

Fire Flow System Design Criteria

Fire Flows

For the purposes of this manual, the following shall be used for fire flow determinations unless greater flows are required for hydrants near structures as per the adopted International Fire Code.

- *Residential*

1500 gallons per minute for public hydrants in single family or duplex residential areas (this flow may be split between two adjacent fire hydrants within 1000 feet of each other).

- *Commercial*

2500 gallons per minute for public hydrants in commercial or multi-family areas (this flow may be split between two adjacent fire hydrants within 600 feet of each other).

- *Other/Hi-Rise*

For onsite fire hydrants needed to obtain coverage of commercial or other high density uses, the design engineer shall consult the City Fire Marshal to obtain the specific fire flow demands for each project via the International Fire Code.

The following criteria shall be met on all new water improvements. The determinations should use peak hour, peak day as defined by the Cities' Water System Model.

- Under normal conditions, provide residual pressures in the area serviced by the system improvement to meet TCEQ requirements, and at all times a minimum static pressure of 35 pounds per square inch (psi).
- Under fire flow conditions, provide the required fire flow at the most hydraulically remote pairings of 2 adjacent fire hydrants in the system improvement in addition to the peak hourly flow. A residual pressure of no less than 20 psi is required.
- Provide maximum velocities of not more than 12 feet per second (fps) during fire flow in both existing and proposed mains. This maximum velocity may be increased on a case by case basis depending on the condition of the existing mains and if an engineering evaluation has been performed.
- Conform to any area wide master plans, including over sizing for future development.