

SECTION 22 13 00
FACILITY SANITARY DRAINAGE

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.
- B. -Section 22 05 00 Basic Plumbing Requirements sections apply to work of this section.
- C. See Section 14 24 23 part 1.2 J & M on elevator hoist way, sump pit, and pump requirements.

1.2 DESCRIPTION OF WORK

- A. The drawings, schedules, and specification indicate the extent of soil and waste systems work.
- B. The exterior sanitary sewer system specifications are in applicable Division-33 sections.
- C. Refer to appropriate Division-33 sections for exterior sanitary sewer system required in conjunction with soil and waste systems; not work of this section.
- D. The installation for soil and waste systems specifications are in applicable Division-22 sections, and included as work of this section.
- E. The trenching and backfilling in conjunction with underground building drain piping specifications are in applicable Division-22 sections, and included as work in this section.

1.3 QUALITY ASSURANCE

- A. Manufacturers Qualifications: Firms regularly engaged in manufacturer of soil and waste systems products of types, materials and sizes required, whose products have been in satisfactory use in similar service for not less than 5-years.
- B. Codes and Standards
 - 1. Plumbing Code Compliance: Comply with applicable portions of the FBC pertaining to plumbing materials, construction, and installation of products.
 - 2. ANSI Compliance: Comply with applicable ANSI standards pertaining to materials, products, and installation of soil and waste systems.
 - 3. ASSE Compliance: Comply with applicable ASSE standards pertaining to materials, products, and installation of soil and waste systems.
 - 4. PDI Compliance: Comply with applicable PDI standards pertaining to products and installation of sanitary systems.

1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's technical product data for soil and waste systems materials and products.
- B. Record Drawings: At project closeout, submit record drawings of installed soil and waste systems, in accordance with requirements of Division 1.
- C. Maintenance Data
 - 1. Submit maintenance data and parts lists for soil and waste systems materials and products.
 - 2. Include this data, product data, shop drawings, and record drawings in maintenance manual, in accordance with requirements of Division 1.

PART 2 PRODUCTS

2.1 MATERIALS AND PRODUCTS

- A. Provide piping materials and factory-fabricated piping products of sizes, types, pressure ratings, and capacities as indicated in section 22 10 00.

The School District of Palm Beach County

Project Name:

SDPBC Project No.:

- B. Where not indicated, provide proper selection as determined by Installer to comply with installation requirements.
 - C. Provide sizes and types matching piping and equipment connections; provide fittings of materials that match pipe materials used in soil and waste systems.
 - D. Where more than one type of material or product is indicated, selection is Installer's option.
- 2.2 BASIC DESCRIPTION
- A. General: Provide identification complying with sections 22 05 00 and 22 05 53.
- 2.3 BASIC PIPING SPECIALTIES
- A. Provide piping specialties complying with section 22 05 00, in accordance with the following listing
 - 1. Pipe Escutcheons
 - 2. Mechanical Sleeve Seals
 - 3. Fire Barrier Penetration Seals
 - 4. Pipe Sleeves
 - 5. Sleeve Seals
- 2.4 BASIC SUPPORTS AND ANCHORS
- A. Provide supports and anchors complying with sections 22 05 00 and 22 05 29 in accordance with the following listing.
 - 1. Adjustable steel clevis hangers, steel pipe clamps, and pipe saddle supports for horizontal piping hangers and supports.
 - 2. Two-bolt riser clamps for vertical piping supports. Concrete inserts, C-clamps, and steel brackets for building attachments.

PART 3 EXECUTION

3.1 INSPECTION

- A. Examine installation of substrates and conditions of soil and waste systems.
- B. Do not proceed with work until any unsatisfactory conditions are corrected and acceptable to Installer.

3.2 INSTALLATION OF BASIC IDENTIFICATION

- A. Install mechanical identification in accordance with sections 22 05 00 and 22 05 53.

3.3 INSTALLATION OF ABOVE GROUND PIPING

- A. Install soil and waste piping in accordance with sections 22 05 00, 22 10 00, and with FBC.
- B. Do not install drain piping over electrical equipment rooms.
- C. Do not install PVC piping in HVAC air plenums.

