

## BURIED PIC CABLE PRE-HABILITATION TESTING

### 1. GENERAL

1.001 This addendum supplements Section 644-104-101, Issue 2.

1.002 Whenever this addendum is reissued, the reason(s) for reissue will be provided in this paragraph.

1.003 This addendum is issued to add information for determining the start of water in a section of cable.

### 4. TESTING PROCEDURES

The following change applies to Part 4 of the section:

(a) 4.08 — add note

**NOTE:** The start of water may be identified with a Biddle Radar Test Set Model 110-1 or equivalent. The operation of the test set is described in BSP 634-305-515 and 634-405-301. The following is an explanation and description of water in cable.

### Water in Cable

Crosses are usually due to water penetration into PIC cable. Crosses are typically found in direct buried cable and are due to damage to the insulation. When water is present between the pairs in the cable, the capacitance of the wet section changes drastically and, as a result, the cable dielectric changes. The signal from the radar set "sees" this change in capacitance which causes a downward deflection at the start of the water and an opposite reflection at the end of the water soaked area. Also, if the water penetration is not consistent, a ragged trace may appear as shown in the second figure. A third possibility is shown in the third trace where the cable is wet at the point of the test connections. Here you will see a ragged trace and, depending on the length of the water soaked area, there is a chance that you will not be able to see where the cable goes from wet to dry. The accuracy of measurement is to the boundary of the water due to the fact that the signal slows down while it is in the water soaked area and, as a result, the wet section may appear to be as much as 60% longer than actual. Therefore, to accurately locate the limits of water penetration, it is necessary to measure from the opposite end so you can establish boundaries on both sides.

### WET CABLE



### NOTICE

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