# SECTION 22 10 06

# PLUMBING PIPING SPECIALTIES

## PART 1 GENERAL

### 1.01 SECTION INCLUDES

A. Roof and floor drains.

B. Cleanouts.

C. Hydrants.

D. Backflow preventers.

E. Water hammer arrestors.

F. Interceptors.

G. Thermostatic mixing valves.

H. Catch basins and manholes.

### 1.02 RELATED REQUIREMENTS

A. Section 33 05 13 - Manholes and Structures.

B. Section 03 30 00 - Cast-in-Place Concrete: Manhole bottoms.

C. Section 22 10 05 - Plumbing Piping.

D. Section 22 40 00 - Plumbing Fixtures.

E. Section 22 30 00 - Plumbing Equipment.

F. Section 26 27 17 - Equipment Wiring: Electrical characteristics and wiring connections.

### 1.03 REFERENCE STANDARDS

A. ASME A112.6.3 - Floor and Trench Drains; The American Society of Mechanical Engineers.

B. ASME A112.6.4 - Roof, Deck, and Balcony Drains; The American Society of Mechanical Engineers.

C. ASSE 1011 - Hose Connection Vacuum Breakers; American Society of Sanitary Engineering (ANSI/ASSE 1011).

D. ASSE 1012 - Backflow Preventer with Intermediate Atmospheric Vent; American Society of Sanitary Engineering (ANSI/ASSE 1012).

E. ASSE 1013 - Reduced Pressure Principle Backflow Preventers and Reduced Pressure Fire Protection Principle Backflow Preventers; American Society of Sanitary Engineering.

F. ASSE 1019 - Vacuum Breaker Wall Hydrants, Freeze Resistant Automatic Draining Type; American Society of Sanitary Engineering (ANSI/ASSE 1019).

G. ASTM C478 - Standard Specification for Precast Reinforced Concrete Manhole Sections.

H. ASTM C478M - Standard Specification for Precast Reinforced Concrete Manhole Sections [Metric].

I. PDI-WH 201 - Water Hammer Arresters; Plumbing and Drainage Institute.

### 1.04 SUBMITTALS

A. Product Data: Provide component sizes, rough-in requirements, service sizes, and finishes.

B. Shop Drawings: Indicate dimensions, weights, and placement of openings and holes.

C. Certificates: Certify that grease or oil interceptors meet or exceed specified requirements.

D. Manufacturer's Instructions: Indicate Manufacturer's Installation Instructions: Indicate assembly and support requirements.

E. Project Record Documents: Record actual locations of equipment, cleanouts, backflow preventers, water hammer arrestors.

F. Operation Data: Indicate frequency of treatment required for interceptors.

G. Maintenance Data: Include installation instructions, spare parts lists, exploded assembly views.

### 1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with not less than three years documented experience.

### 1.06 DELIVERY, STORAGE, AND HANDLING

A. Accept specialties on site in original factory packaging. Inspect for damage.

### 1.07 EXTRA MATERIALS

A. Supply for Red Clay Consolidated School District's use in maintenance of project:
   1. Two loose keys for outside hose bibbs.
   2. Two hose end vacuum breakers for hose bibbs.

## PART 2 PRODUCTS

### 2.01 DRAINS

A. Manufacturers:
   1. Josam Company: www.josam.com.
   2. Jay R. Smith Manufacturing Company: www.jayrsmith.com.
   3. Zurn Industries, Inc: www.zurn.com.
   4. Substitutions: See Section 01 60 00 - Product Requirements.

B. Roof Drains:
   1. Assembly: ASME A112.6.4.
   2. Body: Lacquered cast iron with sump.
   3. Strainer: Removable polyethylene, cast metal, cast bronze, or cast iron dome with vandal proof screws.
   4. Accessories: Coordinate with roofing type.
      a. Membrane flange and membrane clamp with integral gravel stop.
      b. Adjustable under deck clamp.
      c. Roof sump receiver.
      d. Waterproofing flange.
      e. Controlled flow weir.
      f. Leveling frame.
      g. Adjustable extension sleeve for roof insulation.
      h. Perforated or slotted ballast guard extension for inverted roof.
      i. Perforated stainless steel ballast guard extension.

C. Parapet Drains:
   1. Lacquered or Galvanized cast iron body with aluminum flashing clamp collar and epoxy coated or nickel bronze sloping grate.

D. Canopy and Cornice Drains:
   1. Lacquered or Galvanized cast iron body with aluminum flashing clamp collar and epoxy coated or nickel bronze flat strainer.

E. Roof Overflow Drains:
   1. Lacquered or Galvanized cast iron body and clamp collar and bottom clamp ring; pipe extended to above flood elevation.

F. Downspout Nozzles:
   1. Bronze round with straight bottom section.

G. Area Drains:
   1. Assembly: ASME A112.6.4.
   2. Body: Lacquered cast iron with sump.
   3. Strainer: Round nickel-bronze.
   4. Accessories: Membrane flange and membrane clamp with integral gravel stop, with adjustable under deck clamp, roof sump receiver, waterproofing flange, levelling frame, adjustable extension sleeve (for insulation), and perforated stainless steel ballast guard extension.

H. Floor Drain:
   1. Round, type 304 stainless steel adjustable floor drain with anchor flange and medium-duty vertically adjustable satin finish top.

