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BuildingName
The Description of the Project
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SPECIFICATION DIVISION 23

NUMBER SECTION DESCRIPTION

DIVISION 23 HEATING, VENTILATING AND AIR CONDITIONING (HVAC)
SECTION 231123 - FACILITY NATURAL-GAS PIPING

END OF CONTENTS TABLE

DIVISION 23 HEATING, VENTILATING AND AIR CONDITIONING (HVAC)
SECTION 231123 - FACILITY NATURAL-GAS PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, Standard General and Supplementary General Conditions, Division 1 Specification Sections, and other applicable Specification Sections including the Related Sections listed below, apply to this Section.

1.2 SCOPE OF WORK:

A. Provide piping, fittings, and specialties for Natural Gas Systems

1.3 WORK BY OTHERS - UTILITY COMPANY:

A. Gas meter, pressure regulator and related valves will be furnished and installed by MichCon.

B. All gas piping outside the building, upstream of the gas meter is provided by MichCon.

C. Contractor shall coordinate installation of meter and related components with MichCon and owner.

D. Expenses and fees for MichCon work shall be paid for by the owner.

1.4 QUALITY ASSURANCE:

A. Comply with the requirements of NFPA 54 - National Fuel Gas Code, for gas piping materials and components, and gas piping systems installation, inspection, testing, and purging.

PART 2 - PRODUCTS

2.1 GAS LINE PRESSURE REGULATORS:

A. The U-M gas supplier Detroit Edison Energy (DTE) is requiring a gas regulator to be installed on every gas fired piece of equipment if the supplied gas pressure to the building is greater than 7" W.C.

B. Single stage, steel jacketed, corrosion-resistant gas pressure regulators; with atmospheric vent, elevation compensator; with threaded ends for 2 inch and smaller, flanged ends for 2-1/2 inch and larger; for inlet and outlet gas pressures, specific gravity, and volume flow indicated.

C. Manufacturers:

1. _____
2. _____
3. _____
4. Etc…

2.2 LUBRICATED PLUG VALVES:

A. GGas Cocks 2-1/2 Inch and Larger: MSS SP-78; 175 psi, lubricated plug type, semi-steel body, single gland, wrench operated, flanged ends. For valves 2" and smaller, see Section 220523 Valves

B. Manufacturers: Homestead, Milliken, Resun

2.3 MASTER GAS SHUT OFF VALVE AND VALVE BOX

A. Master gas shut off valve shall be bronze body ball valve. Recessed valve box constructed of extruded aluminum with aluminum back plate and frame cover. Assembly shall include clear flexible window with emergency pull ring. Permanently affix the following to the window:

CAUTION: MASTER GAS SHUT OFF VALVE
a) CLOSE ONLY IN EMERGENCY

B. Manufacturers: Ohmeda, Mueller

PART 3 - EXECUTION

3.1 PREPARATION:

A. Precautions: Before turning off gas, turn off all equipment valves. Perform a leakage test to determine that all equipment is turned off.

3.2 HANDLING FLAMMABLE LIQUIDS:

A. Remove and legally dispose of liquid from drips in existing gas piping. Handle cautiously to avoid spillage or ignition.

3.3 NATURAL GAS PIPING INSTALLATION REQUIREMENTS:

A. See Section 221113 for piping materials and installation requirements.

B. Install, inspect, test, and purge natural gas systems in accordance with NFPA 54, and local utility requirements.

C. See Section 220523 for valve installation requirements.

D. Gas piping in air plenum ceilings shall be continuously welded or installed in air-tight conduit constructed of Schedule 40 seamless black steel pipe with welded joints. Vent conduit to the outside and terminate with a screened vent cap. Valves shall not be installed in plenums.

E. Drips and Sediment Traps: Install a drip leg at inlet to terminal equipment, points where condensate may collect, and at the outlet of the gas meter. Do not install drips where condensate is likely to freeze. Construct drips using a tee with plugged or capped bottom outlet. Drip shall be minimum of 3 pipe diameters long, same size as pipe. Locate drips to permit cleaning and emptying.

3.4 GAS LINE PRESSURE REGULATOR INSTALLATION:

A. Install a gas isolation valve upstream of each gas pressure regulator. Where two gas pressure regulators are installed in series in a single gas line, a valve is not required at the second regulator.

B. Install pressure relief or pressure limiting devices so they can be readily operated to determine if the valve is free; so they can be tested to determine the pressure at which they will operate; and examined for leakage when in the closed position.

C. Install vent line from pressure regulators to outdoors.

3.5 ELECTRICAL BONDING AND GROUNDING:

A. Install above ground portions of gas piping systems, upstream from equipment shutoff valves electrically continuous and bonded to a grounding electrode in accordance with NFPA 70 - "National Electrical Code."

B. Do not use gas piping as a grounding electrode.

C. Conform to NFPA 70 - "National Electrical Code," for electrical connections between wiring and electrically operated control devices.

END OF SECTION 231123