

CITY OF SAN ANGELO**ITEM 251****REWORKING BASE MATERIAL****251.1 DESCRIPTION.**

This Item shall govern for reworking existing base material (with or without an asphaltic concrete pavement) in accordance with the requirements as herein specified and as shown on the Plans. This Item shall also govern for incorporation of new base material when shown on the Plans.

251.2 TYPES OF WORK.

Reworking base material shall consist of one (1) of the following types of work.

Type A. Scarifying only.

Type B. Scarifying, Salvaging and Replacing.

Type C. Scarifying, Salvaging and Stockpiling.

Type D. Scarifying, and Reshaping.

Scarifying shall consist of loosening and breaking the existing base material.

Salvaging shall consist of removing, saving and temporarily stockpiling, if necessary, the existing base material.

Stockpiling shall consist of final storage of the salvaged base material at the location shown on the Plans or as directed by the City.

Reshaping shall consist of reworking the in-place base material with or without additional new base material.

251.3 MATERIALS.

(1) Flexible Base. New base material shall meet the material requirements of Article 247.2 for the type and grade as shown on the Plans.

(2) Water. Water shall meet the same water source requirements of Item 160.2(2).

251.4. CONSTRUCTION METHODS.

(1) General. The work shall be performed to the width and depth shown on the typical sections and as specified below for the type of work shown on the Plans:

(2) Removal of Asphaltic Concrete Pavement. When shown on the Plans, any asphaltic concrete pavement, including any accompanying surface treatment, plant-mix seal and micro-surfacing, shall be removed prior to scarifying the existing base material. The Contractor shall make any necessary provision to prevent contamination of the asphaltic material during and after removal of the asphaltic material. Removal of the asphaltic material shall be in accordance with the applicable bid items. When the existing pavement consists only of a surface treatment, it will not be removed before scarifying.

(3) Type of Work.

(a) Type A (Scarifying only). The existing base, with or without existing asphaltic concrete pavement, shall be scarified for its full width and depth, unless otherwise shown on the Plans. All material shall be broken into particles of a maximum size as approved by the City, or as shown on the Plans.

(b) Type B (Scarifying, Salvaging and Replacing).

(i) Scarifying. The existing base, with or without existing asphaltic concrete pavement, shall be cleaned of all objectionable materials by blading, brooming or other approved methods, prior to scarifying. After cleaning, the existing material shall be scarified for its full width and depth, unless otherwise shown on the Plans. However, in no case shall the underlying subgrade be disturbed. Unless otherwise shown on the Plans, the material shall be broken into particles of not more than two and one-half (2 1/2) inches in size.

(ii) Salvaging. All salvaging operations, including temporary stockpiling or windrowing, shall be conducted in such a manner as not to interfere with traffic, proper drainage or the general requirements of the work. All material shown on the Plans to be salvaged shall be kept reasonably free of soil from the subgrade or roadbed during the salvaging operation. The scarified material shall be removed from the roadbed using equipment approved by the City. The salvaged material may be placed in temporary stockpiles or windrows until sufficient subgrade has been prepared to receive the material.

(iii) Replacing.

(a.) Preparation of Subgrade. Prior to replacing the salvaged material, the subgrade shall be constructed and shaped to conform to the typical sections as shown on the Plans or as established by the City. This work shall be done in accordance with the provisions of applicable bid items.

Prior to replacing the salvaged material, when shown on the Plans and when directed by the City, the Contractor shall proofroll the roadbed in accordance with Item 216, "Rolling (Proof)". Soft spots shall be corrected as directed by the City.

(b.) Replacement of Salvaged Material. The salvaged material shall be deposited on the prepared subgrade, sprinkled if directed, bladed, and shaped to conform to the typical sections shown on the Plans or as directed by the City.

New base material, when shown on the Plans to be mixed with the salvaged base material, shall be placed and uniformly incorporated with the salvaged material.

All areas and nests of segregated material shall be corrected or removed and replaced with satisfactory and/or new material as directed by the City. All salvaged material shall be kept reasonably free of objectionable materials during the replacing operations.

