

SECTION 22 13 20 - SANITARY WASTE PIPING SPECIALTIES

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 sanitary drainage piping specialties.

1.3 SUBMITTALS

- A. Product Data: For each type of product. Include rated capacities, operating characteristics, and accessories.
- B. Shop Drawings: Show fabrication and installation details for frost-resistant vent terminals. Provide wiring diagrams for power, signal, and control wiring, where applicable.
- C. Operation and Maintenance Data: For drainage piping specialties to include in emergency, operation, and maintenance manuals.

1.4 QUALITY ASSURANCE

- A. Drainage piping specialties shall bear label, stamp, or other markings of specified testing agency.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

1.5 COORDINATION

- A. Coordinate size and location of concrete bases where applicable. Coordinate size and location of roof penetrations.

PART 2 - PRODUCTS

2.1 BACKWATER VALVES

- A. Cast-Iron Backwater Valves:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Josam Company; Josam Div.
 - b. Smith, Jay R. Mfr. Co.; Division of Smith Industries, Inc.
 - c. Tyler Pipe; Wade Div.

- d. Watts Drainage Products Inc.
- e. Zurn Plumbing Products Group; Specification Drainage Operation.

2.2 CLEANOUTS

- A. Provide cleanouts and all required accessories manufactured by one of the following:
 - 1. Josam Company.
 - 2. Smith, Jay R. Mfg. Co.
 - 3. Tyler Pipe; Wade Div.
 - 4. Watts Drainage Products Inc.
 - 5. Zurn Plumbing Products Group.
- B. Brass cleanout plugs shall conform to ASTM A74, ASME A112.3.1 or ASME A112.36.2N.
- C. Cleanout locations and details are indicated on the drawings and noted in Part 3.

2.3 FLOOR DRAINS

- A. Provide cast-iron and/or stainless-steel floor drains per the model numbers indicated on the drawings included all required accessories. Provide drains manufactured by one of the following:
 - 1. Josam Company; Josam Div.
 - 2. Smith, Jay R. Mfg. Co.; Division of Smith Industries, Inc.
 - 3. Tyler Pipe; Wade Div.
 - 4. Watts Drainage Products Inc.
 - 5. Zurn Plumbing Products Group.
- B. Floor drains shall conform to the requirements of Section 412 of the International Plumbing Code.
- C. Floor drains to have removable strainers and constructed so the drain can be cleaned.

2.4 DRAINAGE PIPING SPECIALTIES

- A. Deep-Seal Traps:
 - 1. Description: Cast-iron or bronze casting, with inlet and outlet matching connected piping and cleanout trap-seal primer valve connection.
 - 2. Size: Same as connected waste piping.
 - a. NPS 2 (DN 50): 4-inch- (100-mm-) minimum water seal.
 - b. NPS 2-1/2 (DN 65) and Larger: 5-inch- (125-mm-) minimum water seal.
- B. Air-Gap Fittings:
 - 1. Standard: ASME A112.1.2, for fitting designed to ensure fixed, positive air gap between installed inlet and outlet piping.
 - 2. Body: Bronze or cast iron.
 - 3. Inlet: Opening in top of body.
 - 4. Outlet: Larger than inlet.
 - 5. Size: Same as connected waste piping and with inlet large enough for associated indirect waste piping.

C. Barrier-Type Trap Seal Devices:

1. Description: Elastomeric, normally closed seal to prevent evaporation and protect against sewer gases from entering habitable spaces. Inlet and outlet shall match connected piping and assembly shall conform to ASSE 1072.

D. Vent Caps:

1. Description: Cast-iron body with threaded or hub inlet and vandal-proof design. Include vented hood and setscrews to secure to vent pipe.
2. Size: Same as connected stack vent or vent stack.

E. Frost-Resistant Vent Terminals:

1. Description: Manufactured or shop-fabricated assembly constructed of copper, lead-coated copper, or galvanized steel.
2. Design: To provide 1-inch (25-mm) enclosed air space between outside of pipe and inside of flashing collar extension, with counter flashing.

2.5 SOLIDS INTERCEPTORS

A. Interceptors are shown on the drawings. Provide the applicable model and all required accessories manufactured by one of the following:

1. Josam Company; Josam Div.
2. Smith, Jay R. Mfg. Co.; Division of Smith Industries, Inc.
3. Tyler Pipe; Wade Div.
4. Watts Drainage Products Inc.
5. Zurn Plumbing Products Group.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install backwater valves in building drain piping where indicated on the drawings. For interior installation, provide cleanout deck plate flush with floor and centered over backwater valve cover, and of adequate size to remove valve cover for servicing.
- 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 in piping located below floors, install cleanout deck plates with top flush with finished floor.

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- D. For cleanouts located in concealed piping, install cleanout wall access covers, of types indicated, with frame and cover flush with finished wall. If cleanout is more than 2-inches from wall surface, provide pipe extension to wall.
- E. Install floor drains at low points of surface areas to be drained. Set grates of drains flush with finished floor, unless otherwise indicated.
 - 1. Position floor drains for easy access and maintenance.
 - 2. Set floor drains below elevation of surrounding finished floor to allow floor drainage.
 - 3. Install floor-drain flashing collar or flange so no leakage occurs between drain and adjoining flooring. Maintain integrity of waterproof membranes where penetrated.
 - 4. Install individual traps for floor drains connected to sanitary building drain, unless otherwise indicated.
- F. Install fixture air-admittance valves on fixture drain piping.
- G. Install stack air-admittance valves at top of stack vent and vent stack piping.
- H. Install air-admittance-valve wall boxes recessed in wall.
- I. Install roof flashing assemblies on sanitary stack vents and vent stacks that extend through roof.
- J. Install flashing fittings on sanitary stack vents and vent stacks that extend through roof.
- K. Install through-penetration firestop assemblies at floor penetrations.
- L. Install deep-seal traps on floor drains and other waste outlets, if indicated.
- M. Install floor-drain, trap-seal primer fittings on inlet to floor drains that require trap-seal primer connection.
 - 1. Exception: Fitting may be omitted if trap has trap-seal primer connection.
 - 2. Size: Same as floor drain inlet.
- N. Install air-gap fittings on draining-type backflow preventers and on indirect-waste piping discharge into sanitary drainage system.
- O. Install sleeve flashing device with each riser and stack passing through floors with waterproof membrane.
- P. Install vent caps on each vent pipe passing through roof.
- Q. Install frost-resistant vent terminals on each vent pipe passing through roof. Maintain 1-inch clearance between vent pipe and roof substrate.
- R. Install expansion joints on vertical stacks and conductors. Position expansion joints for easy access and maintenance.
- S. Install frost-proof vent caps on each vent pipe passing through roof. Maintain 1-inch clearance between vent pipe and roof substrate.
- T. Install solids interceptors with cleanout immediately downstream from interceptors that do not have integral cleanout on outlet. Install trap on interceptors that do not have integral trap and are connected to sanitary drainage and vent systems.
- U. Install traps on plumbing specialty drain outlets. Omit traps on indirect wastes unless trap is indicated.

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- V. 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.
- W. Install oil minder pump in each elevator pit. The installation shall be per the manufacturer's instructions. Provide all accessories for a complete and fully functional operating system.

3.2 CONNECTIONS

- A. Drawings indicate general arrangement of piping, fittings, and specialties. Install piping adjacent to equipment to allow service and maintenance.

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

END OF SECTION 22 13 20