SPECIAL SPECIFICATION

SECTION 13203S

ABOVE GRADE FUEL TANKS

PART 1 - GENERAL

1.01 REFERENCES

A. NFPA 31 - Installation of Oil Burning Equipment.

B. UL 58 - Steel Underground Tanks for Flammable and Combustible Liquids.

C. UL 80 - Steel Inside Tanks for Oil-Burner Fuel.

D. UL 142 - Steel Aboveground Tanks for Flammable and Combustible Liquids.

E. UL 343 - Safety Pumps for Oil-Burning Appliances.

F. UL 443 - Safety Steel Auxiliary Tanks for Oil-Burner Fuel.

G. UL 567 - Pipe Connectors for Flammable and Combustible Liquids and LP-Gas.

1.02 SUBMITTALS

A. Indicate on shop drawings all details of construction, piping layout, fittings, valves, gages and accessories.

B. Indicate on shop drawings all details of construction for foundations, piers, basins, walls and structural steel supports.

C. Provide operation and maintenance manual.

1.03 QUALITY ASSURANCE

A. Meet requirements of applicable government regulations and NFPA 31 for the installation of oil burning equipment, for oil piping materials and components, oil piping installations and inspection, and testing of fuel oil piping systems.

PART 2 - PRODUCTS

2.01 TANKS

A. Single-wall factory-fabricated and tested, cathodically-protected, and bearing UL and API labels. Fabricate wall and headers using hot-rolled carbon steel plates or sheets, as specified in UL 58. Size and capacity as indicated.

B. Closed type, welded steel rated for atmospheric pressure, cleaned, prime coated and supplied with steel support saddles.

C. Fabricate tanks to store liquids with specific gravities up to 1.1 and with maintained temperatures of up to 150 degrees F. Fabricate shell and head joints, lifting lugs, manholes and pipe connections in accordance with UL 58.

D. Construct tank with tappings for installation of accessories.

E. Tank Fittings and Accessories:

1. Tank Manhole: 24-inch diameter, emergency vent and manhole for access to inside of tank.

2. Threaded pipe connection fittings on top of tanks, for fill, supply, return, vent, gaging in locations and of sizes as indicated. Provide cast-iron plugs for shipping.

3. Lifting Lugs: Provide lifting lugs to facilitate handling and installation.

4. Ladders: Provide carbon steel ladder inside tank and exterior with cage, anchored to top and bottom, and located as indicated.

5. Supply Tube: Provide extension of transfer pump suction line fitting into tank, terminating 6 inches above tank bottom and cut at 45-degree angle.

6. Vent Cap: Cast iron threaded tee inlet; 40 mesh brass wire cloth screen.

7. Gages: Provide gage glass set consisting of brass compression stops and guard. Glass long enough to cover tank from 2 inches above bottom to 2 inches below top. Maximum length of each glass 24 inches.

2.02 FUEL OIL TANK MONITOR CONTROLS

A. Provide a control system to monitor fuel oil in each fuel oil tank. System provides low fuel oil level alarm, high fuel oil level alarm, tank level, water level, high water level alarm, remote annunciator high level alarm, fuel oil piping leak alarm and printed reports on a daily basis.

B. Provide all necessary controls and wiring for a complete and operating system.

C. Report Printouts:

1. Shift Report: Includes an Inventory Report and net change in gallons.

2. Inventory Report by simply pushing PRINT.

3. Product Increase Report including last six increases.

4. Alarm Reports: Low fuel, high fuel, high water and product loss; four relay contact closures provided for remote audible and/or visual alarms.

5. Leak Detect Test Report: Automatic pass/fail analysis (all above reports and time/dated).

D. Tank Probe: Fits 4 inch riser pipe.

E. Conduit and Layout:

1. Conduit Required: 3/4-inch rigid metal.

2. Conduit Routing: Series or individual to each tank; probe wiring only, no AC power.

3. Maximum Distance from Probe to Tank Monitor: 2,500 feet.

F. Power:

1. Requirements: 115/208 Volts, 60 hertz, plus or minus 10 percent.

2. Consumption: 60 VA.

G. Operating Temperature Ranges:

1. Tank Monitor: 32 degrees F to 125 degrees F.

2. Probe: 40 degrees F to 130 degrees F.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Support tanks inside building from building structure.

B. Flush and clean fuel tank prior to delivery to site and keep sealed during construction.

C. Anchor tanks in accordance with manufacturer's instructions.

END OF SECTION