

SECTION 22 13 19

SANITARY WASTE PIPING SPECIALTIES

PART 1 GENERAL

1.01 OPERATION AND MAINTENANCE DATA

- A. Include documentation of inspections and tests performed, including logs, curves, and certificates.
- B. Documentation shall note replacement of equipment or components that failed during testing.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Floor drains, floor sinks, planter drains, deck drains, garage drains, trench drains, , cleanout fittings, sanitary vent terminal, and air gap fittings.
 - 1. Josam
 - 2. J.R. Smith
 - 3. Wade
 - 4. Zurn (Kitchen Floor Sinks: Zurn Z-1751 Sani-Flor Receptor)
 - 5. Froet (To be considered on all new buildings).
- B. Trench Drains (Heavy Duty Cast Iron Grate and Frame):
 - 1. J-Mark Foundry
 - 2. Maclear Manufacturing Co.
 - 3. Neenah Foundry
- C. Trap Primers:
 - 1. Hersey
 - 2. J. Water Meters
 - 3. Precision Plumbing Products, Inc. ("P.P.P.")
- D. Acid Neutralization Basins:
 - 1. Town and Country Plastics Inc.
 - 2. Orion
- E. Laboratory Equipment:
 - 1. Acceptable Manufacturer: Orion
 - 2. Traps: Polypropylene, Cast brass, or Duriron, complete with tailpiece and arm
 - 3. Escutcheons: Nickel plated brass
 - 4. Stops & Supplies: Nickel plated brass wheel handle operated stops and nickel plated copper supplies.
 - 5. Water piping: Chrome or nickel plated finish where exposed, with wrought copper fittings of same finish.
 - 6. Waste & vent piping
 - a) Acid-resistant: Same material as rest of building waste and vent system
 - b) Non-acid resistant: Same material as balance of building waste system: Cast iron with no-hub joints.
 - 7. Gas: Schedule 40 A-53 black steel T&C with malleable fittings up to 1-1/2". For 2" and larger schedule 40 A-53 with butt weld steel fittings and couplers.
 - 8. Science rooms to be solid piped for any gas fixtures. Flex connections are not allowed.

9. Solenoid valves: "ASCO" gas air or water rated (115 psi) 2-way valves with actuation and control as required. Refer to Section 15485 - Natural Gas System.
- F. Grease interceptors:
1. In accordance with jurisdictional authority requirements, including NSF for "inside" traps.
 2. Bolts for interceptor lid access stainless steel type 316 only. Cast iron, steel, or brass not acceptable.
 3. Preferred location of traps to be located outside of the building.
 4. Traps & Interceptors shall have their own designated vent.
- G. Sand-Oil-Gas Interceptor:
1. In accordance with jurisdictional authority requirements, including EPA.
- H. Acid Neutralization Basin:
1. Follow requirements of Denver Wastewater Management Division.
 2. Locate Acid Neutralization Basins outside of the building when possible
 3. Provide one basin for each building. Do not allow multiple basins to be used.
 - a) Individual interceptors and traps to be considered on a case by case basis

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install trap seal primer valves with outlet piping pitched down toward drain trap a minimum of 1 percent and connect to floor-drain body, trap, or inlet fitting. Adjust valve for proper flow.
1. Provide trap primers where traps in floor drains may dry out and allow sewer gas to escape into building spaces, toilet rooms, and mechanical rooms.
 2. Water supply lines should not be insulated.
- B. Tail piece style trap primers and mechanical style trap seals are not allowed. Install expansion joints on vertical risers, stacks, and conductors if indicated.
- C. Cleanouts in aboveground piping and building drain piping
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 all piping.
 4. Locate above the floor at the base of each vertical soil and waste stack.
 5. Place two-way cleanouts on all building sewers.
- D. For floor cleanouts for piping below floors, install cleanout deck plates with top flush with finished floor.
- E. Install cleanout wall access covers, of types indicated, with frame and cover flush with finished wall, for cleanouts located in concealed piping.
1. Provide cleanouts above urinals (56" AFF) and lavatory gangs (42" AFF or at least above flood level of lavatory). If wall is partially covered with tile, the cleanout shall be within the tile field or above it, not partially in each.
 2. Provide cleanouts 6" above highest trap on that floor on the main vent of each group of fixtures and in vent stacks for isolated fixtures on each floor.
 3. Provide full size cleanouts at base of each stack, maximum 50 foot intervals on horizontal runs, and at end of each horizontal run.
 4. Provide cleanout plugs line-size up to 3", and 4" for line sizes 4" through 6".
 5. Provide wall cleanouts where piping is concealed in walls or non-accessible chases, 42" AFF.
 6. Where cast iron pipe is used, specify cleanouts with cast iron bodies and threaded "ABS" or "Delrin" plugs.

- F. Install flashing flange and clamping device with each stack and cleanout passing through floors with waterproof membrane.
- G. Install vent flashing sleeves on stacks passing through roof. Secure over stack flashing.
- H. Install frost-proof vent caps on each vent pipe passing through roof. Maintain 1-inch clearance between vent pipe and roof substrate.
- I. Install floor drains at low points of surface areas to be drained. Set grates of drains flush with finished floor.
 - 1. Position floor drains for easy access and maintenance.
 - 2. Set floor drains below elevation of surrounding finished floor to allow floor drainage. Set with grates depressed according to the following drainage area radii.
 - 3. Radius, 30" or less: Equivalent to 1% slope, but not less than ¼" total depression
 - 4. Install floor-drain flashing collar or flange so no leakage occurs between drain and adjoining flooring. Maintain integrity of waterproof membranes where penetrated.
 - 5. Install individual traps for floor drains connected to sanitary building drain.
 - 6. Provide floor drains in custodial, shower, toilet rooms, mechanical rooms and fan rooms and other areas as required, such as near reduced-pressure backflow preventers.
 - 7. Floor sinks are required for indirect drains and are preferred in mechanical rooms.
 - 8. Provide trap guard device on all floor drains. In extenuating circumstances a trap primer may be deemed necessary by engineer. Floor sinks to have trap primers.
- J. Interceptors, including trapping, venting, and flow-control fittings:
 - 1. Install with adequate clear space for servicing.
 - 2. Above-Floor Installation: Set unit with bottom resting on floor.
 - 3. Flush with Floor Installation: Set unit and extension, if required, with cover flush with finished floor.
 - 4. Recessed Floor Installation: Set unit in receiver housing having bottom or cradle supports, with receiver housing cover flush with finished floor.
 - 5. Install cleanout immediately downstream from interceptors not having integral cleanout on outlet.
 - 6. Place two-way cleanouts (Texas Twin Cleanout) on all interceptors (grease, oil, acid neutralization, ect.) inlet and outlet.
- K. Fasten wall-hanging plumbing specialties securely to supports attached to building floor. Floor mounted carriers are required for wall-mounted plumbing fixtures.
- L. Fasten recessed-type plumbing specialties to reinforcement built into walls.
- M. Install traps on plumbing specialty drain outlets. Omit traps on indirect wastes unless trap is required.
- N. 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.

END OF SECTION 22 13 19