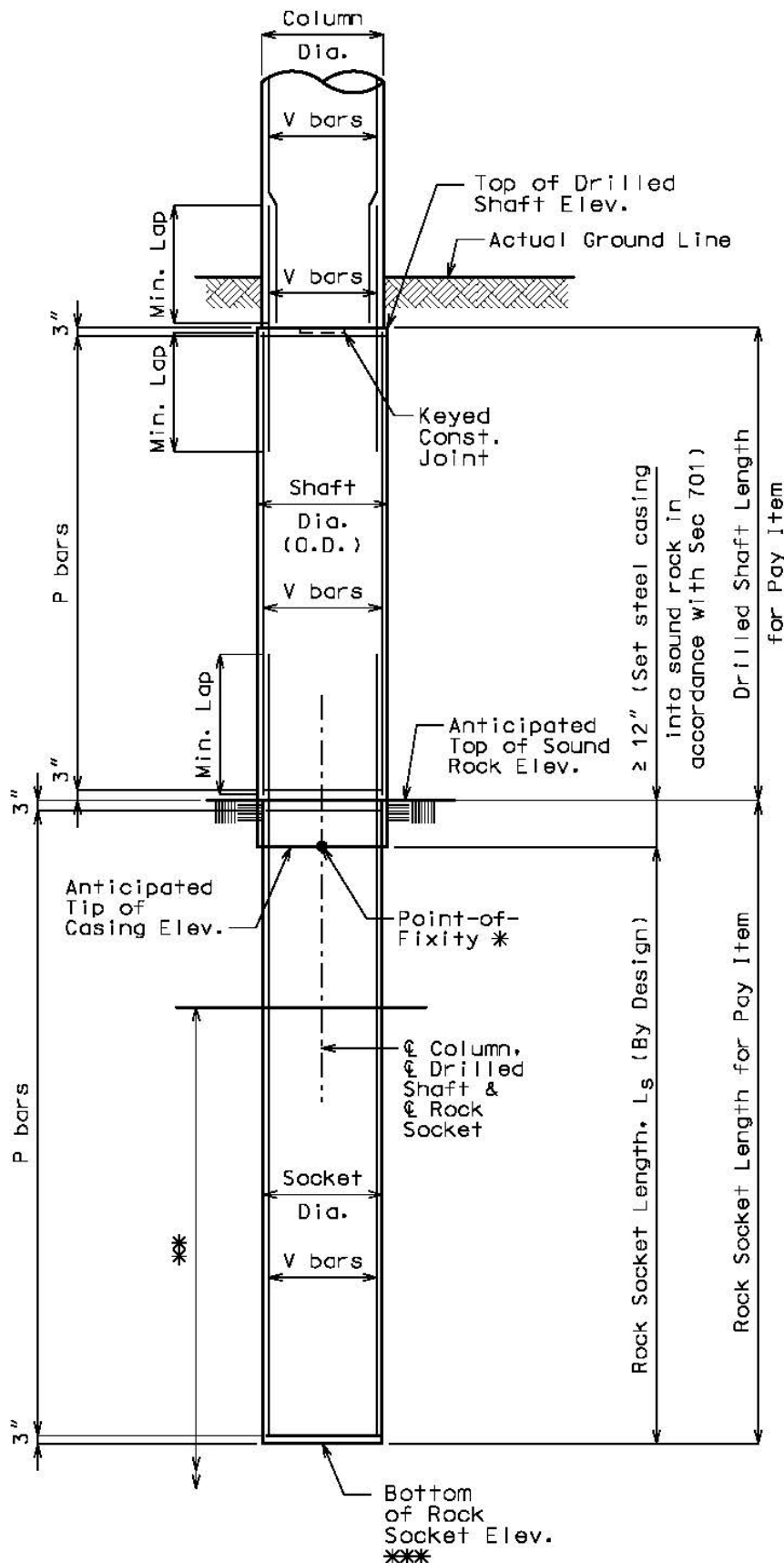


Design Aid: Minimum Rock Socket Length



**ELEVATION OF DRILLED SHAFTS AND ROCK SOCKETS
(SHALLOW SOIL OR DEEP SOIL)**

* Shown Point-of-Fixity location is assumed for shallow soil shaft.

** Rock socket elevation range for side resistance from Geotechnical report. Show rock socket elevation range in the Foundation Data table (do not show dimension on plans). For design a minimum of three feet below the tip of casing shall be ignored when considering side resistance. This will allow for moderate field adjustments to tip of casing.

*** It is not advisable to design rock socket to reach capacity within the bottom two shaft diameters of boring termination depth or Geotech provided guidance. Contact the Geotechnical Section if sufficient capacity is not available above this elevation.

Note: Provide minimum rock socket length L_s using maximum value from the following conditions.

1. Minimum rock socket length $L_s \geq$ nominal socket diameter, D_s . L_s shall be measured from the anticipated tip of casing.
2. Determine minimum rock socket length based on reinforcement length requirement in accordance with EPG 751.37.6.1 and AASHTO LRFD 10.8.3.9.3. Point of fixity generally is assumed as anticipated tip of casing elevation for shallow soil drilled shaft but point of fixity could be at a higher elevation with a more refined analysis. Point of fixity for deep soil drilled shaft generally is determined by analysis. (The location of the maximum bending moment and the bending moment at the point of fixity may be considered in determining the length of reinforcement required for development.)
3. Determine minimum rock socket length required to resist load and settlement in accordance with EPG 751.37.2. Side resistance shall be neglected or reduced when recommended by the Geotechnical Section for the case of unusable rock socket segment(s) length.
4. Seismic concerns.