

RFDS 4.00; STANDPIPES

4.1; DESIGN

All standpipe systems in the City of Redmond shall comply with NFPA 14- Standard for the Installation of Standpipe and Hose systems, 2010 edition. With the following additional requirements:

- **4.1.1**; Standpipes shall be designed to provide 320 g.p.m. at 110 p.s.i. at the most remote outlet in addition to flow rates and pressures specified in NFPA 14.
- **4.1.2**; Outlets shall be identified as required by the Redmond Fire Code Official and section 4.7 of this Standard.
- 4.1.3; PLANS & PERMITTING REQUIREMENTS
 - 4.1.3.1; 3 sets of standpipe plans, stamped and signed by designer, Level III State certification for fire protection.
 - 4.1.3.2; Completed fire sprinkler system permit application.

4.2; WHEN REQUIRED

Standpipes shall be required where called for in the 2012 International Fire Code (IFC): Section 905.3 Standpipe Systems, or the following additional requirements. These additional requirements are based upon the Redmond Municipal Code 15.06.017; Restricted Access Buildings.

- **4.2.1**; A minimum class I standpipe shall be required when 2012 IFC Section 905 requires Class I, II, or III systems and installed in accordance with Class I requirements.
- **4.2.2**; Standpipes shall be required in any building that has a basement greater than 20,000 square feet.
- **4.2.3**; Standpipes shall be required in any building that has multiple levels of below grade parking. In addition to the outlet locations required in NFPA 14, outlets shall be provided in all elevator lobbies or vestibules which access the parking levels and that also serve as an access point to the adjacent exit stairs.
- **4.2.4**; Standpipes shall be required in any building three floor levels or more, or a floor level greater than 30 feet above the lowest level of fire department access..
 - **Exception:** Residential occupancies requiring no more than one exit from the third level.
- **4.2.5**; Location of standpipe outlets shall be as specified by NFPA 14 (2010 edition).
- **4.2.6**; Standpipes may be required in other situations when directed by the Fire Marshal as mitigation for deficiencies in other fire protection requirements as identified in Redmond Municipal Code 15.06.017.

4.3; FIRE DEPARTMENT CONNECTIONS (FDC)

- **4.3.1**; Fire Department Connections shall be located within 40' of a fire hydrant, and shall not be located on buildings unless specifically approved by the Fire Code Official. Normally the FDC will be situated on the opposite side of the Fire Department access as to the building in which it protects.
- **4.3.2;** FDC's located in areas subject to vehicular damage shall be protected. Protection for FDCs, which are 4' or greater from the center line of the FDC to the driving surface, shall be a minimum 6" curb. Where either a distance of 4' or a 6" curb is not attainable guard posts per City of Redmond, and Redmond Fire Department Standards are required.

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- **4.3.3**; All FDCs supplying standpipe systems shall be painted on the portion of the standpipe riser which is above ground except for the hose connections which shall remain unpainted. Color coding is as follows:
 - Dry systems- Yellow.
 - Wet or combination systems- Red.
- **4.3.4;** The FDC fitting for standpipe only systems shall have the word "STANDPIPE" in raised letters on the top.
- **4.3.5**; All FDCs shall be double clappered 2 ½" NST, female, swivel couplings with breakaway metal caps.
- **4.3.6;** The underground line feeding the fire sprinkler system from the FDC shall be the same diameter as the sprinkler supply line. There shall be one 2 ½ inlet on the FDC for every 250 gallon designed flow.
- **4.3.7**; FDCs shall be identified as required by the Redmond Fire Code Official and by Section 4.7 of this Standard

4.4; ACCEPTANCE TESTING

- **4.4.1**; A functional flow test shall be performed as required for normal system acceptance procedures found in Chapter 11 of NFPA 14 (2010 edition) to verify the design criteria required in Section 4.1.1 of this Standard.
- **4.4.2;** The <u>Standpipe Flow Test Guidelines</u> can be found on the Prevention website, Redmond.gov/prevention. Click on the Quick Link entitled "Fire Prevention Forms, Permits and Documents.", it is located below Redmond Fire Standards 4.0 Standpipes.

4.5; REQUIRED MAINTENANCE

4.5.1; Maintenance shall be performed as required by NFPA 25 "Inspection, Testing, and Maintenance of Water-based Fire Protection Systems" (2011 ed.).

4.6; TEMPORARY STANDPIPES

- **4.6.1**; Temporary Standpipes shall be required as per the 2012 International Fire Code Chapter 33.
- **4.6.2**; Shall be provided to within 300 feet of all points on a floor level.
- **4.6.3**; Shall be hydrostatically tested and approved by the Redmond Fire Department. A hydrostatic test requires 200 p.s.i. plus to be maintained for at least two hours with no leaks.

4.7; STANDPIPE MARKING

- **4.7.1**; Standpipes are required to be marked to indicate whether they are dry or wet.
 - **4.7.1.1**; Exposed piping up to 8 feet above finished floor shall be painted:
 - Dry standpipes shall be painted Safety Yellow
 - Wet standpipes shall be painted Red
 - **4.7.1.2**; Standpipe hose valves located in cabinets shall be provided with signage in accordance with 2009 International Fire Code: Section 905.7, and shall not require any tools to access the valve. Cabinets shall be sized to permit mounting of a 21/2" to 1 ½" wye connection and to operate the hose valve with a gloved hand
- **4.7.2**; Marking requirements for standpipe hose valves located in open areas of parking garages.
 - **4.7.2.1**; Dry Standpipe outlets Mounted on a column:

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- All accessible sides of the column shall be painted "Safety Yellow"
- The face to which the outlet is mounted shall be alternating 2" yellow and 2" white reflective diagonal stripes or "barber pole"
- The top and bottom of column shall be provided with a 12" tall yellow reflective band on all accessible sides
- Piping extending below 8 feet above finished floor shall be painted
- The standpipe hose outlets located in the open area of the parking garage shall be mounted between 18" and 24" above finished floor
- A 3 foot wide, unobstructed access to the standpipe hose valve shall be maintained at all times

4.7.2.2; Dry Standpipe outlets - Mounted on a wall:

- The hose valve shall be centered in a minimum 3 foot wide vertical painted stripe extending from floor level to the ceiling. The stripe shall be alternating 2" yellow and 2" white reflective diagonal stripes or "barber pole"
- The top and bottom of painted area shall be provided with a 12" tall yellow reflective band
- Piping extending below 8 feet above finished floor shall be painted.
- The standpipe hose outlets located in the open area of the parking garage shall be mounted between 18" and 24" above finished floor
- A 3 foot wide, unobstructed access to the standpipe hose valve shall be maintained at all times

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