Application

This standard describes the requirements for underground residential services.

Terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Electrical Inspector</td>
<td>Tacoma Power electrical inspection staff that inspect for compliance to the Tacoma Power standards, Tacoma Electrical Code, NEC, WAC and Electric Service Handbook requirements.</td>
</tr>
<tr>
<td>Electrical Secondary</td>
<td>Conduit and cables (less than 600 volts) that connect from the transformer to the SSB.</td>
</tr>
<tr>
<td>Electrical Service</td>
<td>Conduit and cables from the SSB to the customer meter base.</td>
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<tr>
<td>New Services Engineer</td>
<td>Tacoma Power engineering staff that provide design, cost estimates, and coordination of the residential underground secondary service project.</td>
</tr>
<tr>
<td>Secondary Service Box (SSB)</td>
<td>A plastic vault designed to contain the point of connection for the electrical service which connects the electrical secondary cables to the electrical service cables.</td>
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Responsibilities & Inspections

<table>
<thead>
<tr>
<th>Construction Area</th>
<th>Responsibility</th>
<th>Inspection by</th>
</tr>
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<tbody>
<tr>
<td>Location of SSB</td>
<td>The New Services Engineering Office will work with the customer or their electrical contractor to determine the location of the SSB on the customer’s property.</td>
<td>New Services Engineering Office</td>
</tr>
<tr>
<td>Installation of SSB</td>
<td>The New Services Engineering Office will work with the customer or their electrical contractor to determine the installation of the SSB on the customer’s property.</td>
<td>New Services Engineering Office</td>
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<tr>
<td>Electrical Service</td>
<td>The customer or their electrical contractor will install the electrical service.</td>
<td>Electrical Inspector</td>
</tr>
<tr>
<td>Electrical Secondary</td>
<td>Tacoma Power T&amp;D Construction Staff</td>
<td>Not needed</td>
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Underground Service to SSB

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
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</table>
| 1    | Establish location and final grade for the SSB.  
      | • The SSB is usually found or placed at the property lot corner. If not, contact the *New Services Engineer*.  
      | • SSBs shall not be located in driveways or other areas subject to vehicular loading.  
      | • SSBs shall not be placed in a depression or in low areas that would tend to fill with water or silt.  
      | • SSBs shall not be placed in front of any padmount transformer.  
      | • Ensure there are no rocks between SSB base and cover to avoid damage to the cover.  
      | • The top of the SSB cover shall be 2 inches above final grade. |
| 2    | Dig trench from the meter base to the nearest side or end of the SSB.  
      | • The trench shall be deep enough:  
      |   • at the SSB so the conduit elbow can be terminated vertically within the SSB.  
      |   • to maintain a minimum of **24 inches** of cover over the conduit.  
      | • The trench should be dug as straight as possible and the trench bed leveled and free of rocks larger than 2 inches in diameter.  
      | Note: Permanent structures are never to be constructed or moved on top of buried Tacoma Power conduit or cable. |
| 3    | Install conduit for electrical service.  
      | • Install 1 or 2 conduits sized per the NFPA 70 National Electric Code (4 in. conduit max. for Large SSB).  
      | • Excavate beneath the SSB and insert the 90° conduit elbows.  
      | • **All conduit must be at the same end of the SSB and grouped closely together (property side of the SSB preferred).**  
      |   • Conduit ends shall extend vertically 2 inches above the bottom of the SSB.  
      |   • Identify conduit ends with customer house address.  
      |   • Place (Do Not Glue) bell ends on the conduit ends inside SSB.  
      |   • If the elevation of the SSB requires adjustment, contact *New Services Engineer* for assistance. |
| 4    | The electrical service conduit in the trench must be inspected and approved by the *Electrical Inspector (BEFORE Backfill)*. |
| 5    | Backfill the trench.  
      | • Use available clean material.  
      | • Pieces of scrap cable and other construction items must not be buried in the trench.  
      | • Large rocks must be removed and if native soil is rock, sand bedding may be required.  
      | • Tamp the soil, leaving a slight mound to allow for settling. |
| 6    | Pull in electrical service cables from the meter base to the SSB (350 kcmil max. for Large SSB).  
      | • Leave 4 feet minimum of cable, measured from the top of the SSB, left inside the SSB.  
      | • Ensure any parallel cables have matching phase tapes.  
      | • Identify cables with customer house address. |
| 7    | Ensure the following has been done:  
      | • All applicable fees are paid.  
      | • All inspections have been passed. |
| 8    | *Tacoma Power T&D Construction Staff* will:  
      | • Install the SSB as necessary.  
      | • Pull in electrical secondary cables from the transformer to the SSB.  
      | • Energize the service. |
Customer Requirements
Residential Underground Service Boxes

Figure 1  Typical Installation of SSB

Figure 2  Residential SSB Dimensions and Part #’s

**Large SSB (17” x 30” Top Opening)**
- Base
  - PenCell Part# PE30GSI01
  - Tacoma Power MID# 37920
- Cover
  - PenCell Part# PE30PL505BK3
  - Tacoma Power MID# 37921

**Small SSB (12” x 20” Top Opening)**
A small SSB is available ONLY when maximum 2 conduits of 2.5” size enter the SSB.
- Base
  - PenCell Part# PE20GS500
  - Tacoma Power MID# 19118
- Cover
  - PenCell Part# PE20PL517BK3
  - Tacoma Power MID# 19437