

PART 1 GENERAL

1.1 SCOPE:

- A. This Section covers the work necessary for furnishing fire hydrants and install fire hydrant assemblies in accordance with Sections 5000 WATERLINE INSTALLATION, 5050 VALVES AND METERS, 3800 TRENCHING AND BACKFILL, and the Plans and the Standard Details.
- B. Furnish catalog data and obtain approval of all hydrants before ordering.

1.2 CERTIFICATION:

- A. Furnish certification, properly executed by the manufacture, to the Owner, showing compliance with required Specifications and results of tests performed.

PART 2 PRODUCTS

2.1 HYDRANTS:

- A. The depth of bury shall normally be 3-1/2 to 4-feet. Where conditions require greater depths, extensions shall be attached by the Contractor, prior to installation. The Contractor shall cooperate with the City forces where extensions are attached on the work site and shall maintain excavations and barricades where required.
- B. The following are acceptable hydrants:
 - 1. Mueller Centurion A423
 - 2. M & H Reliant 929T
- C. STYLE
 - 1. AWWA improved, dry barrel, compression type valve, traffic model.
- D. PORTS
 - 1. All hydrants shall be equipped with two (2) 2-1/2 N.S.T. bronze hose ports and one (1) 4-1/2 N.S.T. bronze steamer port. All ports be equipped with cast iron caps.
- E. SHUT-OFF VALVE.
 - 1. Underground type gate valve with "Rich" type valve box with cast iron lid set to grade by six (6) inch cast iron sleeve. Reference Standard Drawing No.511.
- F. DRAIN.
 - 1. Opening(s) at bottom of hydrant, to prevent water in barrel from freezing in cold weather.

G. INLET.

1. Mechanical joint shall be used.
2. Flanged joint shall be approved by Engineer prior to installation.

H. OPERATING STEM.

1. 1-1/2 inch Pentagon, tapered, approximately 3/4 inch wide on flats. Hydrants to open counterclockwise.

I. HYDROSTATIC TESTING.

1. Shall be capable of 150 psi working pressure and 300 psi test pressure.

J. LUBRICATION OF OPERATING ITEM.

1. Shall be provided by an oil or grease reservoir which is sealed from the water chamber. Hydrant design shall be such that water will not be permitted to enter the operating thread cavity.

K. HYDRANT HEIGHT.

1. The center of steamer port shall be minimum of 18 inches and maximum of 24 inches above grade. Extensions, if required, to set a hydrant to proper grade shall be furnished and installed by the Contractor.

L. FACING OF HYDRANTS.

1. The steamer port shall point towards the public right-of-way.

M. OUT-OF-SERVICE HYDRANTS.

1. All new hydrants not yet activated and other hydrants that are out-of-service shall be completely bagged or covered in a manner that really identifies the hydrant as inoperable. These bags will be removed by the Owner when activating the mains.

N. See Standard Detail No.5070-1.

2.2 BASE BLOCK:

- A. Solid precast concrete pier block having nominal dimensions of 16-inches x 16-inches x 8-inches.

2.3 GRAVEL FOR DRAINAGE:

- A. Use ¾-inch minus or 1-inch minus crushed rock free of organic matter, sand, loam, clay, and other small particles that will tend to restrict water flow through the gravel.

2.4 CONCRETE FOR ANCHOR/THRUST BLOCKING:

- A. A mix not leaner than 1 part cement, 2.5-parts sand, 5-parts coarse aggregate and just enough water to make a workable mix. Twenty-eight-day compressive strength shall be a minimum of 3,300 psi. Engineer shall approve quality of materials prior to their use.

2.5 TIE RODS, DUCTILE IRON LUGS, VALVE BOXES, GATE VALVES, AND PIPE;

- A. As shown on the Standard Details, bound herewith, or as specified in the Specifications governing gate valves and ductile iron pipe and fittings, or as directed by the Engineer.

2.6 GALVANIZE PIPE:

- A. Standard weight, galvanized steel, ASTM A120, with galvanized malleable screwed fittings, Federal Specifications WW-P-521.

PART 3 EXECUTION**3.1 GENERAL:**

- A. Construction and installation of hydrants shall conform to provisions of appropriate Sections of AWWA C600, except where otherwise specified. Installation of the hydrant shall conform to the applicable provisions of Section 5000 of these Specifications.

3.2 LOCATION AND POSITION:

- A. Locate as shown on Plans or otherwise as approved by the Engineer.

3.3 EXCAVATION:

- A. Do not carry excavation below subbase grade. Refill over excavated areas with gravel and mechanically compact to provide firm foundation.

3.4 BASE BLOCKS:

- A. Place on firm, level subbase to assure uniform support.

3.5 HYDRANTS:

- A. Place carefully to prevent the base blocking from breaking. After hydrant is in place and connected to the pipeline, place temporary blocks to maintain the hydrant in plumb position during subsequent work.

3.6 ANCHOR BLOCKS:

- A. Bearing surfaces shall rest against undisturbed soil. Bearing area shall be sufficient to prevent movement of pipeline and shall be as specified or directed by the Engineer.

3.7 MEASUREMENT AND PAYMENT:

- A. Payment shall be made at the unit price per each as indicated in the Bid.

PART 4 TESTING

4.1 GENERAL:

- A. Hydrants shall be hydrostatically tested and disinfected in new lines as described in the appropriate sections.

END OF SECTION