



## General

This document’s intent is to provide contractors with guidelines outlining the expectations and procedures for how the Everett Fire Marshal’s Office will conduct an acceptance test of a 13D fire sprinkler system. This document addresses the most common aspects of a fire sprinkler acceptance tests, in cases where this document does not address a device or operation used with your system IFC, NFPA, and/or Manufacturer Specifications will be used to determine testing criteria.

## Hydrostatic Pressure Test

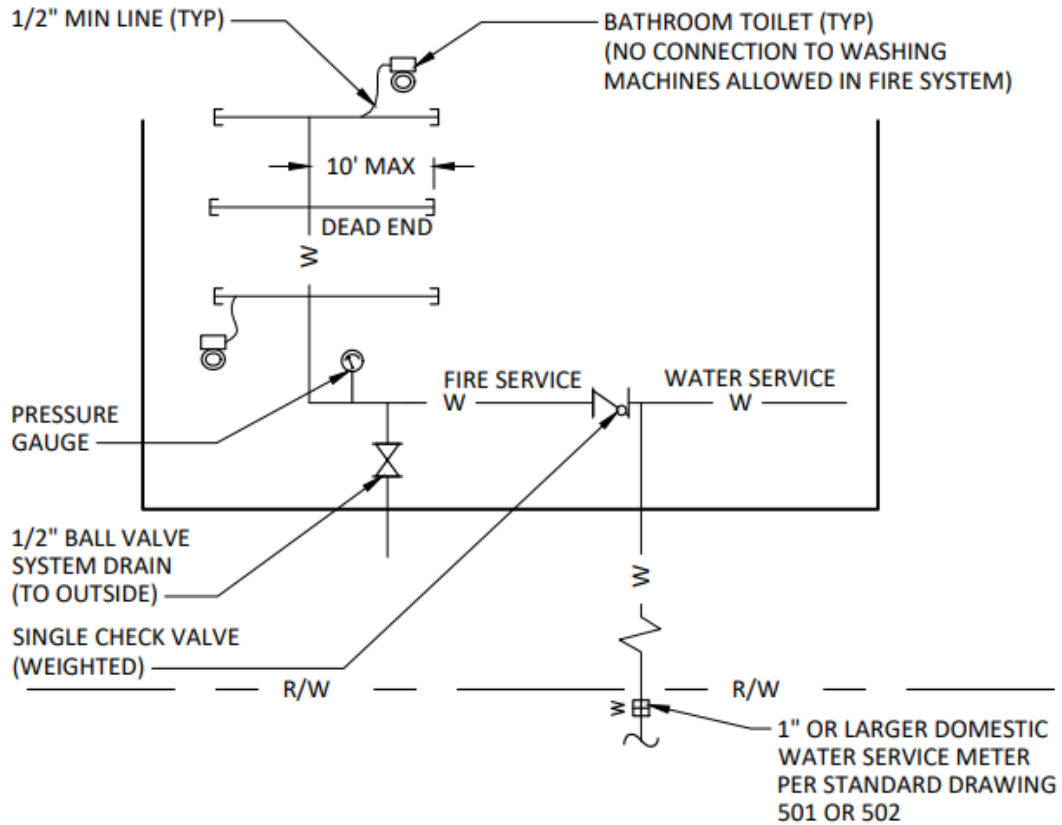
	PASS	FAIL	N/A
1. <b>Scheduling</b> - The contractor shall schedule for the inspection using eTRAKiT online permitting portal. Inspection requests submitted online before 11:59 p.m. on Monday-Friday will be tentatively scheduled for the next business day.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>After an inspection has been scheduled, a member of the Fire Marshal’s Office will contact the contractor to schedule a time for the inspection. The contractor is responsible for verifying that all piping and attached equipment to the system has been under normal system operating pressure without evidence of leakage or drop in pressure at a gauge for over a period of 2 hours. Example: Timestamped photograph of pressure gauge.</p>			
2. <b>Approved Plans</b> - Approved plans on site? And all work completed per plans?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. <b>Unhook pump</b> - Ensure that the hydro pump is unhooked from the system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. <b>Street Pressure</b> - The system pressure is at or above street pressure?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. <b>Closed Valves</b> - Verify that there are not any closed valves between the gauge the system being tested.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. <b>Plugs</b> - Hydrostatically testing will be done with plugs installed in the fittings (Not Sprinklers).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. <b>Leaks</b> - Perform a visual inspection of the system to ensure the system is leak free.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. <b>Return Gauge to Zero</b> - After verifying that the system has maintained the required system pressure for 2 hours, release pressure and confirm the test gauge returns to zero. (A gauge that does not return to zero could be an indication that the gauge was pegged.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. <b>NFPA 13 Report</b> - Advise the sprinkler contractor that the NFPA 13 “Contractors Material and Test Certificate for Aboveground Piping” shall be filled out and is required for final approval.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

