

**CITY OF SAN ANGELO****ITEM 110****EXCAVATION****110.1. DESCRIPTION.**

This Item shall govern for the roadway, channel and/or special excavation of the required material in the areas shown on the Plans and cross sections to the lines, grades, and typical sections as specified. Excavation shall include all materials encountered regardless of their nature or of the manner in which they are removed.

**110.2. CONSTRUCTION METHODS.**

All excavation shall be performed as specified herein and the completed roadway and/or channels shall conform to the alignment, grades, and typical sections as shown on the Plans or project cross sections or as established by the City.

Unsuitable excavation and excavation in excess of that needed for construction shall be known as "Waste" and shall become the property of the Contractor to be disposed of by him outside the limits of the right-of-way at a location approved by the City. Unsuitable material encountered below subgrade elevation in roadway cuts, when declared "Waste" by the City, shall be replaced with material from the roadway excavation or with other suitable material as approved by the City. This work shall be done in accordance with the provisions of the applicable bid items.

When excavated materials, including topsoil, are utilized in constructing the required roadway sections, payment of replacement will be made under the pertinent placement specification.

During construction the roadbed and ditches shall be maintained in such condition as to insure proper drainage at all times. Ditches and channels shall be so constructed and maintained as to avoid damage to the roadway section. During construction, channels shall be kept drained, insofar as practicable, and the work shall be prosecuted in a neat and workmanlike manner.

All slopes shall be accurately shaped, and care shall be taken that no material is loosened below or outside the required slopes. Exceptions shall be those slopes in rock or other material where, in the judgment of the City, some variation may be permitted. All breakage and slides shall be removed and disposed of in a manner acceptable to the City.

**(1) Rock Cuts.** The Contractor shall have the following options:

**(a) Nonhomogeneous Rocks:**

**(i)** Excavate to finish subgrade elevation, manipulate and compact the subgrade in accordance with Section 132.3.(3).(a) without removal.

**(ii)** Excavate below grade (undercutting) and replace with embankment material approved by the City. Compaction shall be in accordance with Section 132.3.(3).(a).

**(b) Homogeneous Rock.**

**(i)** Excavate to finish subgrade elevation.

**(ii)** Excavate to finish subgrade elevation, manipulate and compact the subgrade in accordance with Section 132.3(3).(a) without removal.

**(iii)** Excavate below grade (undercutting) and replace with embankment material, limestone base material, or other material approved by the City. Compaction shall be in accordance with Section 132.3(3).(a).

**(2) Earth Cuts.** When base and/or pavement structure is placed under this project, all earth cuts shall be scarified to a uniform depth of at least six inches below the required finished subgrade elevation for the entire roadbed width. The material shall be mixed and reshaped by blading and then sprinkled and rolled in accordance with Section 132.3(3).(a) or as shown on the Plans.

**(3) Subgrade Tolerances.** Tolerances shall be as follows:

**(a) Stage Construction.** Any deviation in excess of 0.1 foot in cross section and 0.1 foot in 16 feet measured longitudinally shall be corrected by loosening, adding or removing the material, reshaping and recompacting by sprinkling and rolling.

**(b) Turn Key Construction.** Any deviation in excess of half inch in cross section and half inch in 16 feet measured longitudinally shall be corrected by loosening, adding or removing the material, reshaping and recompacting by sprinkling and rolling.

**110.3. MEASUREMENT.**

This Item will be measured by the cubic yard in its original position as computed by the method of average end areas.

This is a Plans quantity measurement Item and the quantity to be paid for will be that quantity shown in the proposal and on the "Estimate and Quantity" sheet of the contract Plans, except as may be modified by special condition. If no adjustment of quantities is required, additional measurements or calculations will not be required.

Shrinkage or swellage factors will not be considered in determining the calculated quantities.

**110.4. PAYMENT.**

The work performed and materials furnished in accordance with the Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Excavation (Roadway)," "Excavation (Channel)," "Excavation (Special)" or "Excavation (Roadway and Channel)." This price shall be full compensation for all authorized excavation; for the undercutting subgrade and reworking or replacing the undercut material; for all hauling; for all work required for disposal of material not used elsewhere on the project and for furnishing all labor, materials, tools, equipment and incidentals necessary to complete the work.