



CITY OF RIVERSIDE FIRE DEPARTMENT

FIRE PREVENTION DIVISION

INFORMATIONAL BULLETIN: 2022-008

APPROVED BY: C. Kodat, Fire Marshal, 1/1/2023

RESIDENTIAL SPRINKLER SYSTEM FUNCTIONAL FLOW TEST

Permit No. _____ Address: _____

When required, a functional flow test will 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.

Procedure:

1. Locate the hydraulically most remote two sprinkler heads (as noted on plans).
2. Verify that the sprinkler control valve is closed.
3. Drain the system piping.
4. Remove the two most remote heads from the system.
5. Install pipes with two ½-inch ¼ turn ball valves in place of the heads.
6. Install “test heads” in the end of the pipes (must be identical to system heads).
7. Replace next upstream head with a 200-psi pressure gauge.
8. Open control valve and bleed air from the system through ¼ turn ball valves.
9. Record static pressure and then flow both valves simultaneously for 30 seconds
Record residual pressure while flowing.
10. Measure the amount of water flowed into a calibrated container.
11. Verify flow rates meet or exceed requirements. Place system back in service.

Test Data:

Coverage Area	Minimum psi required	Minimum Flow	Static Pressure	Residual Pressure	One Minute Flow total

Make/model of head: _____ K-factor: _____

Flow test passed: Yes No If no, explain: _____

Inspector: _____ Date: _____

NOTE: All test equipment; valves, test heads, containers etc. shall be furnished by the installing contractor. If an accurate determination of container capacity cannot be obtained by container markings, the following formula may be used for cylindrical containers with vertical sides:

$(\pi r^2 H) / 231 = \text{volume}$, where $\pi = 3.14$, $r = \text{radius in inches}$, $H = \text{depth of water in inches}$

Bucket Test Equipment Setup