# Rough-In/Cover Inspection

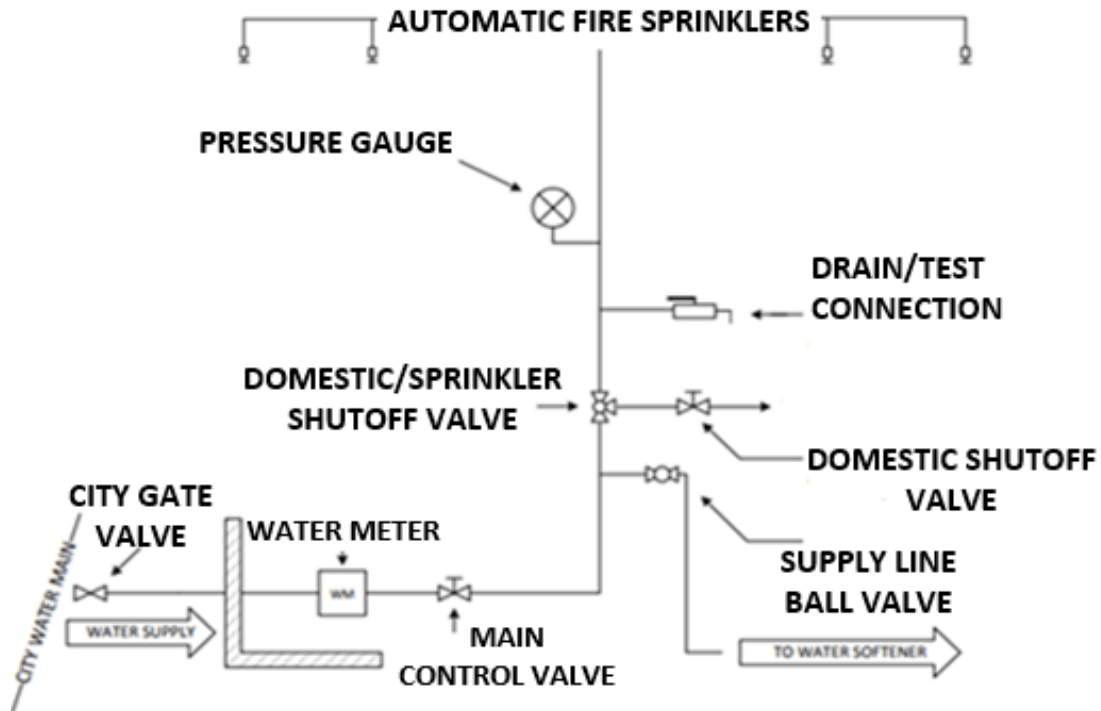
## **Head Placement and Piping:**

	<b>PASS</b>	<b>FAIL</b>	<b>N/A</b>
1. <b>Approved Plans</b> - Approved plans on site? And all work completed per plans?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. <b>Visual Inspection</b> - All piping and components, including sprinkler heads, hangers, valves, and gauges are required to be in place and shall be exposed for visual inspection. If insulation is to be used for freeze protection, this shall be in place and fastened, and with the approval of the inspector, is permitted to cover the necessary exposed pipe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. <b>Head Placement</b> - Verify proper placement of sprinkler heads and piping to ensure installation is according to the approved plans and/or the designed spacing of the heads. (Revised drawings should not be required for minor field changes.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. <b>Compatibility</b> - When work with CPVC special consideration is necessary when in contact with other materials or chemicals. (See manufacturer's guidance on installation and compatible materials.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. <b>Sprinkler Cabinets</b> - All sprinkler riser assemblies shall be located in a wall, cabinet, or other enclosure (with a minimum twelve inch (12") wide by thirty-six inch (36") high access door), unless otherwise approved by the fire code official. (See Diagram)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. <b>Warning Sign</b> - A warning sign, with minimum ¼ in. (6 mm) letters, shall be affixed adjacent to the main shutoff valve and shall state the following:  <i><b>WARNING:</b> The water system for this home supplies fire sprinklers that require certain flows and pressures to fight a fire. Devices that restrict the flow or decrease the pressure or automatically shut off the water to the fire sprinkler system, such as water softeners, filtration systems, and automatic shutoff valves, shall not be added to this system without a review of the fire sprinkler system by a fire protection specialist. Do not remove this sign.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. <b>Shut Off Valve</b> - A single control valve arranged to shut off both the domestic system and the sprinkler system shall be installed. See Passive-purge/Flow Through Riser Detail below.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. <b>Pressure Gauge &amp; Drain</b> - All systems shall be provided with a pressure gauge and a 1/2" ball valve system drain to outside.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. <b>Connections to Toilets</b> - All flow through systems shall be provide with a minimum of a 1/2" line to connect to a minimum of 2 toilets, at least one toilet per floor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## PIPING SYSTEM DETAIL



