SECTION 05300 - FIRE HYDRANTS

PART 1 - GENERAL

1.1 WORK INCLUDED IN THIS SECTION

A. The WORK of this Section includes providing installation of fire hydrants, complete and operable as indicated.

1.2 SUBMITTALS

A. The following shall be submitted in compliance with Section 01300.

1. Shop Drawings

a. Manufacturer's catalog data.

b. Manufacturer's installation instructions.

c. Manufacturer's certification that products comply with the indicated requirements.

2. OWNER's Manual

a. Manufacturer's catalog data.

b. Manufacturer's installation and operations instructions.

c. Manufacturer's maintenance procedures.

d. List of special tools.

PART 2 - PRODUCTS

2.1 GENERAL

A. Fire hydrant assemblies shall be furnished and installed at the locations shown on the Plans in accordance with the DISTRICT's Standard Drawings and to the modifications and supplements herein.

B. All hydrants shall conform with AWWA C503.

C. Fire hydrants where required by the local fire department, or indicated, shall be of the wet-barrel type, in accordance with AWWA C503.

D. Hydrant components made from brass or bronze shall be of a grade containing not more than 16 percent zinc and not more than 2 percent aluminum as specified in Section 2.3.4 of the AWWA Specification C503 for waters with specific conductance exceeding 350 Mho per cm.

E. Wet-barrel fire hydrants shall have the buried section of ductile iron or steel and a break-away flange connected to the hydrant head.

F. Hydrant bodies and caps shall be solid bronze.

G. Each hydrant shall be isolated by an individual, buried gate valve.

2.2 CONNECTION

A. The hydrant head shall have a minimum of one (1) 4-inch steamer connection and two (2) 1/2-inch hose connection, except where otherwise required by the local fire department.

B. The hose and steamer connections shall be provided with solid bronze caps and metal chains.

2.3 OUTLETS

A. Residential hydrants shall have one (1) 2-1/2-inch outlet and one (1) 4 inch outlet.

B. Industrial or commercial hydrants shall have two (2) 2-1/2-inch outlets and one (1) 4 inch outlet

C. All outlets shall have National Standard Fire-Hose Threads.

D. Threads for pumper and hose nozzles shall conform to the American National Standard adopted by the American Insurance Association (formerly the National Board of Fire Underwriters) and the National Fire Protection Association published in pamphlet No. 194, Fire Hose Couplings, by N.F.P.A. in 1968.

E. Outer end of all hose coupling threads shall be terminated by the blunt start or “Higbee Cut” on full thread (to avoid cross threading).

F. Brass hose caps with brass chains shall be provided for all outlets.

2.4 VALVE SEAT AND STEMS

A. Valve seats and stem guides may be threaded into or cast into the hydrant body or may be secured to the body by means of a lock nut.

B. Valve stems shall have a pentagon end and shall have a short radius of 33/64 inch to center of flat sides.

C. All hydrants shall be drilled with a six (6) hole flange pattern.

D. Hydrant body base flange shall be drilled in 9-1/2-inch bolt circle with six bolt holes, 7/8 inch in diameter, oriented to the center of the pumper connection.

E. All bolts, nuts, and washers shall be provided with cast iron caps and metal required for structural reasons.

F. The hydrants shall be tested to 300 psig and they shall be suitable for working pressure of 150 psig.

2.5 COATINGS

A. All interior and exterior surfaces shall be coated in accordance with AWWA C550 and Section 04000 and painted ANSI safety yellow in accordance with local codes.

B. Exterior surfaces shall be painted with a zinc chromate primer, Color No. 13528, of Federal Specifications TT-C-595.

C. All hydrants shall be field painted with two (2) coats of fire hydrant yellow alkyd enamel paint.

PART 3 - EXECUTION

3.1 INSTALLATION

A. All fire hydrants shall be installed in strict accordance with the manufacturer's published recommendations, AWWA standards, and all applicable codes, and the applicable provisions. All installations shall be to the satisfaction of the local fire and building department.

B. All hydrant isolating valves with slip joints, friction type, or caulked joint connections shall be harnessed to the main pipe by means of welded steel harness sets, or clamps and steel rods, designed for this purpose.

C. All hydrants with other than flanged inlets shall be installed with a concrete thrust block, calculated for the maximum expected water pressure.

D. All hydrant locations shall be marked with a "blue dot" road marker.

END OF SECTION