

NFPA 13 Sprinkler System Acceptance Test

City of Mercer Island
Fire Marshals Office
2016 IFC and 20016 NFPA 13

Date of Inspection: _____ Permit Number: _____

Business/Bldg Name: _____ Address of Project: _____

Contractor: _____ Contractor's Phone: _____

The numbers following checklist comments represent **NFPA code sections** unless otherwise specified.

Pass | Fail | NA

1. ___ | ___ | ___ Approved drawing and aboveground piping certification documents are on site.
2. ___ | ___ | ___ **Underground supply testing and flushing** is witnessed by the City of Mercer Island Underground Utilities Inspector and underground piping certification is provided Test and Materials Certificate. Flushing requirements shall be 880 gpm for 6", 1,560 gpm for 8", 2,440 gpm for 10", 3,520 for 12", have them pitot and calculate that flow and the velocity is at least 10 ft/sec.
3. ___ | ___ | ___ Hydro test: wet system, 200 psi for 2 hours and it should include the FDC piping.
4. ___ | ___ | ___ Hydro test: dry system and double interlocks; 200 psi for 2 hours and a 40 psi air leak test for 24 hours with less than 1.5 psi loss, 16.2.2.
5. ___ | ___ | ___ Double back flow prevention valve is installed.
6. ___ | ___ | ___ Systems subject to pressures greater than 50 psi shall be hydro tested at 150 psi above system working pressure, 16.2.1.2.
7. ___ | ___ | ___ Operational test of dry-pipe valve performed and quick opening device (500+ gallon systems) is tested, 750+ gallon system must trip within 60 seconds.
8. ___ | ___ | ___ PRVs are tested at maximum and normal inlet pressures, the supply pressure is recorded on the cert., a relief valve is on the discharge side and gauges on each side of the valve.

Riser Room

9. ___ | ___ | ___ Main drain is routed to the exterior with a turned down elbow. Flow test is performed. Main drain pipe is .75" or greater for a riser up to 2", 1.25" or greater for a riser 2.5" to 3.5", 2" for a riser 4" or greater, 8.15.2.4, 16.2.3.4.
10. ___ | ___ | ___ Test valve and flow switch are monitored for I-1 occupancies with 20 or more sprinklers, and for other occupancies with 100 or more sprinklers.
11. ___ | ___ | ___ Paddle type water flow is not allowed for dry, preaction, or deluge systems.
12. ___ | ___ | ___ 24 hour monitoring service agency received signals.
13. ___ | ___ | ___ Water flow alarm is tested, located above the FDC, and it is properly signed, 16.2.
14. ___ | ___ | ___ Water supply valves are indicating type and supervised by one of 4 means, 8.15.1.1.2.
15. ___ | ___ | ___ Highrise: each floor system shall have water flow device with a test connection and be connected to the fire alarm system.
16. ___ | ___ | ___ Permanent system identification signs for each control valve and what portion of the building each valve serves, 6.7.4.
17. ___ | ___ | ___ Permanent label of the hydraulic calculations is attached to the riser.
18. ___ | ___ | ___ Riser supported by hanger or attachment, for multistory at the lowest level, each alternate level, above and below offsets, and at the top.
19. ___ | ___ | ___ Gauges are above and below riser check valve, 7.1.1.2.

Fire Dept. Connection (Pumper Connection)

20. ___ | ___ | ___ FDC capped and permanently signed with system type, PSI required, and area or building served, 8.16.2.4.7.
21. ___ | ___ | ___ FDC has check valve and ball drip auto drain valve, 8.16.2.5.
22. ___ | ___ | ___ FDC for wet single riser system connects to the system side, 8.16.2.4.
23. ___ | ___ | ___ FDC for wet multi-riser system connects after the main system shut off valve, 8.16.2.4.
24. ___ | ___ | ___ FDC for dry system connects between the indicating and dry-pipe valves.
25. ___ | ___ | ___ FDC is a minimum 4" pipe, 18"- 48" above grade, and properly supported, 8.16.2.

