

SECTION 22 40 00 - FLOOR, AREA AND ROOF DRAINS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. The Conditions of the Contract and applicable requirements of Division 1, "General Requirements", and Section 23 01 00, "Mechanical General Provisions", govern this Section.

1.2 DESCRIPTION OF WORK:

- A. Work Included: Provide floor, area, and roof drains, and drain specialties and cleanouts as specified.
- B. Types: The types of drains and drain specialties required for this project include, but are not limited to:
 - 1. Roof drains.
 - 2. Floor drains.
 - 3. Area drains.
 - 4. Trench drains.
 - 5. Floor sinks.
 - 6. Cleanouts.
 - 7. Hub drains.
 - 8. Trap primers.

1.3 QUALITY ASSURANCE:

- A. Acceptable Manufacturers: The model numbers listed in the Specifications establish a level of quality and material. The following manufacturers are acceptable subject to compliance with the requirements of these Specifications:
 - 1. J. R. Smith Manufacturing Company.
 - 2. Wade Division/Tyler Pipe.
 - 3. Zurn Industries, Inc.
 - 4. Josam.
 - 5. Watts Drainage.
 - 6. Mifab.
 - 7. Sioux Chief

1.4 SUBMITTALS:

- A. Shop Drawing submittals shall include, but not be limited to, the following:
 - 1. Cut sheets of drains and drain specialties clearly indicating all features, options, materials and dimensions.
 - 2. Additional information as required in Section 23 01 00.

1.5 PRODUCT DELIVERY, STORAGE AND HANDLING:

- A. Deliver drains and drain specialties in factory-fabricated water-resistant wrapping.
- B. Handle drains and drain specialties carefully to avoid damage to material component, enclosure and finish.
- C. Store drains and drain specialties in a clean, dry space and protect from the weather.

PART 2 - PRODUCTS

2.1 ROOF DRAINS:

- A. General: Provide roof drains suitable for the type of construction and roofing system at the point of application. Provide all drain accessories required for a complete waterproofed installation.
- B. Roof Drain, (RD-_____): Galvanized cast iron drain body with removable, vandal resistant, galvanized cast iron dome strainer; clamping collar with integral gravel guard; corrosion resistant clamping bolts; underdeck clamp; insulation extension sleeve and roof sump receiver. Contractor to coordinate connection size and exact options required to suit planned installation method.
 - 1. Zurn Model No. ZG-100-G-R-C-EA-VP
 - 2. Jay R. Smith No. 1015-R-C-G-U-CID
- C. Overflow Roof Drain (OD-_____): Galvanized cast iron drain body with removable, vandal resistant, galvanized cast iron dome strainer; clamping collar with integral gravel guard; corrosion resistant clamping bolts; underdeck clamp; insulation extension sleeve, roof sump receiver and 2" water dam. Contractor to coordinate connection size and exact options required to suit planned installation method.
 - 1. Zurn Model No. No. ZG-100-W2-G-R-C-EA-VP
 - 2. Jay R. Smith No. 1080-E-R-C-G-U-CID