3.4 INSTALLATION OF BUILDING DRAIN PIPING

- A. Install underground building drains as indicated and in accordance with FBC.
 - 1. Lay underground building drains beginning at low point of systems, true to grades and alignment indicated with unbroken continuity of invert.
 - 2. Place bell ends of piping facing upstream.
- B. Install required gaskets in accordance with manufacturer's recommendations for use of lubricants, cements, and other special installation requirements.
 - 1. Clean interior of piping of dirt and other superfluous material as work progresses.
 - 2. Maintain swab or drag in line and pull past each joint as it is completed.
 - 3. Place plugs in ends of uncompleted piping at end of day or whenever work stops.
- C. Install soil and vent piping pitched to drain at minimum slope of ¼" per foot (2%) for piping 2" and smaller, and 1/8" per foot (1%) for piping 3" and larger.

3.5 INSTALLATION OF PIPING SPECIALTIES

- A. Install piping specialties in accordance with sections 22 05 00 and 22 20 00.

3.6 INSTALLATION OF SUPPORTS AND ANCHORS

- A. Install supports and anchors in accordance with sections 22 05 00 and 22 05 29.

3.7 INSTALLATION OF DRAINAGE PIPING PRODUCTS

A. Cleanouts

- 1. Install in above ground piping and building drain piping as indicated, as required by FBC.
- 2. Install floor and wall cleanout covers for concealed piping, select type to match adjacent building and provide a finish, which is flush with the building surface.

- B. Flashing Flanges, install a flashing flange and clamping device on each stack and cleanout passing through a waterproof membrane.

C. Vent Flashing Sleeves

- 1. Plumbing Contractor shall supply the vent flashing sleeves and the Roofing Contractor shall install.
- 2. See Architectural specifications and details for type of flashing required.

3.8 INSTALLATION OF FLOOR DRAINS

- A. Install floor drains in accordance with manufacturer's written instructions and in locations indicated.

- B. Coordinate flashing work with work of waterproofing and adjoining substrate work.

- C. Coordinate with soil and waste piping as necessary to interface floor drains with drainage piping systems.

- D. Install floor drains at lowest point of surface areas to be drained, or as indicated.

- 1. Set tops of drains flush with finished floor.

- E. Install drain-flashing collar or flange so that no leakage occurs between drain and adjoining flooring.

- 1. Maintain integrity of waterproof membranes, where penetrated.

- F. Position drains so that they are accessible and easy to maintain.

- G. Floor drains should be required in all mechanical rooms, HW heater rooms and rooms with washing machine hook ups.

3.9 INSTALLATION OF TRAP PRIMERS

- A. Install trap primers as indicated, and in accordance with manufacturer's installation instruction.

- B. Pitch piping towards drain trap, a minimum of 1/8" per foot (1%).

- C. Adjust trap primer for proper flow.

3.10 EQUIPMENT CONNECTIONS

- A. Piping Run outs to Fixtures: Provide soil and waste piping run outs to plumbing fixtures and drains, with approved trap, of sizes indicated; but in no case smaller than required by FBC.

- B. Locate piping run outs as close as possible to bottom of floor slab supporting fixtures or drains.

3.11 FIELD QUALITY CONTROL

A. TESTING

- 1. Flush out piping systems with clean water before proceeding with required tests.

- a. Inspect each run of each system for completion of joints, support, and accessory items.

- 2. Hydraulically pressure test each section or segment of the system prior to backfilling, encasing, enclosing, or otherwise preventing visual observation, or the section or segment being tested.

The School District of Palm Beach County

Project Name:

SDPBC Project No.:

- a. Contractor shall backfill the underground piping systems after passing the testing.
 - b. Exposing joints only, permitted on all systems and required on systems having a pressure test exceeding 30 psig.
3. Water test soil, waste and vent system at 10' of head for 4 hours.
 - a. The test stand pipe shall be a minimum of 10' above the highest point or section tested.
- B. PROTECTION
 1. Protect drains during remainder of construction period, to avoid clogging with construction materials and debris, and to prevent damage from traffic and construction work.

END OF SECTION