

2. Commercial and Industrial Districts. The minimum size shall be 8 inch, with 8 inch or larger intersecting mains in each street; 12 inch or larger mains shall be used on the principle streets and for all long mains that are not connected to other mains at intervals close enough for mutual support.
3. Existing water mains less than 6 inch diameter may be considered inadequate and/or non-existent in areas of new development and shall be replaced or paralleled with larger diameter mains.
4. Dead-end mains shall be avoided whenever possible and should not exceed 300 feet in length. Dead-end mains shall be a minimum of 8 inch diameter and shall be provided with a means of flushing to prevent deterioration of water quality (Refer to W-2, note no. 4).
5. Water mains shall be laid at least 10 feet horizontally from and at a higher elevation than sanitary and industrial waste sewers, and in no case shall they be laid in the same trench. Mains should not be laid closer than 3 feet from any other utility or water line. All installation shall meet State Health Department requirements.
6. Water mains shall normally, in new construction, be located 6 feet from the centerline and on the side of the street that has the most water water services, subject to consistency with existing facilities.
7. The system shall be designed to meet current and future area wide needs for peak demand plus fire flows, and shall satisfy all fire service and backflow requirements, using $C = 110$.

B. VALVES

1. Valves 3 inches through 16 inches shall be gate type or approved alternate (see W-16a). Smaller valves may be either gate or ball type valves.
2. Valves will be installed on all hydrant runs and on each leg of main line intersections.
3. A sufficient number of valves shall be installed so that a break or main outage will not affect more than 1/4 mile of arterial mains, 500 feet of mains in commercial or industrial districts, 800 feet in other districts, but no more than two fire hydrants or 20 services in any district.

C. FIRE HYDRANTS

1. All fire hydrants shall be valved at the main and there shall be a minimum of 10 feet between hydrant and valve.
2. Fire hydrant spacing in street right-of-way shall in no case exceed 500 feet in residential zones and 300 feet in Commercial and Industrial zones. Hydrants must also be installed as required by M.M.C. 17.32 Fire Prevention Code.

ENGINEERING DEPARTMENT		CITY OF MERCED, CA.	
WATER SYSTEM - CONSTRUCTION SPECIFICATIONS			W-22
DRAWN: KGE	APPROVED BY: <i>David L. Tucher</i>	DATE: 4/4/06	SHEET OF
DATE:	CITY ENGINEER		
REVISED: 12/05			