

## SECTION 15420 - SOIL AND WASTE

## PART 1 – GENERAL

## 1.01 SUMMARY

- A. Section Includes:
  - 1. The soil and waste system shall consist of all sanitary waste and vent piping required for each fixture, drain or equipment installed or connected under this contract from a point 5'-0" outside of the building unless otherwise indicated.
- B. Related Sections:
  - 1. See other sections of these specifications for exterior sewer system.
  - 2. See other Sections for basic piping requirements, specialties, hangers, seismic bracing, etc.
  - 3. See section 15410 for Heat Tracing.

## 1.02 QUALITY ASSURANCE

- A. This system shall be installed in accordance with State and Local Codes, these Specifications and the Drawings. Contractor shall call to the attention of the Architect-Engineer any changes required by codes that will change the design of the building.

## PART 2 – PRODUCTS

## 2.01 SANITARY WASTE AND VENT, AIR CONDITIONING UNIT CONDENSATE DRAINS,

- A. ABOVE GRADE (\*Latest Issue of Each Standard Shall Apply)
  - 1. 2" and larger: All waste, vent, and sewer lines shall be of cast iron soil pipe and fittings and shall conform to the requirements of CISPI Standard 301\*, ASTM A 888\*, or ASTM A 74\* for all pipe and fittings. Pipe and fittings shall be marked with the collective trademark of the Cast Iron Soil Pipe Institute or receive prior approval of the engineer.
  - 2. 1-1/2" and 1-1/4": Galvanized steel conforming to ASTM A120\*, with screwed CI drainage fittings conforming to ASA B16.12 or DWV copper wrought copper drainage fittings.
- B. BELOW GRADE (\*Latest Issue of Each Standard Shall Apply)
  - 1. 2" and larger: All waste, vent, and sewer lines shall be of cast iron soil pipe and fittings and shall conform to the requirements of CISPI Standard 301\*, ASTM A 888\*, or ASTM A74\* for all pipe and fittings. Pipe and fittings shall be marked with the collective trademark of the Cast Iron Soil Pipe Institute or receive prior approval of the engineer.
  - 2. 1-1/2" and 1-1/4": Type "L" copper with wrought copper drainage fittings.

## C. JOINTS: (\*Latest Issue of Each Standard Shall Apply)

Joints above grade for hubless pipe and fittings shall conform to the manufacturer's installation instructions, the CISPI Standard 310\* and local code requirements. Hubless coupling gaskets shall conform to ASTM Standard C 564\*.

Joints above or below grade for hub and spigot pipe shall be installed with compression gaskets conforming to the requirements of ASTM Standard C 564\* or shall be installed with lead and oakum.

- D. PVC-DWV may be used where allowed by code and when pipe is not located in ceiling return plenums. PVC shall not be used where service temperature is 140°F and higher (kitchens, laundries, etc.). Assemble with solvent weld joints.
- E. Plumbing vent roof flashing shall be 4lb. sheet lead.

## 2.02 CLEANOUTS:

- A. Where installed in exposed cast iron pipe, cleanouts shall consist of raised-head cast brass plug with caulking ferrule. Where installed in tapped drainage fittings, cleanouts shall be cast brass raised-head plug.
- B. Cleanouts in walls shall consist of raised solid head, cast brass plug with stainless steel cover.
- C. Where installed in floors, cleanouts shall consist of cast iron ferrule, brass plug, adjustable cast iron housing and nickel brass scoriated cover and matching flange for flush mounting. Cleanouts in tile floor shall have recessed cover.
- D. For installation in exterior piping, cleanouts flush with finish grade shall consist of cast iron adjustable head, seriated cutoff ferrule, brass raised head internal plug, heavy scoriated cover.
- D. Cleanouts are not allowed above ceiling if space is used as an air plenum.
- E. Provide access doors in inaccessible ceilings, walls and chases where required. See Section 15100.

## PART 3 – EXECUTION

### 3.01 INSTALLATION

- A. Cleanouts shall be located as required by State and Local Codes and as indicated on the Drawings. Cleanouts shall occur at intervals of not more than 75'- 0" or as indicated. Cleanouts shall be brought to an accessible location, flush with grade or floor, and terminated with fitting equal to that specified elsewhere.
- B. Single or double sanitary tees or quarter bends may be used only where the change is from horizontal to vertical, and only above slab.
- C. Condensate drains for air conditioning units shall include traps sufficiently deep to seal air flow. Drain lines less than 2" in size shall have cleanouts on minimum 20'- 0" centers and in each change in direction of flow. Otherwise, provide cleanouts per code.
- D. Before commencing any work, verify invert elevations required for drainage systems to insure that they can be connected to new and existing drainage services with required slope and cover.

### 3.02 TESTING

- A. Entire waste and vent system shall be tested to a minimum head of 10'-0" hydrostatic head. This pressure shall be maintained a minimum of three hours and proved tight. Results of the test, signed by the Contractor, shall be furnished to Architect-Engineer.

END OF SECTION 15420