

ITEM 205

SUBGRADE

205.1 Description. This Item shall govern the proof rolling and compaction of the subgrade for pavements. When the road is to be surfaced or paved and after the earthwork has been substantially completed and after all storm sewer and drains have been laid, the subgrade shall be brought to the lines, grades and typical cross-section shown on the plans and in accordance with these Standard Specifications.

205.2 Construction Methods. After stripping, the Contractor shall proof roll the subgrade, i.e. verify that the subgrade is firm and able to support construction equipment and correct any soft or yielding areas by:

- scarifying and aerating,
- replacing unsuitable material with suitable material from the project site, or borrow as per Item 130 "Borrow" and authorized by the Engineer.
- stabilization, etc.

Proof rolling equipment shall meet the requirements of Item 216 "Proof Rolling" of the Texas Department of Transportation's "Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges", Latest Edition.

Whenever unsuitable natural material is encountered below the top of subgrade elevation and cannot be economically amended to make it suitable, then the following requirements shall apply:

- The unsuitable material shall be excavated to a depth deemed sufficient by the Engineer and the excavated material shall be disposed of legally outside the project limits as per Item 110.
- The excavated area shall be filled to its original level with suitable material from the project site; or borrow as per Item 130 as directed by the Engineer. The fill material shall be compacted to 95 percent of standard proctor density in accordance with ASTM D698, using a moisture content between optimum and plus/minus 3 percent of optimum.

All holes and depressions shall be filled with approved material.

Stabilized Subgrade

If the subgrade is stabilized, refer to the appropriate Standard Specification Item for additional construction requirements.

Unstabilized Subgrade

If the subgrade is not to be stabilized, it shall be compacted to 95 percent of standard proctor density in accordance with ASTM D698, using a moisture content between optimum and plus/minus 3 percent of optimum. Any subgrade, without stabilization, shall be compacted to a minimum depth of 9 inches. The subgrade shall be brought to the lines and grades required.

The subgrade shall be kept free from all ruts and weak spots. Any ruts and weak spots that develop under construction traffic shall be repaired with suitable material as they develop.

205.3 Quality Assurance. The Testing Laboratory's representative will determine the Moisture-Density Relationship in accordance with ASTM D698, on material secured from the roadway or borrow source, for each type of material encountered or used.

The Testing Laboratory's representative will determine the in-place density in accordance with ASTM D6938, "Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)" or ASTM D1556, "Standard Test Method for Density and Unit Weight of Soil in Place by Sand-Cone Method". The Testing Laboratory' representative will determine the in-place density in accordance with ASTM D6938 or D1556. The minimum level of testing shall consist of the following:

- at least one test per station per lane of roadway.
- a lane is defined as 12' wide section of pavement regardless of its use.

205.4 Measurement and Payment. The work prescribed under this Item, shall not be paid for directly, but shall be considered as subsidiary work of the Item 110 "Roadway Excavation" and/or Item 130 "Borrow".

There are no line codes for this Item.

NOTE: This Item requires other Standard Specifications

Item 110 "Roadway Excavation"
Item 130 "Borrow"

END OF ITEM 205