

SECTION 02160
SANITARY DRAINAGE SYSTEM - STRUCTURES & DRAIN LINES

1. General: furnish and install drain pipe, precast concrete, leaching pools, inlets, cast iron frames on domes, etc., and necessary appurtenances to provide for a complete sanitary drainage system as shown on the drawings and as herein specified. Excavation, trenching and backfilling shall be in accordance with other portions of this Section.
2. Materials:
 - a. Precast concrete septic tank, grease traps, catch basins, storm rings, leaching pools, etc. shall be as manufactured by Andrew Carlston & Sons, Inc.; Carbo, Inc.; W.D. Boccard & Sons, or approved equal.
 1. Grade Frames and Covers: Flockhart Cast Iron Type 325D, or approved equal.
 - b. Provide drain rings, solid domes, frames and covers or slabs as shown and detailed on the drawings and as herein specified; shall be 4000 psi precast reinforced concrete units manufactured by Andrew Carlson & Sons, Inc.; W.D. Boccard and Sons; or Casbro, Inc.; or approved equal. All dome and slab tops shall be heavy duty traffic bearing type.
 - c. all drainage pipe shall be 6" diameter, with rubber gasket joints, unless otherwise noted on drawings. Use A.D.S. pipe between site drain rings typical.
 - d. Concrete Block or Brick: Where required for drainage structures, cement block shall be 100% solid 4200 pound psi, brick shall conform to ASTM Specification C-62, Grade SW.
 - e. Provide drain mesh wrap full height at all drain structures to prevent soil erosion into pools.
3. Installation:
 - a. Examine pipe carefully prior to placing. Damaged or defective pipe shall not be used. Pipe shall be lowered and not dropped into trenches.
 - b. Proceed upgrade with pipe laying operation faithfully adhering to indicated grades and alignment, placing spigot ends of pipe in direction of flow.
 - c. Joints shall be made up as recommended by the manufacturer of the drainage pipe and shall be left smooth and clean on inside of the joint. Use approved rubber gasket joints.

- d. Where necessary to allow for vertical adjustment at tops of inlets, provide adequate support by use of 1:2 mortar.

4. Backfilling:

- a. All material used for backfill shall consist of earth, sand and gravel or other approved materials free from large clods of earth or stones.
 - 1. Backfill for all Underground Structures, etc. Trenches shall not be backfilled until all required tests have been performed and approved by the Architect. Trenches shall be carefully backfilled in 6" layers and thoroughly and carefully compacted until pipe has a cover of not less than one (1) foot. The remainder of the backfill material shall then be deposited in the trench in one (1) foot layers and tamped. Backfill in areas adjacent to and under pavements shall be backfilled as specified above except that the entire depth of the trench shall be compacted to a density of at least 95% of the maximum density at optimum moisture content. Backfill in all other areas shall be compacted to at least 90% of maximum density.
- b. Backfill for Drainage Structures: Backfill shall not be placed against structures until the approval of the Architect has been obtained. Backfill shall be deposited in a maximum of 12" horizontal layers, uniformly spread and compacted to a density of at least 95% of maximum density at optimum moisture content. Special precautions shall be taken to prevent wedging action against the walls of the structures.