SECTION 22 1423 - STORM DRAINAGE PIPING SPECIALTIES

ALL LIBRARIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following storm drainage piping specialties:

1. Cleanouts.
2. Roof and overflow drains.
3. Miscellaneous storm drainage piping specialties.
4. Flashing materials.

B. Related Sections include the following:

1. Division 22 Section "Sanitary Waste Piping Specialties" for backwater valves, floor drains, floor sinks, trench drains and channel drainage systems connected to sanitary sewer, air admittance valves, FOG disposal systems, grease interceptors and removal devices, oil interceptors, and solid interceptors.

1.3 DEFINITIONS

A. ABS: Acrylonitrile-butadiene-styrene plastic.

B. FRP: Fiberglass-reinforced plastic.

C. HDPE: High-density polyethylene plastic.

D. PE: Polyethylene plastic.

E. PP: Polypropylene plastic.

F. PUR: Polyurethane plastic.

G. PVC: Polyvinyl chloride plastic.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated.

1.5 QUALITY ASSURANCE

A. Drainage piping specialties shall bear label, stamp, or other markings of specified testing agency.

B. Source Limitations: Obtain storm specialties and other components of each category through one source from a single manufacturer.

1.6 COORDINATION

A. Coordinate size and location of roof penetrations.

B. Coordinate pipe routing with all trades prior to installation.

PART 2 - PRODUCTS

2.1 CLEANOUTS

A. Floor Cleanouts (**FCO**):

1. Basis-of-Design Product: Subject to compliance with requirements, provide a comparable product by one of the following:

   a. Smith, Jay R. Mfg. Co.; Division of Smith Industries, Inc.
   b. Watts Drainage Products Inc.
   c. Sioux Chief Manufacturing

2. Standard: ASME A112.36.2M for cast-iron soil pipe with cast-iron ferrule or medium-duty, adjustable housing cleanout.
3. Size: Same as connected branch, maximum 4-inch.
4. Type: Cast-iron soil pipe with cast-iron ferrule or medium-duty, adjustable housing.
5. Body or Ferrule: Cast iron.
6. Clamping Device: Required on FCO above grade only.
7. Outlet Connection: Inside calk or Spigot.
8. Closure: Plastic plug.
9. Adjustable Housing Material: Cast iron with threads.
10. Frame and Cover Material and Finish: Nickel-bronze.
11. Frame and Cover Shape: Round, scoriated.
12. Riser: ASTM A 74, Service class, cast-iron drainage pipe fitting or schedule 40 PVC riser to cleanout.
13. Standard: ASME A112.3.1.
14. Basis of Design: Jay R. Smith Fig. # 4020-L Series.

B. Wall Cleanouts (WCO):

1. Basis-of-Design Product: Subject to compliance with requirements, provide a comparable product by one of the following:

   a. Smith, Jay R. Mfg. Co.; Division of Smith Industries, Inc.
   b. Watts Drainage Products Inc.
   c. Sioux Chief Manufacturing

2. Standard: ASME A112.36.2M. Include wall access.
3. Size: Same as connected drainage piping.
4. Body: Hub-and-spigot, cast-iron soil pipe T-branch or Hubless, cast-iron soil pipe test tee or Schedule 40 PVC as required to match connected piping.

5. Closure: Plastic raised-head plug.
6. Closure Plug Size: Same as or not more than one size smaller than cleanout size.
7. Wall Access: Round, flat, chrome-plated brass or stainless-steel cover plate with vandal-proof screw.
8. Basis of Design: Jay R. Smith Fig. # 4710-U.

2.2 ROOF DRAINS

A. Roof Drains (**RD**) and Overflow Roof Drains (**OD**):

1. Basis-of-Design Product: Subject to compliance with requirements, provide a comparable product by one of the following:

   a. Smith, Jay R. Mfg. Co.; Division of Smith Industries, Inc.
   b. Watts Drainage Products Inc.
   c. Zurn Plumbing Products Group.
   d. Sioux Chief Manufacturing.

2. Standard: ASME A112.21.2M.
3. Pattern: Roof drain.
4. Body Material: Cast iron.
5. Combination Flashing Ring and Gravel Stop: As required.
6. Flow-Control Weirs: Not required.
7. Outlet: Bottom.
8. Dome Material: Polyethylene.
9. Extension Collars: Required.
10. Underdeck Clamp: Required.
11. Sump Receiver: Required.
12. Water Dam: Required on overflow drains.
13. Refer to drain schedule on plans.

2.3 MISCELLANEOUS STORM DRAINAGE PIPING SPECIALTIES

A. Overflow Drain Nozzles (**DSN**):

1. Basis-of-Design Product: Subject to compliance with requirements, provide a J R Smith 1771 or comparable product by one of the following:

   a. Smith, Jay R. Mfg. Co.
   b. Sioux Chief Manufacturing.
   c. Zurn Plumbing Products Group.