The replaced material shall conform to the compaction requirements of Article 251.5 and the grade tolerances of Article 251.6.

(4) Type C (Scarifying, Salvaging and Stockpiling).

(a) Scarifying. The existing base, with or without existing asphaltic concrete pavement, shall be cleaned of objectionable materials by blading, brooming or other approved methods, prior to scarifying. After cleaning, the existing material shall be scarified for its full width and depth, unless otherwise shown on the Plans. However, in no case shall the underlying subgrade be disturbed. Unless otherwise shown on the Plans, the material shall be broken into particles of not more than two and one half (2-1/2) inches in size.

(b) Salvaging. All salvaging operations, including temporary stockpiling or windrowing, shall be conducted in such a manner as not to interfere with traffic, proper drainage or the general requirements of the work. All material shown on the Plans to be salvaged shall be kept reasonably free of soil from the subgrade or roadbed during the salvaging operation. The scarified material shall be removed from the roadbed using equipment approved by the City. Scarified material may be placed in temporary stockpiles or windrows prior to loading into approved equipment for hauling to the final stockpile site.

(c) Stockpiling. Trash, wood, brush, stumps and other objectionable materials at the final storage (stockpile) site shall be removed and disposed of as shown on the Plans or as approved by the City prior to the stockpiling of salvaged base material. The Contractor shall prepare stockpile site and shall deliver the salvaged material to the prepared final stockpile area. The material shall be worked into a neat stockpile as shown on the Plans or as approved by the City.

(5) Type D (Scarifying and Reshaping).

(a) Preparation of Subgrade. Prior to scarifying the existing base, if required, any new subgrade shall be constructed and shaped to conform to the typical sections as shown on the Plans or as established by the City. This work shall be done in accordance with the provisions of applicable bid items.

(b) Scarifying. The existing base, with or without existing asphaltic concrete pavement, shall be cleaned of all objectionable materials by blading, brooming or other approved methods, prior to scarifying. After cleaning, the existing material shall be scarified for its full width and depth, unless otherwise shown on the Plans. However, in no case shall the underlying subgrade be disturbed. Unless otherwise shown on the Plans, the material shall be broken into particles of not more than two and one-half (2 1/2) inches in size.

(c) **Reshaping.** After completion of scarifying, the existing base shall be mixed and shaped to conform to the typical sections shown on the Plans. However, in no case, shall the underlying subgrade be disturbed.

New base material, when shown on the Plans to be mixed with the scarified material, shall be placed on the existing scarified material, and uniformly incorporated.

The reshaped material shall conform to the compaction requirements of Article 251.3 and the grade tolerances of Article 251.6.

251.5 COMPACTION METHODS.

(1) **General.** The base material shall be compacted either by “Ordinary Compaction” or “Density Control” as shown on the Plans.

(2) **Ordinary Compaction.** When “Ordinary Compaction” is shown on the Plans, the following provisions shall apply:

The material shall be sprinkled and rolled as directed by the City. Compaction equipment shall be approved by the City. All irregularities, depressions or weak spots which develop shall be corrected immediately by scarifying the areas and recompacting by sprinkling and rolling.

Should the material lose the required stability, compaction or finish before the next course is placed, or the project is accepted, it shall be reworked in accordance with Subarticle 251.4(4). However, compaction shall be in accordance with “Ordinary Compaction”.

(3) **Density Control.** When “Density Control” is shown on the Plans the following provisions shall apply:

Unless otherwise shown on the Plans, each course shall be sprinkled as required and compacted to the extent necessary to provide not less than 98 percent of the optimum density as determined by TxDOT Test Method Tex-113-E / ASTM D 1557. Roadway density testing will be as outlined in TxDOT Test Method Tex-115-E / ASTM D 2922 and ASTM D 3017.

When the material fails to meet the density requirements, or should the material lose the required stability, density or finish before the next course is placed, or the project is accepted, it shall be reworked in accordance with Subarticle 251.5(4).

