER DETAIL**

The riser detail must contain the following:

- a. Use section view
- b. Pipe type and size
- c. Flow switch - type
- d. Control valve - type
- e. Check valve - type
- f. Pressure relief valve - type

### **BUILDING SPRINKLER PLANS**

The building sprinkler plans must include the following:

- a. Use plain view - and section view as noted below
- b. Show complete floor plan - all levels, and scale (1/4" = 1')
- c. Show sprinkler head locations and types (MODELS)
- d. Show interior room dimensions
- e. Show section view of rooms not having flat ceilings
- f. Where side walls are used:
  1. One section showing wall with side-wall sprinkler
  2. One section showing perpendicular to wall with sprinkler head
- g. Show piping, size and type
- h. Show outside bell location
- i. Show the "inspector test location" to be located from the most remote sprinkler area

### **VALVES**

Any additions to an automatic sprinkler system shall be submitted in plan form with hydraulic information prior to installation; This will include all of the following:

- a. All check valves to the FDC shall be above ground
- b. A screen shall be placed in all FDC's to protect them from foreign objects
- c. The FDC shall be placed at the hydrant and/or where designated by this office
- d. The Post Indicator Valve (PIV) shall be locked with a break away type lock, and provided with a monitored tamper switch if required below
- e. Outside Stem and Yoke (OS&Y) shall be locked with a chain and break away type lock, and provided with a monitored tamper switch if required below

### **MONITORING AND ALARMS**

All devices and equipment shall be constructed and installed in conformity with NFPA 72.

All valves controlling the water supply for automatic sprinkler systems and water flow switches on all sprinkler systems shall be electrically supervised where the number of sprinklers are:

Valve monitoring and water flow alarm and trouble signals shall be distinctly different and shall be automatically transmitted to an approved central station, remote station or proprietary monitoring station as defined by UFC Standard 10-2.

An approved audible sprinkler flow alarm shall be provided on the exterior of the building in an approved location

An approved audible sprinkler flow alarm to alert the occupants shall be provided in the interior of the building in a normally occupied location

## **INSPECTIONS:**

The following inspections will be required:

### **1. OVERHEAD PIPING.**

Visual inspection of all connections must be done prior to the rough framing inspection. Hydrostatic test shall be conducted at 200 psi for 2 hours, or at 50 psi in excess of the maximum pressure, when the maximum pressure is to be maintained in the system is in excess of 150 psi.

### **2. UNDERGROUND PIPING.**

See Underground Standards.

### **3. FINAL INSPECTION.**

The final inspection will include a water flow alarm check, inspector's test, and a main drain test using power. All test sheets will meet the criteria of NFPA 13, 1-10 and shall be provided on-site for signature at the time of test or test will be considered void.

### **4. WATER SUPPLY**

a. Municipal water supply - check with applicable water company.

### **5. UNDERGROUND**

- a. See Underground Standard's
- b. Supply line from the street to the riser. Indicate on the plans with a detail.
- c. Check with local water company.

### **6. RISER**

- a. Indicate ball valve to control the system.
- b. The Pressure Relief Valve on the riser shall act also as the main drain for the system, plumbed to the exterior.
- c. An approved sign is to read "Main Drain" located adjacent to the valve.
- d. An approved pressure gauge is to read at least 50 psi over static.
- e. An approved flow alarm with a minimum 6" bell located on the exterior street side of the building, it will be wired to own circuit.
- f. The riser will be constructed of approved metallic pipe if located on the exterior of the structure or not protected on the interior of the structure.

### **7. OVERHEAD PIPING**

- a. All straps are to be approved for use with the piping material used, and shall be metallic.
- b. Securing of straps shall be of an approved means. All strapping shall be UL Listed.
- c. All new systems shall be hydraulically tested at not less than 200 psi. pressure for 2 hours, or at 50 psi. in excess of the maximum pressure, when the maximum pressure is to be maintained in the system is in excess of 150 psi., with no pressure loss!

## **8. INSPECTOR TEST ASSEMBLY**

- a. The inspector test is to be constructed of an approved metallic pipe if it is located on the exterior of the structure, or not protected on the interior of the structure.
- b. Provide an adjustable pressure relief valve set at 50 psi. over static pressure. The pressure relief valve shall be located on the Riser at the Main Drain.
- c. Provide a gate valve to use on inspectors test.