

SECTION 21 10 00 – WATER-BASED FIRE-SUPPRESSION SYSTEMS

PART 1 GENERAL

1.01 DESCRIPTION

- A. Existing piping to be reused, replaced or removed as indicated on the drawings. Removal of piping to include all valves, flow switches, supervisory devices, hangers, supports and associated fire alarm system conduit and wire.
- B. Existing occupant-use hose racks, valves and accessible piping to be disconnected from their supply, drained, removed, and all remaining inaccessible piping capped.

1.02 RELATED WORK

- A. Section 21 05 11 – Common Work Results for Fire Suppression.
- B. Section 28 31 00 – Fire Detection and Alarm: Alarm supervision.
N/A

1.03 QUALIFICATIONS

- A. Designer's Qualifications: Design work and shop drawings shall be prepared by a licensed engineer practicing in the field of Fire Protection Engineering or a NICET (National Institute for Certification in Engineering Technologies) Level III sprinkler technician.
- B. Installer's Qualifications: The installer shall possess a valid State fire protection contractor's license. The installer shall provide documentation of having successfully completed three projects of similar size and scope.

1.04 SUBMITTALS

- A. Submit as one package in accordance with Section 01 33 23 – Shop Drawings, Product Data and Samples.
- B. Sprinkler design shall be done by a certified professional. All plans shall be stamped by qualified P.E.
- C. Emergency service point of contact name and 24 hour emergency telephone number.
- D. Detailed drawings in accordance with NFPA 13 and NFPA 14 latest editions. Drawings shall be prepared using CADD software stamped by fire protection professional engineer and include all new and existing sprinklers and piping. Use format in use at the VA medical center. Drawings are subject to change during the bidding and construction periods. Any wall and ceiling changes occurring prior to the submittal of contractors shop drawings shall be incorporated into the contractors detailed design at no additional contract cost.

1.05 WARRANTY

- A. All work performed and materials and equipment furnished under this contract shall be free from defects for a period of one year from date of acceptance by the government.

- B. All new piping and equipment incorporated into the new system shall be hydrostatically tested and warranted as new.

1.06 APPLICABLE PUBLICATIONS

- A. Publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.
- B. National Fire Protection Association (NFPA)
 - 1. 13-2010: Installation of Sprinkler Systems
 - 2. 14-2010: Installation of Standpipe and Hose Systems
 - 3. 17A-2009: Standard for wet chemical extinguishing systems
 - 4. 20-2003: Installation of Centrifugal Fire Pump
 - 5. 24-2010: Installation of Private Fire Service Mains and Their Appurtenances
 - 6. 25-2011: Inspection, Testing and Maintenance of water Based Fire Protection Systems
 - 7. 70-2011: National Electrical Code
 - 8. 72-2010: National Fire Alarm Code
 - 9. 82-2009: Incinerators, Waste and Linen Handling Systems and Equipment
 - 10. 170-2009: Standards for Fire Safety Symbols
 - 11. 291-2010: Fire Flow Testing and Marking of Hydrants
- C. Underwriters Laboratories Inc. (UL)
 - 1. 2011: Fire Protection Equipment Directory
- D. Factory Mutual Engineering Corporation (FM)
 - 1. 2010: Approval Guide
- E. American Society for Testing and Materials (ASTM)
 - 1. F442-09: Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe
- F. American Society of Sanitary Engineering (ASSE)
 - 1. 1015-2009: Double Check Backflow Prevention Assembly
- G. Contractor shall provide all necessary test equipment, parts and labor to perform required maintenance.
- H. All inspections, testing and maintenance work required by NFPA 25, NFPA 20, NFPA 13 and recommended by the equipment manufacturer shall be provided. Work shall include operation of sprinkler system alarm and supervisory devices.

- I. Service and emergency personnel shall report to the Engineering Office or their authorized representative upon arrival at the hospital and again upon the completion of the required work. A copy of the work ticket containing a complete description of work performed and parts replaced shall be provided.

PART 2 PRODUCTS

2.01 GENERAL

- A. All devices and equipment shall be Underwriters Laboratories Inc. listed for their intended purpose. All sprinklers shall be Factory Mutual approved.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Plug lines as required.

3.02 TEST

- A. Automatic Sprinkler System: NFPA 13 and 25.
- B. Standpipe and Hose System: NFPA 25.

END OF SECTION