(4) **Reworking a Section.** Should the reworked base material, due to any reason or cause, lose the required stability, density or finish before the next course is placed or the project is accepted, it shall be re-compacted and refinished at the Contractor’s expense.

251.6 TOLERANCES.

Tolerances shall conform to the following:

(1) Density Tolerances. The City may accept the work providing not more than one (1) out of the most recent five (5) density tests performed is below the specified density provided the failing test is no more than three (3) pounds per cubic foot below the specified density.

(2) Grade Tolerances. In areas on which pavement is to be placed, any deviation in excess of one-quarter (1/4) inch in cross section or one-quarter (1/4) inch in a length of sixteen (16) feet measured longitudinally shall be corrected by loosening, adding or removing material, reshaping and recompacting by sprinkling and rolling.

251.7 MEASUREMENT.

This Item will be measured by one of the following methods:

Class 1. Measurement will be by the 100-foot station measured along the centerline of each roadbed.

Class 2. Measurement will be by the square yard of the existing base or pavement in its original position. When Class 2 measurement is used, the limits of measurement will be as shown on the Plans.

This class is a plans quantity measurement 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. If no adjustment of quantities is required, additional measurements or calculations will not be required. No payment will be made for thickness or width exceeding that shown on the typical sections or provided on the Plans.

Class 3. Measurement will be by the cubic yard of salvaged material in vehicles as delivered at the stockpile.

Class 4. Measurement will be by the cubic yard of salvaged material measured by the average-end-area method in the stockpile.

Class 5. Measurement will be by the cubic yard in its original position measured by the average-end-area method.

This class is a plans quantity measurement 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. If no adjustment of quantities is required, additional measurements or calculations will not be required. No payment will be made for thickness or width exceeding that shown on the typical sections or provided on the Plans.

Class 6. Measurement will be by the ton of 2,000 pounds dry weight as delivered at the stockpile. When the Plans indicate that measurement of the material is to be by the ton, a set of standard platform truck scales shall be furnished by the Contractor and placed at a location

approved by the City. The dry weight will be determined by deducting the weight of the moisture from the gross weight. The moisture content in the material will be determined by Test Method Tex-103-E / ASTM D 2216, from samples taken at the time of truck weighing, at least once each day and more often if conditions warrant.

251.8 PAYMENT.

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Reworking Base Material" of the type, class, scarified depth, and compaction method shown on the Plans, together with the following conditions.

Measurement and payment for "Reworking Base Material (Type A)" will be restricted to Class 1, 2.

Measurement and payment for "Reworking Base Material (Type B)" will be restricted to Class 1, 2, or 5.

Measurement and payment for "Reworking Base Material (Type C)" will not be restricted to any Class.

Measurement and payment for "Reworking Base Material (Type D)" will be restricted to Class 1, 2, or 5.

The unit price bid shall be full compensation for furnishing all labor, tools, equipment, materials, supplies, and incidentals necessary to complete the work, except as follows:

When new base material is mixed with the existing base material, furnishing and delivery of the new base will be paid for as "Flexible Base (Roadway Delivery)" for the type, grade, and class shown on the Plans, in accordance with Article 247.5. All manipulation including mixing, spreading, blading, shaping and finishing of the new and existing base material will not be paid for directly, but will be considered subsidiary to this Item.

When "Ordinary Compaction" is shown on the Plans, all sprinkling and rolling and proofrolling will be considered subsidiary to this Item, unless otherwise shown on the Plans.

When "Density Control" is shown on the Plans, all sprinkling and rolling and proofrolling will be considered subsidiary to this Item.

When proofrolling is shown on the Plans and when directed by the City, it will be considered subsidiary to the various Items.

When subgrade is constructed under this project, correction of soft spots will be at the Contractor's expense. *

Removal of any asphaltic material will be paid for in accordance with the applicable bid items.

*When Subgrade is not constructed on this project, corrections or soft spots will be in accordance with General Requirements and Covenants.