

SECTION 15300 FIRE PROTECTION

PART 1 - GENERAL

1.01 DESCRIPTION:

- A. Furnish and install automatic sprinkler system throughout the entire building.
- B. Furnish and install standpipe system with hose valves throughout the entire building.
- C. Furnish and install fire pump with controller and jockey pump as specified.
- D. Furnish and install outside fire protection including fire hydrants and required control valves.
- E. Work by others:
 - 1. Wiring of supervisory and alarm devices.
 - 2. Wiring of fire pump and jockey pump controller.

1.02 QUALITY ASSURANCE:

- A. Standards:
 - 1. All work provided under this Section shall be done in strict accordance with the applicable fire codes of the National Fire Protection Association (NFPA) and local authorities.
 - 2. Where products are specified by manufacture, brand name, or catalog number, this establishes the quality and style of the product under the Contract, unless a change in quality is approved by the Owner.
 - 3. All work must be performed by a licensed sprinkler contractor registered with the State of Mississippi and represented by a Responsible Managing Employee registered in the state of Mississippi.

1.03 SUBMITTALS:

- A. Contractor shall submit the following with his bid:
 - 1. List of products to be provided, including manufacture, catalog number and catalog cut sheets.
 - 2. Separate list of products that the CONTRACTOR proposes to substitute for the specified items. Provide name of manufacturer, catalog number and catalog cut sheet for each substitute item.

PART 2 - PRODUCTS

2.01 ABOVE GROUND PIPING SPECIFICATIONS:

- A. Black carbon steel schedule 40 A-135 pipe for pipe sizes 1 inch through 2 inch.
- B. Black carbon steel schedule 40 or schedule 10 A-135 pipe for pipe sizes 2 ½ inch through 6 inch.
 - 1. Source:
 - a. Act Steel Pipe
 - b. Bull moose Pipe
 - c. Allied Pipe
- C. Schedule 10 pipe to be rolled grooved in lieu of cut grooved.
- D. Pipe for the fire pump and jockey pump to be brass.

2.02 BELOW GROUND PIPING SPECIFICATIONS:

- A. Pipe under building foundations to be ductile iron class 50.

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2.03 ABOVE GROUND FITTING SPECIFICATIONS:

- A. Black cast or malleable threaded fittings for pipe sizes 1 inch through 2 inch rated for 125 lbs. for cast iron and 150 lbs. for malleable fittings.
 - 1. Source:
 - a. Ward Fittings
 - b. Stockham Fittings
 - c. Grinnell Fittings
- B. Grooved fittings pipe for pipe sizes 2 ½ inch through 6 inch rated at 300 lbs.
 - 1. Source:
 - a. Victaulic Fittings
 - b. National Fittings
 - c. Gruv-lock Fittings
- C. Shop welded fittings rated at 300 lbs.

2.04 HANGER SPECIFICATIONS:

- A. Adjustable strap ring type:
 - 1. Source:
 - a. Michigan
 - b. Persing
 - c. Grinnell
- B. Adjustable malleable top beam clamp with set screw and lock nut.
 - 1. Source:
 - a. Michigan
 - b. Persing
 - c. Grinnell
- C. Hanger rods to be 3/8" for 1 inch pipe through 4" pipe.
- D. Hanger rods to be ½" for 5 inch pipe through 6" pipe.
- E. Provide seismic bracing per NFPA 13.

2.05 VALVE SPECIFICATIONS:

- A. Indicating OS&Y vales shall be rated for a cold water, non-shock, maximum service pressure of 175 PSI.
 - 1. Source:
 - a. Kennedy
 - b. Muelleler
 - c. Nibco
- B. Globe valves to be bronze body, teflon disc and rated for a cold water, non-shock, maximum service pressure of 175 PSI.
 - 1. Source:
 - a. Kennedy

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- b. Mülleller
 - c. Nibco
- C. Check valves to be bronze body, teflon disc and rated for a cold water, non-shock, maximum service pressure of 175 PSI.
 - 1. Source:
 - a. Kennedy
 - b. Mülleller
 - c. Nibco
 - d. Stockham
- D. Hose valves to be bronze body, teflon disc and rated for a cold water, non-shock, maximum service pressure of 175 PSI.
 - 1. Source:
 - a. Kennedy
 - b. Mülleller
 - c. Nibco
 - d. Stockham