2. Description: Bronze body with threaded inlet and bronze wall flange with mounting holes.
3. Size: Same as connected conductor.
4. Refer to schedule on plans.

B. Downspout Boot (DSB)

1. Basis-of-Design Product: Subject to compliance with requirements, provide a comparable product by one of the following:

   a. Neenah Foundry

b. Smith, Jay R. Mfg. Co.

2. Description: Cast iron body and strap.
3. Basis of Design: Jay R. Smith Fig. # 1785 or 1786 Series.
4. Cleanout: 2-inch cleanout access required
5. Painting: Prime and paint (prior to installation) as required by Architect.

2.4 FLASHING MATERIALS

A. Copper Sheet: ASTM B 152/B 152M, 12 oz./sq. ft. thickness.

B. Zinc-Coated Steel Sheet: ASTM A 653/A 653M, with 0.20 percent copper content and 0.04-inch minimum thickness, unless otherwise indicated. Include G90 (Z275) hot-dip galvanized, mill-phosphatized finish for painting if indicated.

C. Elastic Membrane Sheet: ASTM D 4068, flexible, chlorinated polyethylene, 40-mil minimum thickness.

D. Fasteners: Metal compatible with material and substrate being fastened.

E. Metal Accessories: Sheet metal strips, clamps, anchoring devices, and similar accessory units required for installation; matching or compatible with material being installed.

F. Solder: ASTM B 32, lead-free alloy.

G. Bituminous Coating: SSPC-Paint 12, solvent-type, bituminous mastic.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Refer to Division 22 Section "Common Work Results for Plumbing" for piping joining materials, joint construction, and basic installation requirements.

B. Install cleanouts in aboveground piping and building drain piping according to the following, unless otherwise indicated:

1. Size same as drainage piping up to NPS 4. Use NPS 4 for larger drainage piping unless larger cleanout is indicated.
2. Locate at each change in direction of piping greater than 45 degrees.
3. Locate at minimum intervals of 50 feet for piping NPS 4 and smaller and 100 feet for larger piping.
4. Locate at base of each vertical soil and waste stack.

C. For floor cleanouts for piping below floors, install cleanout deck plates with top flush with finished floor.

D. For cleanouts located in concealed piping, install cleanout wall access covers, of types indicated, with frame and cover flush with finished wall.

E. Install roof drains at low points of roof areas, where indicated on Architectural drawings and

according to roof membrane manufacturer's written installation instructions. Roofing materials are specified in Division 07.

1. Install roof-drain flashing collar or flange so that there will be no leakage between drain and adjoining roofing. Maintain integrity of waterproof membranes where penetrated.
2. Position roof and overflow drains for easy access and maintenance.
3. Secure roof and overflow drain domes to drain body.

F. Install sleeve flashing device with each riser and stack passing through floors with waterproof membrane.

G. Install expansion joints on vertical stacks at roof and overflow drains. Position expansion joints for easy access and maintenance.

H. Install overflow nozzles at exposed bottom of overflow downspouts where they spill onto grade.

I. Install escutcheons at wall, floor, and ceiling penetrations in exposed finished locations and within cabinets and millwork. Use deep-pattern escutcheons if required to conceal protruding pipe fittings.

3.2 CONNECTIONS

A. Piping installation requirements are specified in other Division 22 Sections. Drawings indicate general arrangement of piping, fittings, and specialties.

3.3 FLASHING INSTALLATION

A. Fabricate flashing from single piece unless large pans, sumps, or other drainage shapes are required. Join flashing according to the following if required:

1. Lead Sheets: Burn joints of lead sheets 6.0-lb/sq. ft., 0.0938-inch thickness or thicker. Solder joints of lead sheets 4.0-lb/sq. ft., 0.0625-inch thickness or thinner.
2. Copper Sheets: Solder joints of copper sheets.

B. Install sheet flashing on pipes, sleeves, and specialties passing through or embedded in floors and roofs with waterproof membrane.

1. Pipe Flashing: Sleeve type, matching pipe size, with minimum length of 10 inches and skirt or flange extending at least 8 inches around pipe.
2. Sleeve Flashing: Flat sheet, with skirt or flange extending at least 8 inches around sleeve.
3. Embedded Specialty Flashing: Flat sheet, with skirt or flange extending at least 8 inches around specialty.

C. Set flashing on floors and roofs in solid coating of bituminous cement.

D. Secure flashing into sleeve and specialty clamping ring or device.

E. Fabricate and install flashing and pans, sumps, and other drainage shapes.

3.4 PROTECTION

A. Protect drains during remainder of construction period to avoid clogging with dirt or debris and to prevent damage from traffic or construction work.

B. Place plugs in ends of uncompleted piping at end of each day or when work stops.

END OF SECTION 22 1423