

Use: Acceptable soil conditions for cable bedding.

## TRENCH, BACKFILL



### SCOPE

This Standard outlines the acceptable soil and rock mixtures that may be utilized to provide bedding and trench backfill over and around TEP/UES installed primary, secondary, and service cables in polyethylene coilable duct (cable in conduit) and HDPE or PVC duct. For this discussion, "bedding" is defined as the soil mixture surrounding the duct, 6" on top and 3" on sides. "Backfill" is defined as the remaining soil mixture required to fill the trench excavation.

### SPECIFICATION

All "bedding" material shall pass the following gradation:

| Sieve Size | Percentage Passing Sieve | Plastic Index |
|------------|--------------------------|---------------|
| 1.5"       | 100                      | Max. 8        |
| 1"         | 90-100                   |               |
| No. 8      | 35-80                    |               |
| No. 200    | 0-8                      |               |

Should the existing soil conditions not meet this condition, then material meeting this requirement shall be imported for use in bedding of the cable in duct. Backfill is the material placed on top of the bedding starting a minimum of 6" above the duct. Bedding is the material in which the cable in duct is placed and extends a minimum of 6" above and 3" to the side of the duct. When imported bedding is required, the trench shall be overexcavated so as to provide a minimum of 6" of bedding under the duct and maintain the proper depth requirements for the cable in duct.

In either case, the trench floor shall be relatively smooth, with no loose or protruding rock and/or organic material (cactus, roots, boards, etc.).

From the point 6" above the duct where the bedding ends, the trench may be backfilled with excavated material, provided there are no rocks larger than 8" in any dimension be allowed in the trench. All backfill shall be compacted to meet or exceed local ordinances or other requirements. In no case shall compaction be less than the 95% relative to a Standard Proctor Density (ASTM D698). It shall be placed in a manner that will not damage the conduit or its substructure or allow future subsidence of the trench or substructure.

TEP/UES reserves the right to require density (compaction) testing to verify conformance with the above referenced standard. If required, density (compaction) testing shall commence approximately two feet above the top of the conduit or duct and continue to the base of the roadway structural section or the easment surface, as applicable. At a minimum of each reach of conduit or duct installed, one density test shall be taken at every two feet of vertical height of trench backfill between pull-boxes between pull-boxes or other structures, or one every 300 feet, whichever is shorter.