**Chapter 6 Water Supply**

6.1 General Provisions

6.1.1

Every automatic sprinkler system shall have at least one automatic water supply.

6.1.2

Where stored water is used as the sole source of supply, the minimum quantity shall equal the water demand rate times 10 minutes unless permitted otherwise by 6.1.3.

6.1.3

Where stored water is used as the sole source of supply, the minimum quantity shall be permitted to equal the highest calculated water demand rate times 7 minutes where dwelling units meet the following criteria:

One story in height

Less than 2000 ft2 (185 m2) in area

6.1.4

The stored water requirement of 6.1.2 or 6.1.3 shall be permitted to be a combination of the water in the well, including the refill rate, plus the water in the holding tank if such tank can supply the sprinkler system.

6.1.5

The stored water supply requirement of 6.1.2 or 6.1.3 shall be permitted to be a combination of the water in the storage tank and the refill rate when the refilling method is automatic.

6.2\* Water Supply Sources

The following water supply sources shall be considered to be acceptable by this standard:

A connection to a reliable waterworks system with or without an automatically operated pump

An elevated tank

A pressure tank designed to American Society of Mechanical Engineers (ASME) standards for a pressure vessel with a reliable pressure source

A stored water source with an automatically operated pump

A well with a pump of sufficient capacity and pressure to meet the sprinkler system demand

6.2.1

Where a pump is the source of pressure for the water supply for a fire sprinkler system but is not a portion of the domestic water system, the following shall be met:

A test connection shall be provided downstream of the pump that creates a flow of water equal to the smallest sprinkler K-factor on the system.

Pump motors using ac power shall be rated for 240 V and wired in accordance with the NEC (NFPA 70).

Any disconnecting means for the pump shall be approved.

The pump shall be located not less than 11/2 in. off the floor.

6.2.2

Where a pump and tank is the source of supply for a fire sprinkler system but is not a portion of the domestic water system, the requirements of 6.2.1 and the following shall be met:

The test connection shall return water to the tank.

A method for refilling the tank shall be piped to the tank.

A method of determining the water level in the tank shall be provided without having to open the tank.

6.2.3\*

Where more than one dwelling unit is served by the same water supply pipe, each dwelling unit shall have an individual control valve that serves the fire sprinkler system in that dwelling unit and the owner shall have access to the valve that controls the sprinkler system in their unit.

6.2.3.1

The control valve shall be permitted to serve the domestic water supply.

6.2.3.2

In the situation addressed by 6.2.3, no valve controlling the sprinkler system in a unit shall be located in another unit.

6.2.3.3\*

Where a well pump is the source of supply for both the fire sprinkler system and the domestic water system 6.1.4 and Section 6.5 shall apply.

6.3\* Multipurpose Piping System

6.3.1

A multipurpose piping system shall be installed in accordance with 6.3.2 through 6.3.4.

6.3.2

Multipurpose piping systems shall be approved by the local plumbing or health authority.

6.3.3

All piping in the system supplying sprinklers shall be listed and conform to the piping specifications of this standard.

6.3.3.1

Piping connected to the system that supplies only plumbing fixtures shall comply with local plumbing and health authority requirements but is not required to be listed.

6.3.4

A warning sign, with minimum 1/4 in. (6 mm) letters, shall be affixed adjacent to the main shutoff valve and shall state the following:

WARNING: 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.

6.4 Manufactured Home Water Supply

For sprinklered buildings manufactured off-site, the minimum flow and pressure needed to satisfy the system design criteria on the system side of the meter shall be specified on a data plate by the manufacturer.

6.5 Common Supply Pipes

6.5.1

Where common supply pipes serve both fire sprinkler and domestic use, they shall comply with 6.5.2 and 6.5.3.

6.5.2

In common water supply connections serving more than one dwelling unit, 5 gpm (20 L/min) shall be added to the sprinkler system demand to determine the size of common piping and the size of the total water supply requirements where no provision is made to prevent flow into the domestic water system upon operation of a sprinkler.

6.5.3

Where water treatment and filtration are installed, one of the following conditions shall be met:

The flow restriction and pressure loss through the water treatment equipment shall be taken into account in the hydraulic calculations.

An automatic bypass shall be installed around the water treatment equipment that directs all water directly to the system.