CITY OF MORGAN HILL

FIRE PREVENTION DIVISION
STANDARD DETAILS & SPECIFICATIONS

SUBJECT: Installation of Fire Service Underground Piping, FDC's and Fire Hydrants	**SPEC NO:** 11-T **EFFECTIVE DATE:** 01/01/13 **REVISED:** 2/10/15

SCOPE

This standard applies to the installation of underground fire service supply piping, fire department connections, and fire hydrants.

REQUIREMENTS

Fire service underground supply piping shall be installed in accordance with National Fire Protection Association Standard (NFPA) #24, Standard for the Installation of Private Fire Service Mains, and in accordance with this standard.

UNDERGROUND SUPPLY PIPING

- Fire service piping shall not be installed under buildings. When portions of the piping must penetrate building foundations or footings, it shall be installed per NFPA Std. #24 and protected by a sleeved penetration that provides a minimum two-inch (2") annular clear space; Underground fire service piping shall not be encased in concrete.

- Fire service piping shall not cross property lines.

- When an existing structure is added to, resulting in an additional sprinkler system riser being provided, it shall be supplied from the existing fire service main and FDC. (See "Post indicator valves" below for valving arrangements)

- Prior to connection to the fire sprinkler system, all underground fire service piping shall be subjected to a hydrostatic test at 200 psi for a period of 2 hours. After completion of the test, the piping shall be flushed as outlined in the NFPA standard.

POST INDICATOR VALVES

- New sprinkler systems shall be provided with a Post Indicator Valve (PIV) for system control. (Exception: approved back-flow prevention assemblies utilizing (OS&Y) valves)

- One-story buildings having multiple system risers, (i.e., large warehouses or industrial buildings), shall have a single main supply PIV installed at the street, while the other risers may have exterior wall mounted PIV's or Outside Screw and Yolk (OS&Y) control valves.

- Main system PIV's (or back-flow prevention assemblies controlling sprinkler systems) shall be installed on the street address side of the building, not more than five (5') feet behind the back edge of the sidewalk (when a sidewalk is provided running parallel to the street and is within

ten (10') feet of the street/curb line), and in no case shall the PIV or control valve assembly be more than twenty (20') feet from the street/curb line.

- For buildings three (3) or more stories in height, the PIV or control valve assembly shall be installed at the street for main system control, with individual floor control valves provided within the building, located in a protected stairway enclosure.

FIRE DEPARTMENT CONNECTIONS

- New Installation - The fire department connection (FDC) shall be installed at the street on the street address side of the building. It shall be located within 40 feet of a fire hydrant and within ten (10) feet of the main PIV (unless otherwise approved by the Chief due to practical difficulties). FDC's shall be equipped with a minimum of two (2), two-and-one-half (2- 1/2") inch national standard threaded inlet couplings. Exception: FDC's supplying private on-site fire hydrants shall have a minimum four (4) way inlet coupling.

- Existing Buildings - On existing buildings, wherever the fire department connection is not visible to approaching fire apparatus, the fire department connection shall be indicated by an approved sign mounted on the street front or on the side of the building. Such sign shall have the letters "FDC" at least 6 inches (152 mm) high and words in letters at least 2 inches (51 mm) high or an arrow to indicate the location. All such signs shall be subject to the approval of the fire code official.

- Orientation of the FDC shall be such that hose lines may be readily and conveniently attached to the inlets without interference.

- FDC's shall be painted safety yellow.

FIRE HYDRANTS

- 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.

- The hydrant street control valve shall be located a minimum of 6 feet from the centerline of the hydrant.

- Required fire hydrants shall be installed such that the center of the largest hose outlet is not less than eighteen (18") inches, nor more than thirty (30") inches above the final grade.

- When required by the Chief, 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.