Pedernales Electric Cooperative

Boring Conduit Installation Specifications for PEC Facilities

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Eduardo Hernandez
Engineering Standards Engineer

Stephen Shahan
Engineering Standards Technical Writer, Sr.

1. Boring Application

1. Boring shall be used only when necessary, such as crossing a road, railway, or creek, and it shall only be considered when other installation methods are impractical. The boring method selected must ensure future access to Pedernales Electric Cooperative (PEC) infrastructure is not hindered. Any spare conduits in the bore are for PEC use only. If communication conduits are needed in the same crossing, they shall be installed in a separate bore. Directional boring method requires prior approval by PEC.

2. Preparation

1. **Site survey:** Conduct a site survey to identify existing utilities, obstructions, and conditions.
2. **Bore path:** Define and mark the bore path according to the project requirements. Minimum spacing separating PEC from the bore of another entity shall be 5'.
3. **Approval for work:** PEC member or member's agent shall obtain and provide all necessary PEC easements and permits (where applicable) from local, state, county, or other governing authorities prior to starting work.

3. Documents Required by PEC

1. Product data sheets for conduit and drilling fluids.
2. Boring equipment specifications.
3. Method statement and bore plan.
4. Boring plan ensuring minimum cover depth and separation requirements for conduit are maintained.
5. Approved permits as required by local authorities.
6. Executed PEC easements or approved documents defining an established public utility easement for the location where installation will take place.

4. Approved Installation Materials

1. **With steel casing (as required by railroad, TxDOT, or other entity/utility):**
   Standard Schedule 40 PVC with bore spacers appropriately sized for casing and conduits.
2. **Without steel casing:**
   Type: HDPE Smoothwall
   - Sizes: 3" and 4" diameter as specified on PEC design or by PEC inspector
   - Color coding:
     - Primary conduit: red, without stripes
     - Secondary conduit: grey, without stripes
   - Toneability: non-toneable
   - Standard dimension ratio (SDR): SDR 11 roll pipe

5. Installation

1. **Conduit damage inspection:** Following boring operation, inspect conduit for any damage prior to installation.
2. **Conduit pulling:** Pull the conduit through the borehole, ensuring it is correctly aligned and positioned.
3. **Jointing:** Connect sections of conduit as necessary, ensuring all joints are properly sealed.

4. **Backfill:** Backfill around the conduit with suitable material to prevent shifting and provide support.
5. **Mule tape:** Provide and install 2,500-pound mule tape in each conduit. Pull mandrel with mule tape to ensure no obstructions.
6. **Note:** If steel casing is used, leave ends of casing unsealed for heat dissipation.

6. Inspection

1. Conduct a visual inspection to ensure proper alignment and placement according to plan and specifications. A PEC inspector shall inspect the end points of the bore prior to conduits being extended and connected to riser conduits, transformer slab, or pull box slab.

7. References

1. ASTM F2160-22a: Standard Specification for Solid Wall High Density Polyethylene (HDPE) Conduit Based on Controlled Outside Diameter (OD)
2. ASTM F1962-22: Standard Guide for Use of Maxi-Horizontal Directional Drilling for Placement of Polyethylene Pipe or Conduit Under Obstacles, Including River Crossings