GRANULAR BASES AND SURFACING

260.1 DESCRIPTION

This work consists of providing one or more courses of aggregate on a prepared surface.

260.2 MATERIALS

A. Subbase, Base Course, Gravel Cushion, and Gravel Surfacing shall conform to Section 882. Granular additives (sand, rock, etc.) may be necessary to produce material of the type specified.

B. Clay Binder, when required for Gravel Surfacing, shall conform to Section 883.

260.3 CONSTRUCTION REQUIREMENTS

A. Subbase and Base Course: Roadway shaping shall be performed in accordance with Section 210 prior to placement of the material.

The material shall be processed by either road mix or plant mix methods.

Materials processed by road mix methods shall be windrowed and equalized to the satisfaction of the Engineer prior to placement. The material in the windrow will be limited to the quantity necessary to construct a maximum of a 4 inch (100 mm) compacted layer. The equipment used to spread the material shall be a blade or other suitable equipment. Granular material which is dumped on the prepared surface shall be windrowed prior to incorporating additives.

Materials processed by plant mix methods shall be fed uniformly into the mixer at a predetermined rate. The plant shall be equipped with positive proportioning devices and shall thoroughly mix the materials.

When the material is laid by a spreader, it shall have been previously processed by a central plant.

Materials placed on shoulders adjacent to asphalt concrete or Portland cement concrete pavement, shall be mixed with water by a central plant and placed on the shoulder by an approved spreader. The material placed shall be limited to the quantity necessary to construct a maximum of a 4 inch (100 mm) compacted layer.

Each layer shall be compacted to the specified density before the next lift is placed and shall be rolled until a uniform, stable surface is obtained. Base Course shall be compacted to 97 percent of the maximum dry density. Subbase shall be compacted to 95 percent of the maximum dry density. The maximum dry density will be determined by SD 104, Method 4 and SD 105 or SD 114.

The final rolling of the top surface of the granular materials shall embed as many loose stones as possible. The finished surface shall be smooth and free from waves and the Contractor shall finish the surfacing materials to within ±0.5 percent of the typical section cross slope.

The quarter crown within any 12 foot (3.6 m) transverse length (or actual lane width paved with a single paver pass) shall not exceed 0.04 feet (13 mm) when measured with a straight edge, stringline, or other suitable equipment.

Material used for backfilling unclassified excavation digouts, intersecting roads, and entrances shall be compacted to the satisfaction of the Engineer.

Recycled Portland cement concrete pavement used as granular base material shall not be used in areas where drainage fabric, edge drains, or other similar drainage systems are present.

B. Gravel Cushion: Gravel cushion shall be placed in accordance with Section 260.3 A, except specified density is not required.

The Contractor shall spread the gravel evenly to the specified width. Watering shall be accomplished during the spreading operation. Rolling shall proceed simultaneously with the spreading and watering and continue in overlapping strips until a uniform, stable surface is obtained.

Pneumatic tired rollers shall have an effective roller weight of at least 250 pounds per inch (4.5 kilograms per millimeter) of roller width or satisfactory vibratory compaction equipment. Tires shall be uniformly inflated so their air pressures will not vary by more than 5 psi. Rollers shall be operated with tire pressures and wheel loads within the manufacturer's recommended range for the size and ply of the tire being used.

Steel rollers shall furnish a minimum rolling weight of 275 pounds per inch (4.9 kilograms per millimeter) of rolling width.

Gravel surfacing placed on shoulders adjacent to asphalt concrete or Portland cement concrete pavement shall be mixed with water by a central plant and placed on the shoulder by an approved spreader. The material placed shall be limited to a quantity necessary to construct a maximum of a 4 inch (100 mm) compacted layer.

C. Gravel Surfacing: Gravel Surfacing shall be placed in accordance with Section 260.3 B.

Gravel surfacing placed on shoulders adjacent to asphalt concrete or Portland cement concrete pavement shall be mixed with water by a central plant and placed on the shoulder by an approved spreader. The material placed shall be limited to a quantity necessary to construct a maximum of a 4 inch (100 mm) compacted layer.

When clay binder is required it shall be processed by a plant mix method in accordance with 260.3.A.

D. Base Course, Salvaged; Gravel Cushion, Salvaged; Subbase, Salvaged; and Gravel Surfacing, Salvaged: These materials shall be placed in accordance with Section 260.3.A except the compaction and density requirements shall be as follows:

Compaction and density requirements shall be a minimum of 95 percent of the target density. The target density shall be established by SD 219 and compacted under the following conditions:

1. A minimum of one test strip for each lift placed shall be completed to determine the target density and optimum rolling sequence. The test strips will remain in place as part of the completed work.

2. The depth of the test strip lift shall be representative of the project.

3. When there is a significant change in mix proportions, weather conditions, or other controlling factors, the Engineer may require construction of another test strip to check target density.

4. Pneumatic and steel face roller requirements shall conform to Section 260.3.B.

260.4 METHOD OF MEASUREMENT

Subbase; Subbase, Salvaged; Base Course; Base Course, Salvaged; Gravel Cushion; Gravel Cushion, Salvaged; Gravel Surfacing (including clay binder); and Gravel Surfacing, Salvaged will be measured to the nearest 0.1 ton (0.1 metric ton). Water and materials which are paid for under separate items will not be measured under these items.

260.5 BASIS OF PAYMENT

Subbase; Subbase, Salvaged; Base Course; Base Course, Salvaged; Gravel Cushion; Gravel Cushion, Salvaged; Gravel Surfacing (including clay binder); and Gravel Surfacing, Salvaged will be paid for at the contract unit price per ton (metric ton). Payment will be full compensation for furnishing and placing materials, labor, equipment, test strips (if required), and all incidentals required.

If roadway shaping is required, and a bid item is not provided, payment for the granular material items will be full compensation for necessary shaping work.

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