Sprinklers

26. ___ | ___ | ___ Extra sprinklers; no less than 6, some of each type: 6 per 300, 12 per 300 to 1000 and 24 per 1000+ and a wrench are provided, 6.2.9.
27. ___ | ___ | ___ Sprinkler head and wrench location are the same as indicated on the plans.
28. ___ | ___ | ___ Sprinklers shall be a minimum of 4" from the wall and be properly spaced, 8.6.3.3.
29. ___ | ___ | ___ Sprinkler heads have a guard if subject to damage.
30. ___ | ___ | ___ Sprinkler heads are not painted or covered.
31. ___ | ___ | ___ Upright deflectors are a minimum 7" above the top of the pipe, 8.12.5.3.
32. ___ | ___ | ___ EFSR sprinklers are at least 1' horizontally from the bottom edge of bar joist or open truss and 36" above the storage level, 8.12.6.

33. ___ | ___ | ___ **Proper type and temperature sprinklers are used.**
 34. ___ | ___ | ___ Escutcheon plates are installed.

Pipe: Hangers, Seismic, and Penetrations

35. ___ | ___ | ___ Piping layout and size are the same as the plans.
 36. ___ | ___ | ___ Pipe penetrations have proper clearance 2" for pipe 1"-3.5", 4" for pipe 4" and larger, 9.3.
 37. ___ | ___ | ___ Flexible couplings may be used for pipe 2.5" or larger at structural separations, within 24" of expansion joints, within 24" of the top and bottom of all risers, within 12" above and below a floor penetration in multistory buildings, and on both sides of and within 1' of concrete or masonry wall penetrations unless pipe clearance is provided, 9.3.2.
 38. ___ | ___ | ___ Minimum clearance around pipes: holes are 2" larger than pipe 1"- 3.5", 4" larger than pipe 4" and larger. Clearance is not required through sheetrock which is not required to be fire rated nor when flexible couplings are used on each side and within 1' of penetration. A listed fire stop system shall be used for penetration holes, the system listing sheet is available, 9.3.4.
 39. ___ | ___ | ___ A 6 ell seismic separation assembly, is provided at building seismic joints, 6-4.3.
 40. ___ | ___ | ___ Lateral sway bracing is required at a maximum spacing of 40' for all mains, cross mains, and branchlines 2.5" and larger. Bracing is provided for the last length of pipe but within 20" of the end of a feed or cross main. Bracing is required unless all the pipe is supported by rods less than 6" or by 30⁰ wrap-around u-hooks for any size pipe, 9.3.5.3.
 41. ___ | ___ | ___ Longitudinal sway bracing is a maximum of 80' for mains and crossmains, check spacing on the plans, 9.3.5.4.
 42. ___ | ___ | ___ A 4-way sway brace is provided at least every 25' and at the top of each riser, 9.3.5.5.
 43. ___ | ___ | ___ Longitudinal and lateral bracing is provided for each run of pipe and between the change of pipe direction unless the pipe run is less than 12', 9.3.5.11.
 44. ___ | ___ | ___ Sprig ups greater than 4' are restrained from lateral movement, 9.3.6.5.
 45. ___ | ___ | ___ Splayed seismic bracing wire, wrap-around u-hooks, or lateral sway bracing shall not exceed 30' spacing and is used to restrict sprinkler movement that could impact the building, equipment or finishing materials, 9.3.6.4.
 46. ___ | ___ | ___ Restraining straps are on all C-clamps and the strap is bolted through if there is not a lip on the beam, 9.3.7.1.
 47. ___ | ___ | ___ Branch lines have one hanger per section of pipe, 9.2.3.2.
 48. ___ | ___ | ___ Mains and crossmains have one hanger between each branch lines and at the end of the main.
 49. ___ | ___ | ___ The maximum distance between the end sprinkler and hanger is 36" for 1" pipe, 48" for 1.25", and 60" for 1.5" pipe and greater, 9.2.4.

