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SUBJECT: NFPA 13D Fire Sprinkler System Acceptance Testing Policy #23-01

INTENT: To clarify what is approved for acceptance test requirements identified in the Oregon Fire Code and NFPA 13D within the Gresham Fire Department coverage area.

AHJ REQUIREMENT: A forward flow test (bucket test) is required in the Gresham Fire Department coverage area. This test process confirms that the water meter size and underground fire supply have not unexpectedly reduced the calculated fire sprinkler flow.

1.0 CODES INTERPRETED

- 1.1** Oregon Fire Code 102.8. Subjects not regulated by this code. Nothing in this code shall prevent the Fire Code Official from determining compliance with codes or standards.
- 1.2** Oregon Fire Code 102.9. Matters not provided by this code shall be determined by the Fire Code Official.
- 1.3** Oregon Fire Code 903.3.1.3. NFPA 13D sprinkler systems. Automatic sprinkler systems installed in one and two-family dwellings.

2.0 INSPECTION REQUIREMENTS

- 2.1** The permit, plan review comments, and approved plans shall be on site along with adequate staff and equipment to perform the acceptance inspections.
 - 2.1.1** Fire Sprinkler Flush (prior to the backflow connection installation)
 - 2.1.2** Fire Sprinkler Rough In / Cover
 - Above ground pipe cover includes pipe layout, head placement, and pipe insulation (batt) where applicable. This inspection shall ***also include*** a flow test (aka “bucket test”) from the two most hydraulically remote or demanding heads as shown on the approved plans. Refer to Page 2.
 - 2.1.3** Fire Sprinkler Hydro Test (working pressure for 2-hours)
 - 2.1.4** Final Inspection

3.0 FLOW TEST INSTRUCTIONS

- 3.1** When installation of all pipe and fittings is complete, a flow test is required to ensure the system supplies enough water for the fire sprinkler operation.
- 3.2** Prior to the flow test, verify that the water pressure matches the pressure used in the system design parameters.

- 3.3** The flow test kits are attached to the (2) most hydraulically remote fire sprinkler locations. Refer to the approved drawings for the location.
- 3.4** Remove the (2) most remote sprinkler heads.
- 3.5** Each of the (2) kits shall include and be installed as follows:
- 3.5.1 One 200 psi pressure gauge.
 - 3.5.2 One, 1" full port ball valve attached to the pipe adapter.
 - 3.5.3 One test sprinkler head that matches the approved heads.
 - 3.5.4 Eight feet of 1" pipe. Cut shorter if needed.
 - 3.5.5 Place either a 30- gallon or 55-gallon drum underneath each sprinkler head.
 - 3.5.6 Gallon segments should be calibrated and permanently marked inside the drums.
- 3.6** Perform the test as follows:
- 3.6.1 Pressurize the system to its working pressure.
 - 3.6.2 Open the valves and bleed air from the system. Close the valves.
 - 3.6.3 Record the pressure reading.
 - 3.6.4 Open the valve and record the residual pressure.
 - 3.6.5 Water should be flowed for one minute and the valves closed.
 - 3.6.6 Compare the flow test results with the required hydraulic calculations.