2.2 AREA DRAINS:

- A. General: Provide area drains suitable for the type of construction and finishes at the point of application. Provide all drain accessories required for a complete installation, waterproofed where applicable.
- B. Area Drain, (AD-_____) Parking Garage, Reinforced Concrete Tee's or Plate Slab: 14" prom deck drain, size as noted on plans, heavy duty galvanized cast iron with heavy duty heelproof traffic grate, underdeck clamp.
 - 1. Zurn Model No. Z-150-C-G
 - 2. Jay R. Smith No. 1410-C-G-HP
- C. Area Drain, (AD-_____) Parking Garage, Cast-in-place Concrete Slab: Nominal 13" prom deck drain, heavy duty galvanized cast iron with heavy duty traffic grate.
 - 1. Zurn Model No. Z-150-EA-G
 - 2. Jay R. Smith No. 1415-c-g
- D. Area Drain, (AD-_____) Plaza Levels: 14" prom deck drain, size as noted on plans, heavy duty galvanized cast iron with heavy duty heel-proof traffic grate, underdeck clamp and sump receiver.
 - 1. Zurn Model No. Z-150-R-C-G
 - 2. Jay R. Smith No. 1410-R-C-G-HP.
- E. Overflow Area Drain, (OAD-_____) Plaza Levels: 14" prom deck drain, size as noted on plans, heavy duty galvanized cast iron with heavy duty heelproof traffic grate, underdeck clamp and extension.
 - 1. Zurn Model No. ZG-150-E-R-C-G
 - 2. Jay R. Smith No. 1410-E-R-C-G-HP
- F. Area Drain, (AD-_____): Nominal 8" prom deck drain, galvanized cast iron with square grate with flashing clamp and sump receiver.
 - 1. Zurn Model No. Z-158-G-R-C
 - 2. Jay R. Smith No. 1470-R-C-G
- G. Area Drain, (AD-_____): Galvanized cast iron drain body with removable, vandal resistant, cast iron dome strainer; clamping collar with integral gravel guard, corrosion resistant clamping bolts, underdeck clamp, insulation extension sleeve and roof sump receiver. Contractor to coordinate exact options required to suit planned installation method.
 - 1. Zurn Model No. ZC-100-EA-R-G-VP
 - 2. Jay R. Smith No. 1015-R-C-CID-U

H. Overflow Area Drain (OAD-_____): Galvanized cast iron drain body with removable, vandal resistant, cast iron dome strainer, clamping collar with integral gravel guard, corrosion resistant clamping bolts, underdeck clamp, insulation extension sleeve, roof sump receiver and 2" water dam. Contractor to coordinate exact options required to suit planned installation method.

1. Zurn Model No. No. ZC-100-89-EA-R-C-G-VP
2. Jay R. Smith No. 1080-E-R-C-CID-G-U

2.3 FLOOR DRAINS:

A. General: Provide floor drains suitable for the type of construction and finishes at the point of application. Provide all drain accessories required for a complete installation, waterproofed where applicable.

B. Floor Drain, (FD-_____) Finished Areas: Cast iron drain and seepage flange, size as noted on Drawings, clamping unit, trap primer tap, and 6" x 6" square adjustable polished nickel bronze strainer type top and deep seal trap.

1. Zurn Model No. ZN-415-6S-[-P]
2. Jay R. Smith No. 2005-BO6NB-[-P].

C. Floor Drain, (FD-_____) Mechanical Rooms: Cast iron drain and seepage flange, size as noted on plans, clamping unit, trap primer tap, and [7"] [9"] round adjustable nickel bronze strainer with raised lip and deep seal trap. **Set drain with top of rim flush with finished floor.**

1. Zurn Model No. Z-415-7I or 9I-[-P]
2. Jay R. Smith No. 3510-F37 or F38 NB-[-P].

D. Floor Drain, (FD-_____): Cast iron drain and seepage flange, size as noted on drawings, clamping unit, and [_____"] round adjustable nickel bronze strainer type top with funnel converting assembly, deep seal trap.

1. Zurn Model No. Z-415-B-[-P], W/ZN-414
2. Jay R. Smith No. 2005-ANB-[-P] W/3580-NB

E. Floor Drain, (FD-_____): 12" x 12" coated cast iron 12" x 12" open top drain, cast iron strainer, **medium duty [half] top grate**.

1. Zurn Model No. Z-566.
2. Jay R. Smith No. 2633.

F. Floor Drain, (FD-_____): Cast iron drain and seepage flange, size as noted on Drawings, clamping unit, trap primer tap, nominal 8" round cast iron medium duty grate with nominal 2" center hole, membrane flashing clamps, deep seal trap.

