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221353 - Facility Septic Tanks

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SECTION 22 1353 – FACILITY SEPTIC TANKS

1.1 SUMMARY

A. Section Includes:
   1. Septic tanks.
   2. Distribution boxes.
   3. Pipe and fittings.
   4. Absorption systems.

B. See Chapter 5, Division 01, Section 017700.1.1.B.1.i Closeout Procedures - Project Record Documents for equipment list requirements for all equipment provided in this section.

1.2 CONCRETE SEPTIC TANKS

A. Description: ASTM C 1227, precast, reinforced-concrete tank and covers; single chamber, single chamber with internal baffle, or two chambers.

B. Design: For A-8 (H10-44), A-12 (HS15-44), or A-16 (HS20-44) traffic loading according to ASTM C 890.

C. Manholes: 24-inch- (610-mm-) minimum diameter opening with reinforced-concrete risers to grade and access lid with steel lift rings. Include manhole in center of each septic tank compartment top.

D. Filter Access: Reinforced-concrete access hole, large enough to remove filter, over filter position.

E. Inlet and Outlet Access: 12-inch (305-mm) minimum diameter, reinforced-concrete access lids with steel lift rings. Include access centered over inlet and outlet.

F. Resilient Connectors: ASTM C 923 (ASTM C 923M), of size required for piping, fitted into inlet and outlet openings.

1.3 POLYETHYLENE SEPTIC TANKS

A. Manufacturers:
   2. Norwesco, Inc.
   4. Premier Plastics Ltd.
B. Description: Molded, HDPE or PE construction; fabricated for septic tank application; single chamber, single chamber with baffle and at least one access riser and manhole, or two chambers each with an access riser and manhole.

C. Manholes: 18-inch- (457-mm-), 20-inch- (508-mm-), or 22-inch- (559-mm-) minimum diameter opening with HDPE or PE access risers to grade and cover.

D. Filter Access: Include access hole, large enough to remove filter, over filter position.

E. Resilient Connectors: ASTM C 923 (ASTM C 923M) or other watertight seal, of size required for piping, fitted into inlet and outlet openings.

1.4 FILTERS

A. Manufacturers:
   2. Tuf-Tite Corporation.

B. Description: Removable, septic-tank-outlet filter that restricts discharge solids to 1/8 inch (3.2 mm).

C. Housing: HDPE or PVC.

D. Outlet Size: NPS 4 (DN 100) or NPS 6 (DN 150).

1.5 CONCRETE DISTRIBUTION BOXES

A. Description: Precast concrete, single-chamber box and cover.

B. Design: Made according to ASTM C 913, and for A-8 (H10-44), A-12 (HS15-44), or A-16 (HS20-44) traffic loading according to ASTM C 890. Include baffle opposite inlet.

C. Manholes: 20-inch- (508-mm-), 22-inch- (559-mm-), or 24-inch- (610-mm-) minimum diameter opening with reinforced-concrete risers to grade and cover with steel lift rings in center of distribution box cover.

D. Resilient Connectors: ASTM C 923 (ASTM C 923M), of size required for piping, fitted into inlet and outlet openings. Include watertight plugs in outlets not required.

1.6 PE DISTRIBUTION PIPE AND FITTINGS

A. Tube and Fittings: ASTM F 405, perforated corrugated tube with solid-wall fittings.

B. Couplings: PE band, matching tube and fitting dimensions.
1.7 NONPRESSURE PIPE COUPLINGS

A. Description: Comply with ASTM C 1173, elastomeric, sleeve-type, reducing or transition coupling, for joining underground nonpressure piping. Include ends of same sizes as piping to be joined, with corrosion-resistant-metal tension band and tightening mechanism on each end.

1. Sleeve Materials for Plastic Pipes: ASTM F 477, elastomeric seal or ASTM D 5926, PVC.
2. Sleeve Materials for Dissimilar Pipes: ASTM D 5926, PVC or other material compatible with pipe materials being joined.

1.8 TRENCH OR BED ABSORPTION-SYSTEM MATERIALS

A. Filter Material: ASTM D 448, Size No. 24, 3/4 to 2-1/2 inches (19 to 63 mm), washed, crushed stone or gravel; or broken, hard-burned clay brick.

B. Filter Mat: Geotextile woven or spun filter fabric, in one or more layers, for minimum total unit weight of 3 oz./sq. yd. (101 g/sq. m) or untreated building paper or similar porous material.

C. Cover for Distribution Pipe: Geotextile woven filter fabric, in one or more layers, for minimum total unit weight of 3 oz./sq. yd. (101 g/sq. m).

D. Fill Material: Soil removed from trench.

END OF SECTION 22 1353