2.06 SPRINKLER SPECIFICATIONS:

- A. Sprinklers to be installed in a drop ceiling on a wet system to be chrome semi-recessed, ½" orifice with ½" iron pipe thread rated for 175 PSI working water pressure.
 - 1. Source:
 - a. Viking
 - b. Automatic
 - c. Central
 - d. Reliable
- B. Sprinklers to be installed in a drop ceiling on a dry system to be chrome semi-recessed dry pendants, ½" orifice with ½" iron pipe thread rated for 175 PSI working water pressure.
 - 1. Source:
 - a. Viking
 - b. Automatic
 - c. Central
 - d. Reliable
- C. Sprinklers to be installed on the outside balconies to be chrome dry sidewalls, ½" orifice with ½" iron pipe thread rated for 175 PSI working water pressure.
 - 1. Source:
 - a. Viking
 - b. Automatic
 - c. Central
 - d. Reliable
- D. Sprinklers to be installed in exposed areas to be brass uprights 200 degree ½" PSI working water pressure.
 - 1. Source:
 - a. Viking
 - b. Automatic
 - c. Central

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d. Reliable

C. Provide a spare cabinet for each system containing one sprinkler wrench and six spare sprinklers.

2.07 ELECTRICAL ALARM SWITCHES SPECIFICATIONS:

A. Water flow switches to be mounted on supply pipe at each valve location with two sets of contact points and tamper-proof cover.

1. Source:
 - a. Notifier
 - b. Potter-Electric

B. Tamper switches to be mounted on each control valve with two sets of contact points and tamper proof cover.

1. Source:
 - a. Notifier
 - b. Potter-Electric

2.08 FIRE PUMP SPECIFICATIONS:

A. Fire pump to be an electric pump rated at 460/3/444 with pump pad, test header, air relief valve and fire pump controller with part winding start and automatic transfer switch..

1. Source:
 - a. Allis-Chambers
 - b. Patterson Pump
 - c. Fairbanks Morris

B. Fire pump to be capable of delivering 120 percent of its' rated pressure at churn while delivering 65 percent of its' rated pressure while flowing 150 percent of its' rated flow.

C. Jockey pump to be an electric pump rated at 460/3/444 with pump pad, air relief valve and jockey pump controller.

1. Source:
 - a. Metron

PART 3 - EXECUTION

3.01 SITE VISIT:

- A. Prior to ordering materials or fabrication of piping, Contractor shall visit work site to take field measurements of walls partitions, structural members, roofs, ceilings, underground services, etc. as necessary to verify that the sprinkler work can be installed as shown.
- B. Contractor shall obtain a new flow test prior to beginning any work.

3.02 PREPARATION OF SHOP DRAWINGS:

- A. Prepare shop drawings at a scale approved by OWNER.
- B. Submit shop drawings of good quality for owner's approval.
- C. Submit hydraulically calculated shop drawings to local approving authorities and the insurance carrier for approval, prior to beginning any work.

3.03 INSTALLATION:

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A. Sprinkler Heads:

1. Install high temperature sprinklers near heat producing devices.
2. Sprinkler heads to be installed in suspended ceilings must be located carefully to match the coordinated pattern of the ceiling, lighting fixtures, diffuse and other elements to be installed thereon.
3. Provide two-piece escutcheons plates for pendent sprinklers mounted below suspended ceilings.

B. Piping:

1. All piping to be run straight and true.
2. Install piping to coordinate with other trades.
3. Provide pipe sleeves two sizes larger than pipe where pipe passes through rated floors and walls and sealed with fire caulking.
4. All hanger rods to be installed plumb.
5. Piping will be required to be installed parallel to solid wood joist above sheet rock ceilings. Penetrations through the solid wood joist must be approved prior to the installation and must be kept to a minimum. All penetrations must be drilled resulting in a neat, clean hole.

3.04 TEST AND ADJUSTMENTS:

- A. Perform a hydrostatic test on each system consisting of 200 PSI for a period of two hours. If any leaks are noted during the test, they shall be repaired and the system shall be retested.
- B. The fire pump shall be tested by the manufacturer's representative and witnessed by the local fire department.
- C. All electrical alarms shall be tested in conjunction with the fire alarm contractor.
- D. At the completion of above tests, Contractor shall present OWNER with properly test certificates.

END OF SECTION