1. Zurn Model No. Z-550-P.
2. Jay R. Smith No. 2110-P.

G. Floor Drain, (FD-_____): Cast iron drain and seepage flange, size as noted on Drawings, clamping unit, and trap primer tap, nominal 9" round cast iron heavy duty grate with nominal 2" diameter center hole, membrane flashing clamp, deep seal trap.

1. Zurn Model No. Z-508-P-mod w/2" center hole.
2. Jay R. Smith No. 2120-P-mod w/2" center hole.

H. Floor Drain (FD-_____): Cast iron drain and seepage flange, size as noted on Drawings, clamping unit, trap primer tap, nominal 12" round cast iron medium duty grate, membrane flashing clamp, deep seal trap.

1. Zurn Model No. Z-504-P.
2. Jay R. Smith No. 2130-P.

- I. Floor Drain, (FD-_____): Kitchen floor receptor, cast iron floor drain with integral seepage flange, 12 1/2" sq top, 8" deep or as noted on Drawings, ceiling collar seepage openings and a 6" diameter satin nickel bronze strainer.
 - 1. Jay R. Smith No. 3151-P-22.
 - 2. Josam No. 49040AS-31-P-17.
- J. Floor Drain, (FD-_____): Kitchen floor drain, cast iron floor drain with integral seepage flange, 12 1/2" sq top, 8" deep or size as noted on Drawings, clamping collar, seepage openings, and a 6" diameter nickel bronze funnel strainer.
 - 1. Jay R. Smith No. 3151-P-22.
 - 2. Josam No. 49040AS-31-P-17.
- K. Floor Drain (FD-_____) Central Plant Sump: Sump and grate specified under other Divisions. Drain shall be the same as Roof Drain Type ["RD-_____"]. Contractor to coordinate connection size and exact options required to suit planned installation methods.

2.4 TRENCH DRAINS:

- A. General: Provide trench drains suitable for the type of construction and finishes at the time point of application. Provide all drain accessories required for a complete waterproof installation.
- B. Trench Drain, (TD-_____): Garage trench drain and grate provided under other Divisions. Provide 8" open hub drain set in low point of trench with top of hub flush with bottom of trench.
- C. Trench Drain (TD-_____): Loading dock trench drain and grate specified under other Divisions. Provide 8" diameter roof drain set in low point of trench. Drain shall have galvanized cast iron body, with removable, vandal resistant, galvanized cast iron dome strainer, clamping collar and corrosion resistant clamping bolts. Contractor to coordinate connection size and exact options required to suit planned installation method.
 - 1. Zurn Model No. ZC-125-G-VP
 - 2. Jay R. Smith No. 1330-CID-G-U.
- D. Trench Drain, (TD-_____): Kitchen trench drain, cast iron floor drain with flange, size as noted on Drawings, integral clamping collar and adjustable 5" x 17" rectangular satin nickel bronze top.
 - 1. Wade No. 1103-H17-1.
 - 2. Jay R. Smith No. 2005-S-NB

2.5 FLOOR SINKS:

- A. General: Provide floor sinks suitable for the type of construction and finishes at the point of application. Provide all accessories required for a complete waterproof installation.
- B. Floor Sink, (FS-_____): Square cast iron floor sink with acid resisting enamel interior, seepage flange, aluminum dome strainer and satin nickel bronze half grate. Size as noted on Drawings.
 - 1. Wade No. W-9113-15.
 - 2. Jay R. Smith No. 3199-12
- C. Floor Sink, (FS-_____): Square cast iron floor sink with acid resisting enamel interior, seepage flange, aluminum dome strainer and satin nickel bronze top. Size as noted on Drawings.
 - 1. Wade No. W-9174.
 - 2. Jay R. Smith No. 3200

2.6 CLEANOUTS:

- A. General: Provide cleanouts as shown on the drawings and as required by local ordinance. The size of the cleanouts shall be identical with the size of the soil or waste line in which they are placed for 4" and smaller lines. The size of cleanouts in lines larger than 4" shall be 4" in all cases. Coordinate cleanout

style, mounting, flange, and clamping ring with the construction and finishes where the cleanout is located. Refer to Section 15400, "Plumbing Piping Systems", for additional requirements.

