SECTION 3.04
PROCESSED AGGREGATE BASE

3.04.01--Description: The base shall consist of a two-course foundation constructed on the prepared subbase in accordance with these specifications and in conformity with the lines, grades, compacted thickness and typical cross-section as shown on the plans.

3.04.02--Materials: All materials for this work shall conform to the requirements of Subarticles M.05.01-1, M.05.01-2 and M.05.01-3.

3.04.03--Construction Methods: Coarse aggregate shall be either gravel, broken stone or reclaimed miscellaneous aggregate, the latter containing no more than 2 percent by mass of asphalt cement, at the option of the Contractor. However, only one type of coarse aggregate shall be used on a project unless otherwise permitted by the Engineer.

Prior to placing the bottom course of the processed aggregate base, the prepared subbase shall be maintained true to line and grade, at all times, for a minimum distance of 60 m in advance of the work. In addition, none of the aggregate courses shall be placed more than 150 m ahead of the compaction and binding operation on that particular course.

The bottom course shall be spread uniformly upon the prepared subbase. Only approved spreaders or stone boxes shall be used. Power graders shall not be used unless otherwise permitted by the Engineer. The thickness of the course shall not be more than 100 mm after compaction, unless otherwise ordered.

After the aggregate is spread, it shall be thoroughly compacted and bound by use of equipment specifically manufactured for that purpose. Rollers shall deliver a ground pressure of not less than 52.5 N/mm of contact width and shall have a mass of not less than 9100 kg. Vibratory units shall have a mass of not less than 3650 kg. Water may be used during the compaction and binding operation. Water shall be applied from an approved watering device. The direction and intensity of the stream shall be ordered by the Engineer. The compacting and binding operation shall begin at the outside edges, overlapping the shoulders for a distance of not less than 150 mm and progress towards the middle, parallel with the centerline of the pavement. The work shall cover the entire surface of the course with uniform overlapping of each preceding track or pass. Areas of super-elevation and special cross slope shall be compacted by beginning at the lowest edge and proceeding towards the higher edge, unless otherwise directed by the Engineer. The compacting and binding operation shall be continued until the voids in the aggregates have been reduced to provide a firm and uniform surface satisfactory to the Engineer. The amount of compactive effort shall be as directed by the Engineer, but in no case shall be less than four (4) complete passes of the compacting and binding operations. All aggregate shall be completely compacted and bound at the end of each day's work or when traffic is to be permitted to operate on the road. The dry density of each layer of processed aggregate base after compaction shall not be less than 95 percent of the dry density for that material when tested in accordance with AASHTO T180, Method D.

Should the subbase material become churned up or mixed with the bottom course material at any time, the Contractor shall, without additional compensation remove the mixture. The Contractor shall add new subbase material, if required, and reshape and recompact the subbase in accordance with the requirements of Article 2.12.03. New aggregate bottom course material shall be added, compacted and bound, as hereinbefore specified, to match the surrounding surface.

When the bottom course has been completed, as specified above, the top course aggregate shall be spread over it to such thickness that, after final compaction and binding, the total thickness of the two courses will equal that thickness specified for the completed base. The top course shall be spread, compacted and bound exactly as specified above for the bottom course.

Any surface irregularities which develop during, or after work on either course, shall be corrected by loosening material already in place and removing or adding aggregate as required, after which the entire area, including the surrounding surface, shall be re-compacted and rebound until it is brought to a firm and uniform surface satisfactory to the Engineer.

3.04.04--Method of Measurement: The mass of all aggregate required for this work shall be measured on scales furnished by and at the expense of the Contractor, except as otherwise permitted herein. The scales shall be of a type satisfactory to the Engineer and shall be sealed, at the expense of the Contractor, as often as the Engineer may require. All measuring shall be done in the presence of a Department representative.

If material is shipped by rail, the car's mass may be accepted; but scales shall be provided as specified above, if the Engineer so directs.

Measurements shall be subject to the following provisions:

Determination of Thickness The thickness shall be as indicated on the plans, or as ordered by the Engineer and within a tolerance of -19 mm to +13 mm.

Measurements to determine the thickness will be taken by the Engineer at intervals of 150 m or less, along lanes, and shall be considered representative of the lane. For the purpose of these measurements, a shoulder will be considered a lane.

If a thickness measurement is taken and found deficient, the Engineer will take such additional measurements as he considers necessary to determine the longitudinal limits of the deficiency.

The Engineer may waive an occasional measurement outside the tolerances if in his judgment it is not representative of true conditions and providing that:

(a) other thickness measurements taken nearby for the course are within acceptable limits;

(b) proper controls have been exercised by the Contractor; and

(c) if there would be no impairment to the serviceability of the complete construction.

No adjustment of the quantity accepted for payment will be made where the thickness does not exceed the allowable plus or minus tolerances.

Where the thickness exceeds that indicated on the plans by more than the prescribed tolerance, that material which is in excess of the total planned depth, plus the tolerance, will not be included for payment.

Areas represented by measurements deficient in thickness in excess of the allowable minus deviation shall be corrected at the Contractor's expense; or with written permission of the Engineer, the deficient areas may remain, and payment will be made at an equitable adjusted price.

An adjustment in quantity will be made in the materials placed beyond the horizontal limits indicated on the plans by deducting the computed mass of that material extending more than 75 mm beyond the horizontal plan dimensions.

Determination of the quantity to be used for adjusted payment or exclusion for payment will be based on 58 kg/m^2 per 25 millimeter thickness.

3.04.05--Basis of Payment: This work will be paid for at the contract unit price per metric ton for "Processed Aggregate Base," complete in place, which price shall include all materials, tools, equipment and work incidental thereto.

Pay Item	Pay Unit
Processed Aggregate Base	t