

## **SCOPE OF WORK**

### ***REPLACE INCOMING WATER MAINS AND VALVES***

575-12-2-6255-0006

#### **SCOPE OF WORK**

This contract will provide construction services and materials to replace and upgrade various waterlines, valves, and fire hydrants within the Grand Junction VA Medical Center facility.

The contractor shall install, at the appropriate underground depth, approximately 3,220 feet of new proposed 8-inch PVC, remove and replace approximately 45 valves, remove 6 valves, install 40 new valves and 5 new fire hydrants. A new 8-inch waterline main will be installed underground along the west and south property boundary. Additional new waterlines and laterals will be installed and tied into the new main as part of this work.

The contractor shall utilize and adhere to the attached construction drawings and specifications to complete the work. The contractor shall ensure the installed waterline system complies with VA Standards, to include appropriate thrust blocks, mechanical constraints, tracing wire, etc. Trenching and other excavations shall not extend beyond existing easements, right-of-way, property boundaries, or limits shown on the Construction Drawings unless otherwise approved by the VA. In narrow areas, trenches shall be excavated with vertical sides, properly braced and supported, unless otherwise approved by the VA.

The length of open trench shall be kept to a minimum and shall not exceed the length necessary to accommodate pipe laying and backfilling operations unless otherwise approved by the VA. The Contractor shall be responsible for covering or barricading unattended trenches and excavations as necessary for protection of the public and the work. All trenches and excavations shall be backfilled at the

end of each work day, unless otherwise shown on the plans or approved by the VA. The end of a trench may be left open overnight if the entire perimeter of the excavation is fenced, lighted, and barricaded with construction equipment and/or Jersey barriers. No traffic lane shall be blocked by an open excavation, piece of equipment or other obstruction without a proper lane closure, road closure or other approved traffic control.

Cutoff walls shall be installed to inhibit the movement of ground water through the screened rock bedding. Cutoff walls shall be 5 to 10 feet long and consist of native material or imported material that has a permeability rate the same or less than that of the native material. Cutoff walls shall be constructed by discontinuing the installation of bedding and haunch backfill material and installing approved native or imported material. Cutoff walls shall be installed at intervals not exceeding 200 feet.

Unless otherwise specified or approved, all pressure pipelines shall be laid to a depth to provide a minimum cover of 48 inches measured from the final ground surface to the top of the pipe. The inside of water pipe and jointing surfaces shall be kept clean and free from mud, dirt, gravel, ground water, and other foreign material. Whenever dirt or debris enters the pipe, the Contractor shall clean the pipe by swabbing or other approved method. After cleaning, the VA representative shall determine if the pipe is clean enough to be installed. When pipe laying is not in progress the open ends of the pipeline shall be kept closed with watertight plugs.

All water mains shall be buried with a continuous electrical tracing wire to enable future location of the pipe. Tracing wire shall be taped to the top of the pipe at 10-foot intervals to prevent dislocation of the wire during backfilling. The tracing wire shall be spliced and extended to the top of each valve box and to the base of all fire hydrants as shown on the Construction Drawing details. Tracing wire

shall be spliced with a wire nut, wrapped with TBT-20 rubber tape to completely encase the connection, with an exterior wrap application of plastic electrical tape.

All ductile iron pipe with push on type joints shall be electrically connected with wedges or with cadweld connectors and No. 10 copper wire. The wire ends and cadwelds shall be sealed to prevent corrosion.

Prior to backfilling, all non-epoxy coated cast iron and ductile iron pipe, fittings, valves, appurtenances and all other metal pipes and fittings, except copper service lines, shall be wrapped with polyethylene encasement material. Polyethylene film shall have a minimum thickness of 0.008 inches (8mil). If a soil survey has been performed in accordance with Appendix A of AWWA C-105 and the soil is found to not be corrosive to ductile iron, then the Contractor may submit a written request to VA Engineering to install ductile iron pipe and fittings without a polyethylene encasement.

Ductile iron valves and fittings shall be fully encapsulated by the polyethylene encasement, except the valve operating nut. The ends of the polyethylene shall be taped around the full circumference of the pipe. If the polyethylene is cut or more than one piece is used to wrap the valve or fitting, the pieces shall overlap a minimum of 12 inches and the full length of the seam shall be taped.

Thrust restraint shall be provided at all pipe bends, tees, caps, valves, hydrants and at the end of all stub outs or dead end lines. Thrust restraint beyond the physical fitting may be provided by concrete blocking or mechanical restraint of pipe joints. If pipe joint restraint is used in lieu of concrete thrust blocks, the minimum distance for joint restraint along the pipe away from the fitting shall be determined utilizing EBAA Iron Thrust restraint calculations. This is available on line at <http://rcp.ebaa.com/> Restraint Length Calculator Version 6. In-line valves with a minimum of 20 feet of pipe are not required to be separately restrained.

New water lines shall not be connected to existing mains in service until the new lines have been tested, disinfected, and accepted by the VA.

Where the connection of the new lines to old requires interruption of service, the Contractor shall mutually agree upon a date and time for connections which will allow ample time to assemble labor and materials. The Contractor shall notify all water users affected in accordance with the General Requirements.

All work shall be coordinated through the Grand Junction VA Engineering Section of the Medical Center. Davis-Bacon wage rates to apply. The delivery date for this contract shall be ninety (90) days from Notice to Proceed.

#### GENERAL

All design and work will conform to the current edition of the VA Master Specifications and VA Design Standards as published at the following site: [www.cfm.va.gov](http://www.cfm.va.gov), ASHRAE, IBC 2003, NFPA AND NEC building codes and standards.

#### ***DRAWINGS AND SPECIFICATIONS***

Replace Incoming Water Mains to Building, 100% Submittal Construction Plans (Sheets C-1 thru C-9) dated 10/26/2011 (Project No. 575-11-RP-0059)

VA Master Specifications, Solicitation VA-259-11-RP-0059, dated October 26, 2011