## 2.02 CLEANOUTS

A. Manufacturers:
   1. Jay R. Smith Manufacturing Company: www.jayrsmith.com.
   2. Josam Company: www.josam.com.
   3. Zurn Industries, Inc: www.zurn.com.
   4. Substitutions: See Section 01 60 00 - Product Requirements.

B. Cleanouts at Exterior Surfaced Areas:
   1. Round cast nickel bronze access frame and non-skid cover.

C. Cleanouts at Exterior Unsurfaced Areas:
   1. Line type with lacquered cast iron body and round epoxy coated gasketed cover.

D. Cleanouts at Interior Finished Floor Areas:
   1. Lacquered cast iron body with anchor flange, reversible clamping collar, threaded top assembly, and round gasketed scored cover in service areas and round gasketed depressed cover to accept floor finish in finished floor areas.

E. Cleanouts at Interior Finished Wall Areas:
   1. Line type with lacquered cast iron body and round epoxy coated gasketed cover, and round stainless steel access cover secured with machine screw.

F. Cleanouts at Interior Unfinished Accessible Areas: Calked or threaded type. Provide bolted stack cleanouts on vertical rainwater leaders.

## 2.03 HYDRANTS

A. Manufacturers:
   1. Arrowhead Brass Company: www.arrowheadbrass.com.

2. Jay R. Smith Manufacturing Company: www.jayrsmith.com.
3. Zurn Industries, Inc: www.zurn.com.

B. Wall Hydrants: Exterior
1. ASSE 1019; tamper-proof, freeze resistant, self-draining type with chrome plated wall plate hose thread spout, handwheel, and integral vacuum breaker.

C. Roof Hydrant:
1. Freezeless, cast iron support components. Drain connection, EPDM Boot.

**2.04 BACKFLOW PREVENTERS**

A. Manufacturers:
1. Conbraco Industries: www.conbraco.com.
2. Watts Regulator Company: www.wattsregulator.com.
3. Zurn Industries, Inc: www.zurn.com.
4. Substitutions: See Section 01 60 00 - Product Requirements.

B. Reduced Pressure Backflow Preventers:
1. ASSE 1013; bronze body with bronze internal parts and stainless steel springs; two independently operating, spring loaded check valves; diaphragm type differential pressure relief valve located between check valves; third check valve that opens under back pressure in case of diaphragm failure; non-threaded vent outlet; assembled with two gate valves, strainer, and four test cocks.
2. Compliant with local codes for service entrances.

**2.05 DOUBLE CHECK VALVE ASSEMBLIES**

A. Manufacturers:
1. Conbraco Industries: www.conbraco.com.
2. Watts Regulator Company: www.wattsregulator.com.
3. Zurn Industries, Inc: www.zurn.com.
4. Substitutions: See Section 01 60 00 - Product Requirements.

B. Double Check Valve Assemblies:
1. ASSE 1012; Bronze body with corrosion resistant internal parts and stainless steel springs; two independently operating check valves with intermediate atmospheric vent.
2. Compliant with local codes for service entrances.

**2.06 WATER HAMMER ARRESTORS**

A. Manufacturers:
1. Jay R. Smith Manufacturing Company: www.jayrsmith.com.
2. Watts Regulator Company: www.wattsregulator.com.
3. Zurn Industries, Inc: www.zurn.com.
4. Souix Chief Company.
5. Substitutions: See Section 01 60 00 - Product Requirements.

B. Water Hammer Arrestors:
1. Stainless steel construction, bellows or piston type sized in accordance with PDI-WH 201, precharged suitable for operation in temperature range -100 to 300 degrees F and maximum 250 psi working pressure.

**2.07 MIXING VALVES**

A. Thermostatic Mixing Valves:
1. Manufacturers:
a. ESBE: www.esbe.se/en.

b. Leonard Valve Company: www.leonardvalve.com.
c. Honeywell Water Controls: http://yourhome.honeywell.com.
d. Substitutions: See Section 01 60 00 - Product Requirements.

2. Valve: Chrome plated cast brass body, stainless steel or copper alloy bellows, integral temperature adjustment.
3. Accessories:
   a. Check valve on inlets.
   b. Volume control shut-off valve on outlet.
   c. Stem thermometer on outlet.
   d. Strainer stop checks on inlets.
4. Cabinet: 16 gage prime coated steel, for recessed mounting with keyed lock.

## PART 3 EXECUTION

### 3.01 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Extend cleanouts to finished floor or wall surface. Lubricate threaded cleanout plugs with mixture of graphite and linseed oil. Ensure clearance at cleanout for rodding of drainage system.

C. Encase exterior cleanouts in concrete flush with grade.

D. Install floor cleanouts at elevation to accommodate finished floor.

E. Install approved portable water protection devices on plumbing lines where contamination of domestic water may occur; on boiler feed water lines, janitor rooms, fire sprinkler systems, premise isolation, irrigation systems, flush valves, interior and exterior hose bibbs.

F. Pipe relief from backflow preventer to nearest drain.

G. Install water hammer arrestors complete with accessible isolation valve on hot and cold water supply piping to lavatories, sinks, washing machines, toilets, urinal and any other quick closing valves.

**END OF SECTION**