## PASSIVE-PURGE/FLOW THROUGH RISER DETAIL



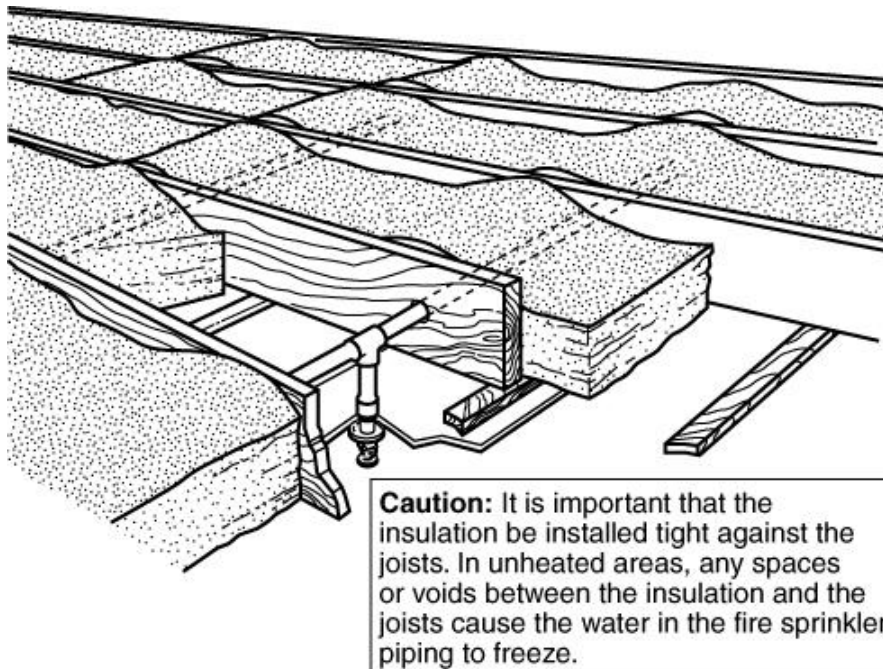
**Hanger, Bracing, Nail Plating:**

- |   | PASS                     | FAIL                     | N/A                      |
|---|--------------------------|--------------------------|--------------------------|
| 10. <b>Nail Plates</b> - Nail plates must be installed to protect the piping where the pipe is installed through a hole or notch in the stud, rafter, or similar members where the pipe is less than 1 ¼ -inch from the edge of the member. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. <b>Hangers</b> - Are the piping hangers installed correctly? Pipe supports must follow the piping manufacturer’s instructions or listings. (Devices such as “J-hooks” or plumbers tape are prohibited.)                                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. <b>Supports</b> - Pipes should be supported to prevent movement of piping upon sprinkler activation.  |                          |                          |                          |
| 13. <b>Supporting Non-System Items</b> - Non-system related items shall not be supported by the system piping or hangers.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**Insulation Tenting:**

- |   | PASS                     | FAIL                     | N/A                      |
|---|--------------------------|--------------------------|--------------------------|
| 14. <b>Insulation</b> - Insulation must be placed in a manner that provides the piping warmth from the heated space and insulation from the cold space. Tenting of the insulation ensures that the piping has an open-air space to the heated environment. The tenting must be stapled in place to ensure that the heat from below reaches the piping and prevents freezing of the water in the pipe. (See insulation arrangement detail) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

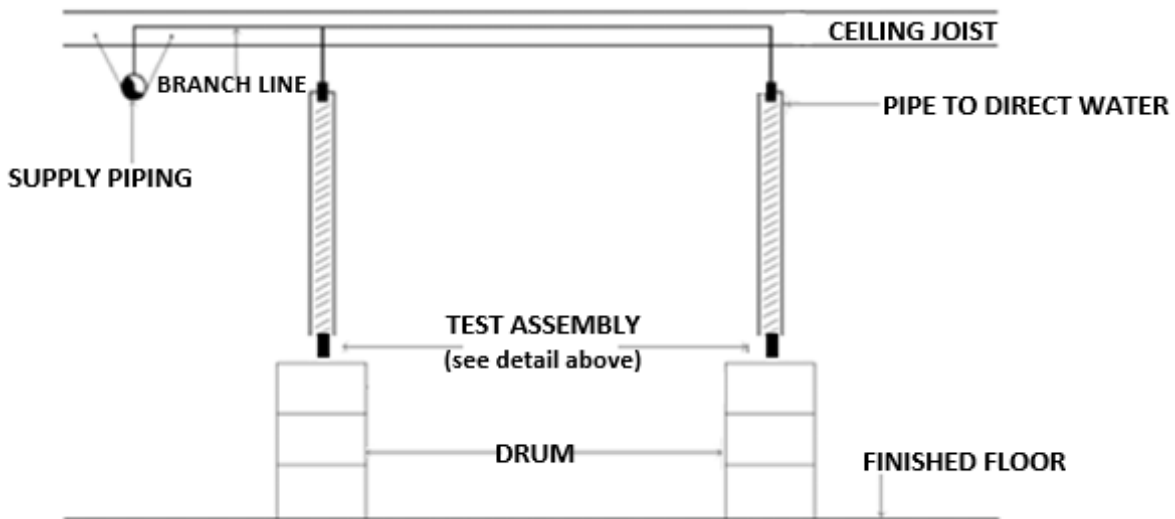
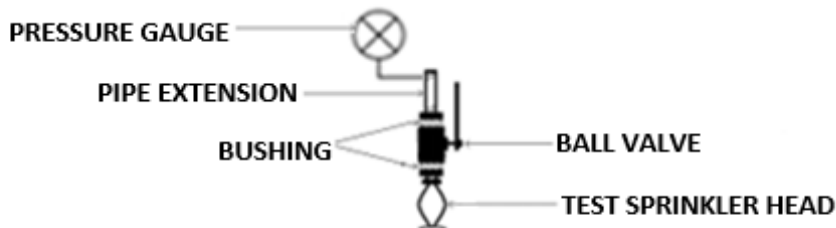
**INSULATION ARRANGEMENT DETAIL**



