SECTION 15109

fire hydrants

# general

## work of this section

### The CONTRACTOR shall provide fire hydrants, complete and operable, including all appurtenances and accessories, in accordance with the Contract Documents.

## reference codes and standards

### The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

#### ASTM A193 – Specification for Alloy-Steel and Stainless Steel Bolting Materials for High Temperature or High Pressure Service and Other Special Purpose Applications

#### ASTM A194 – Specification for Carbon and Alloy Steel Nuts for Bolts for High Pressure or High Temperature Service, or Both

#### ANSI/AWWA C503 – Wet-Barrel Fire Hydrants

#### NFPA 1963 – Standard for Fire Hose Connections

#### ANSI/NSF 61 – Drinking Water System Components - Health Effects

## submittals

### Furnish submittals in accordance with specification SECTION 01300 – Shop Drawings and Submittals.

### **Product Data:** Material specifications and catalog cuts including recommendations for delivery, storage and handling.

### Certifications

#### Written certification that all field testing has been completed in accordance with this section.

#### Evidence of compliance with ANSI/NSF 61 provided by an accredited third party such as NSF, Underwriters Laboratories (UL) or equal for all components in contact with potable water.

# products

## general

### Hydrants shall be in accordance with ANSI/AWWA C503 and shall comply with the requirements of this Section.

### The main valve shall be equipped with O-ring seals and the operating nut shall be 1½-inch National Standard pentagon nut. The valve shall open when turned to the left (counterclockwise).

### All material or products in contact with potable water shall be certified to meet the requirements of ANSI/NSF 61.

### All hydrants shall be permanently marked to identify the series number of the hydrant, the manufacturer, and the year in which the hydrant was manufactured

## wet-barrel fire hydrants

### Unless otherwise shown, all hydrants shall be of the wet-barrel type in compliance with ANSI/AWWA C503 and fabricated from bronze (copper alloy) material. Wet-barrel fire hydrants shall have the buried section of ductile iron and a safety (breakable) flange connected to the hydrant head.

### All hydrants shall be designed for a working pressure of 200 psig and shall be capable of withstanding a hydrostatic test pressure of 400 psig.

### Hydrants shall have a safety flange located immediately above the ground line, connecting the low barrel to the hydrant head with a grooved break-off spool.

### Each hydrant shall be isolated by an individual, buried gate valve with cast iron box and cover.

### The hydrant head shall have a minimum of one 4-inch or 4½-inch diameter pumper (steamer) connection and one 2½-inch diameter hose connection, except where otherwise required by the City of Lake Elsinore fire department. The hydrant inlet shall not be less than 6 inches in diameter.

### The hose and steamer connections shall be provided with brass or ductile iron caps and metal chains. Hose and pumper nozzle threads shall be in conformance with the standard for fire hose connections, NFPA 1963, unless otherwise specified.

### All bolts, nuts, and washers shall be of Type 316 stainless steel, Class 2, conforming to ASTM A193 for bolts and ASTM A194 for nuts, unless otherwise indicated or specified.

### **Anti-Seize Lubricant:** All threads on stainless steel bolts shall be protected an anti-seize lubricant for preventing galling on threaded joints and metal wear surfaces on stainless steel bolts, conforming to Government Specification MIL-A-907E. The anti-seize lubricant shall prevent carbon fusion and seizure and withstand service temperatures to 2,500 deg F. Anti- seize lubricant shall be composed of nickel and graphite compounds and shall not contain any copper, lead, molybdenum disulfide, or halogen compounds.

### **Protective Coating:** All interior and exterior surfaces shall be coated in accordance with AWWA C 550 and SECTION 09800 – Painting & Coating. Exterior of hydrant shall receive a traffic yellow finish coat, unless otherwise specified.

## concrete thrust blocking

### Concrete for thrust blocking at fire hydrants shall be in accordance with the requirements of SECTION 03310 – Cast-in-Place Sitework Concrete and have a minimum compressive strength of 2,500 psi.

## manufacturers

### Wet-Barrel Fire Hydrants

#### Clow Valve Company

#### James Jones Company

#### Mueller Company

### Anti-Seize Lubricant

#### Anti-Seize Technology, Nickel-Graf

#### SAF-T-LOK International Corporation, SAF-T-EZE Stainless Steel Grade Anti-Seize

# execution

## installation

### All fire hydrants shall be installed in strict accordance with the manufacturer's published recommendations, Riverside County Fire Department standards, all applicable codes, and the applicable provisions of SECTION 15100 - Valves. All installations shall be to the satisfaction of the City fire and building departments.

### All hydrant isolating valves shall be provided with flanges.

### After the hydrant is in place and connected to the pipeline, temporary blocks shall be placed to maintain the hydrant in a plumb position during subsequent Work.

### Where shown on the Drawings, hydrants shall be protected with crash posts.

### Unless otherwise indicated, the minimum depth of burial shall be 3.5 feet.

## excavation

### Excavation shall not be done below subbase unless subbase bearing capacity is inadequate.

### Over-excavation areas shall be refilled with compacted granular material in accordance with the requirements of SECTION 02200 – Earthwork.

## concrete thrust blocking

### Concrete thrust blocks shall be placed after the hydrant is placed in its final position and jointed to the pipe.

## disinfection of fire hydrants

### Fire hydrant assemblies shall be disinfected in accordance with SECTION 15044 – Hydrostatic Testing and Flushing of Pressure Pipelines, as part of the process of the disinfection of the main pipeline.

### The assembly valves shall be operated and flushed to completely disinfect all internal parts in contact with water.

## hydrostatic testing

### Fire hydrant assemblies shall be hydrostatic tested in conjunction with the main pipeline to which it is connected.

### Hydrostatic testing shall be in conformance with specification SECTION 15044.

end of section