- B. Cleanouts (C.O.) in Finished [and Unfinished] Floors: Adjustable coated cast iron body, brass or bronze countersunk plug, secured round nickel bronze top, Carpet marker for carpeted areas, flangeless, flanged or flanged with clamping ring as required; Zurn No. ZN-1400-VP-BP or Jay R. Smith No. 4033-U (flangeless), No. ZN-1400-KVP-BP or Jay R. Smith No. 4033-F-U (flanged) or No. ZN-1400-KC-VP-BP or Jay R. Smith No. 4033-FC-U (flanged with clamping ring) or approved equal.
- C. **[Cleanouts (C.O.) in Unfinished Floors: Coated cast iron cleanout ferrule with brass or bronze tapered thread cleanout plug and round smooth stainless steel cover plate; Zurn No. Z-1400-NH or Smith No. 4223 or approved equal.]**
- D. Cleanouts (C.O.) in Finished Walls: Coated cast iron cleanout body with brass or bronze countersunk plug and square smooth nickel bronze cover plate and vandalproof securing screws; Zurn No. ZN-1443-VP-BP or Smith No. 4435-U or approved equal.
- E. Cleanouts (C.O.) in Exterior Lines: Traffic duty, coated cast iron cleanout with brass or bronze tapered thread cleanout plug, nickel bronze top and vandalproof screws. Install in minimum 12" x 12" x 4" concrete pad where not in paving; Zurn No. ZN-1400-HD-VP or Smith No. 4103-U or approved equal.

2.7 HUB DRAINS:

- A. General: Hub drains (H.D.) shall consist of a cast iron soil pipe hub set 2" above floor, unless noted otherwise, and connected to a deep seal P-trap below the floor. Provide a trap primer where noted on the Drawings. Connect to equipment as required.

2.8 TRAP PRIMERS:

- A. General: Provide trap primers to traps where shown on the Drawings: (E.G. TP, FD1TP or FD2TP, etc.), or required by local codes, provide Precision Plumbing Products, Inc., Zurn or an approved equal, trap primers for the traps indicated. Trap primer installation shall include installation a near-by cold water line, isolation valves, and piping to the floor drain to be protected.
 1. Zurn Z-1022 Sani-gard Automatic Trap Primer.
 2. Sloan F-72-A1 Flush Valve Connection.
 3. J.R. Smith Model 2699 Automatic Trap Primer.
- B. Trap Primers shall be installed in all floor drains subject to low or intermittent inlet flow and in all air handling unit rooms which do not have direct connected return air systems.

PART 3 - EXECUTION

3.1 INSTALLATION:

- A. Installation: Coordinate flashing work with work of other trades and Architectural details. Coordinate with roofing as necessary to interface roof drains with roofing work.
- B. Setting Locations: Install floor and roof drains in the low points of the surface areas to be drained. Set tops of drains flush with finished floor. Orient drain grates and cleanout covers to parallel floor tile lines where applicable.
- C. Watertightness: Install drain flashing collar or flange so that no leakage occurs between drain and adjoining roofing or flooring. Maintain watertight integrity of penetrated waterproof membranes.
- D. Accessibility: Position drains so that installed drains are accessible and easy to maintain.
- E. Insulation: Refer to Section 23 07 00 for insulation of roof and floor drain bodies.

3.2 COORDINATION:

- A. General: Coordinate the final location of all drains and cleanouts with the aesthetics of construction. Center drains in showers, and other finished spaces, align drains with tile grids and conceal cleanouts in inconspicuous areas.

- B. Notification: Where a cleanout must be located in an exposed area or a drain location cannot be centered in a space or located in the location shown on the Architectural Drawings, notify the Engineer in writing prior to proceeding with the installation.

END OF SECTION 22 40 00