



FIRE DEPARTMENT SANTA CLARA COUNTY

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STANDARD DETAILS & SPECIFICATIONS	Spec. No.	<u>W-2</u>
	Rev. Date	11/05/09
	Eff. Date	01/17/97
	Approved By	_____
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SUBJECT: Private Hydrants for Other than Single Family Dwellings

SCOPE

The Fire Chief is authorized to require the installation of fire protection water supplies and fire hydrants in accordance with the provisions of the Fire Code. The information contained within this document is to serve as a guideline for installation of such equipment. This document is not applicable for installations of public water mains and fire hydrants.

DEFINITIONS

Fire Flow: The amount of water required for fire department use for fire suppression operations.

Piping: Any piping approved for use by the National Installation Standards or by the Fire Department.

Velocity Factor: The speed of water in the pipe in feet per second.

Wharf Hydrant: A hydrant with one, two-and-one-half inch (2-1/2") outlet

REQUIREMENTS

Hydrant Type*:

All hydrants shall be a "wet barrel" type with outlet sizes and configurations for the various municipalities as follows:

<u>City/Town</u>	<u>Hydrant Type</u>
Campbell	Two 2 1/2 outlets and one 4 inch outlet
Cupertino	Two 2 1/2 outlets and one 4 inch outlet
Los Altos and Los Altos Hills	Two 2 1/2 outlets and one 4 inch outlet (Commercial)
Los Altos and Los Altos Hills	One 2 1/2 outlet and one 4 inch outlet (Residential)
Los Gatos	Two 2 1/2 outlets and one 4 inch outlet
Monte Sereno	Two 2 1/2 outlets and one 4 inch outlet
Morgan Hill	Two 2 1/2 outlets and one 4 1/2 inch outlet
Saratoga	Two 2 1/2 outlets and one 4 inch outlet
Unincorporated	Two 2 1/2 outlets and one 4 inch outlet

*Wharf Hydrants may not be used for installations under this Standard.

Supply piping shall be of a minimum size of 6 inches for required flows up to 1000 GPM, and shall be 8- inches or greater for flows in excess of 1000 GPM. Contact the Fire Department for specific sizing requirements of mains and fire service connections.

Riser and riser elbow shall be ferrous metal. Buried horizontal piping runs may be of an approved plastic pipe.

Concrete thrust blocks sized in accordance with National Standards shall be provided at all changes in pipe direction.

Hydrant Location:

Hydrants are to be placed at locations approved by the Fire Department. In most cases, hydrants shall be located adjacent to roadways such that the centerline of the hydrant is at least 2 feet but not more than 8 feet from the face of the curb or roadway surface.

Hydrants shall be installed such that the center of the largest hose outlet is not less than eighteen (18") inches or more than thirty (30") inches above the final grade.

When required by the Fire Prevention Official, fire hydrants shall be protected by approved bollards, installed per Fire Department Standards.

Fire hydrants shall be painted safety yellow. Note: Private on-site hydrants supplied by the sprinkler system FDC shall have the top portion of the hydrant (approximately 4 inches) painted white.

Hydrant Threads:

National Standard Thread

Hydrant Clearance:

A minimum 3-foot clear space shall be maintained around the circumference of fire hydrants, and similar fire appliances such as FDC's or PIV's.

Fire Department Connections:

A Fire Department Inlet Connection shall be provided for all private hydrant system installations. The connection shall provide a minimum of four, two-and-one-half inch (2-1/2") threaded inlets, served by a minimum 6" inch riser located at the public way, or as approved by the Fire Department.

Valves:

Control valves shall be provided for hydrant installations. A control valve shall be provided between the main and the hydrant(s). It shall be placed at the location(s) approved by the Fire Department, however in no case shall the valve be located less than 6 feet from the centerline of the hydrant.

Required Plans Submittal:

Shop drawings reflecting compliance with National Fire Protection Association Standard #24, shall be prepared and submitted to the Fire Department for review. The shop drawings shall be drawn to scale and contain the following information:

1. Size, location, and type of all water supplies (Detail of connection to public water main).
2. Size, type, and location of all piping: including the class and depth of cover.
3. Size, type, and location of all control valves.
4. Size, type, and location of all fire hydrants.
5. Manufacturer's Specification sheets for all equipment including hydrants, tanks and valves.
6. Size, location and type of thrust blocks or anchor points.
7. Type of joint restraint(s), to include the method of corrosion protection.

Hydraulic Calculations:

Hydraulic calculations may be required to verify required fire flow at hydrants prior to installation. If required by the Fire Department, hydraulic calculations shall be part of the plans submittal. Maximum Velocity Factor shall be 15 feet per second for hydraulic calculations.

Fire Department Permits:

Permits for installation are required. Contact the Fire Prevention Secretary for details regarding permit applications, and fees.

Installation Requirements:

Installation of fire service piping shall be performed only by individuals who are trained and licensed to perform such work. Poor workmanship will not be accepted or approved.

All materials shall be new and in good physical condition.

Installation Inspection:

All underground piping and valves shall be inspected by the fire department prior to backfill.

Hydrostatic, flow, and flush tests may also be required prior to final acceptance of the installation.

Other Installation Reference Guides:

All installations shall also conform to National Fire Protection Association NFPA 24: "Installation of Private Fire Service Main and Their Appurtenances".

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