

SECTION 622-340-200

(b) **Four or More Ducts High:** Stack ducts four tiers high. Pour the concrete to encase to the top of the third tier. Raise the separators and add up to three additional tiers. Pour concrete to encase three tiers. Continue adding tiers until structure is complete, encasing three tiers at a time. On final pour, provide a 2-inch top cover.

Formations With Vertical and Horizontal Separation Between Ducts

(a) **Ten or Fewer Ducts High:** Where there is vertical and horizontal separation of 1 inch or more between the ducts and the duct structure is ten or fewer ducts high, a monolithic (single pour) encasement can be made. Work the concrete sufficiently to be assured of a good flow of concrete around the individual ducts. Pour sufficient concrete to provide a 2-inch top cover.

(b) **Eleven or More Ducts High:** Where there is vertical and horizontal separation of 1 inch or more between the ducts and the duct structure is more than ten ducts high, place half the total number of tiers and pour concrete to the bottom of the top tier. Place the remaining tiers and pour sufficient concrete to provide a 2-inch top cover. If the duct structure is more than 20 tiers high, place any number of tiers that is convenient but does not exceed ten. Encase to the bottom of the top tier. Place and encase successive portions of the duct structure. In all cases, work the concrete sufficiently to be assured of a good flow of concrete around the individual ducts.

7. BACKFILLING

7.01 Before backfilling, allow the concrete to cure for 1 to 2 hours. Because of the limited stiffness of the plastic conduit, it is important to allow sufficient time for the encasing concrete to develop some strength before backfill is placed. If the 1- to 2-hour waiting period will cause problems in some sections of the conduit run because of traffic, place temporary load-bearing plates over the trench or use C plastic conduit so backfill can be placed as soon as the concrete has been poured. Protect the concrete from weather—from drying too rapidly as well as from freezing (Section 622-020-020).

7.02 The first 12 inches of fill should be sand or other granular material. This fill should be thoroughly tamped using lightweight equipment, such as pneumatic or vibrating tampers. Complete the backfill with selected materials free of large stones, frozen material, etc.

8. MANDETLING

8.01 After backfilling, but before any required repaving begins, pull a D conduit mandrel (Fig. 9) through selected ducts. The mandrel will pass a curve of 15-foot radius. The conduit structure should be mandreled as follows:

(a) **Ten Ducts or Less:** Mandrel two diametrically opposite ducts.

(b) **Eleven Through Twenty Ducts:** Mandrel the four corners and a center duct.

(c) **Twenty-one or More Ducts:** Mandrel the four corner ducts plus one duct in each intermediate tier.

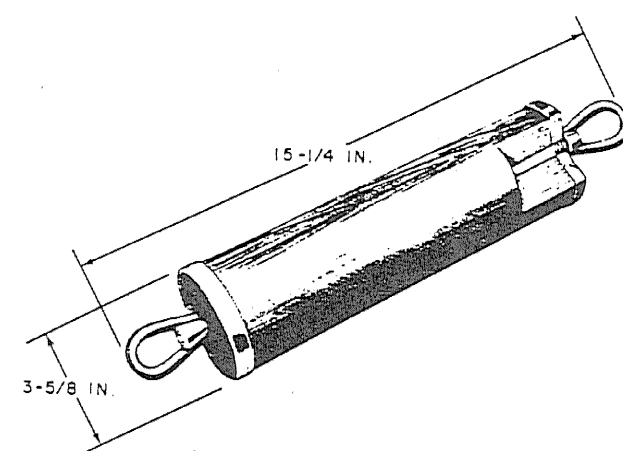


Fig. 9—D Conduit Mandrel