# Flow Test / Final Inspection

## Flow Test (Bucket Test):

- |   | PASS                     | FAIL                     | N/A                      |
|---|--------------------------|--------------------------|--------------------------|
| 1. <b>Test</b> - A functional flow test (bucket test) shall be performed on all NFPA 13D systems to ensure that the sprinkler system will function as designed and will deliver a sufficient quantity of water to meet all flow and listing requirements.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. <b>Hydraulic Placard</b> - Locate the hydraulic placard on the riser and compare it to the approved set of plans and hydraulic calculations to determine the required gpm and the most remote two sprinkler heads.<br><b>Required hydraulically calculated gpm</b> _____   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. <b>Equipment &amp; Set-Up</b> - Prior to the Fire Inspector's arrival, the sprinkler contractor shall provide and set up the following: <ol style="list-style-type: none"> <li>1. Verify that the sprinkler control valve is closed.</li> <li>2. Drain the system piping.</li> <li>3. Remove the two most remote heads from the system.</li> <li>4. Install pipes with two ¼ turn ball valve.</li> <li>5. Install "test heads" in the end of the pipes (must be identical to system heads).</li> <li>6. Install 200 psi pressure gauge.</li> <li>7. Place two calibrated 55-gallon drums underneath the sprinkler heads</li> </ol> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |



4. **Record Pressures** - Record static pressure, then flow both valves simultaneously for 30 seconds and record residual pressure while flowing.

Static Pressure \_\_\_\_\_ Residual Pressure \_\_\_\_\_

5. **Amount of Water** - Measure the amount of water flowed into a calibrated 55-gallon drums.

Drum #1 \_\_\_\_\_ Gallons Drum #2 \_\_\_\_\_ Gallons

6. Calculate GPM - Verify flow rates meet or exceed required hydraulically calculated gpm.

Total Gallons Flowed \_\_\_\_\_ X2 = \_\_\_\_\_ ≥ \_\_\_\_\_ Required gpm.

***Final Inspection:***

- |   | <b>PASS</b>              | <b>FAIL</b>              | <b>N/A</b>               |
|---|--------------------------|--------------------------|--------------------------|
| 7. <b>Schedule</b> - A final inspection should be performed when the house is complete, or nearly complete. <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. <b>Approved Plans</b> - Approved plans on site? And all work completed per plans? <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. <b>Head Inspection</b> - All sprinkler heads shall be uncovered, with escutcheons or trim rings in place. For concealed heads, the cover plates shall be off. <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. <b>Obstructions</b> - Verify that no architectural features have been constructed or installed that will obstruct the coverage from the sprinkler discharge or result in a change of sprinkler coverage. <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. <b>Protective Covers</b> - Check to see that all protective coverings are removed for sprinklers heads. <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. <b>Painted Heads</b> - Ensure that sprinklers or cover plates on concealed sprinklers have not been painted by anyone other than the sprinkler manufacturer. <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. <b>Verify Pressure Gauges</b> - Verify that the pressure gauge provided on the riser is at the minimum required pressure and ensure that the system is fully operational. <input type="checkbox"/>                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. <b>NFPA 13D Report</b> - The installer shall complete and sign the contractor's material and test certificate prior to final approval of the system. <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 15. <b>Address</b> - Verify that the address to the building is posted and in compliance with the requirement for the City of Everett. <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. <b>Fire Department Access</b> - Ensure that fire department access is posted and meets the requirements for the City of Everett. <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |