

## **ITEM 08304.019706 M - CRUSHED STONE AGGREGATE SUBBASE COURSE**

### **DESCRIPTION**

Under this item the Contractor shall furnish and place crushed stone aggregate subbase course as shown on the plans or as ordered by the Engineer.

### **MATERIALS**

The material shall be crushed stone or crushed slag meeting the following requirements:

A. Gradation.

<b><u>Sieve Size</u></b>	<b><u>Percent Passing by Weight</u></b>
37.5 mm	100
12.5 mm	25-60
6.3 mm	10-35
75 μm	2-7

B. Soundness. Material will be accepted on the basis of a Magnesium Sulfate Soundness Loss after four (4) cycles of 20 percent or less.

C. Plasticity Index. The Plasticity Index of the material passing the 425 μm mesh sieve shall not exceed 5.0.

D. Elongated Particles. Not more than 30 percent, by weight, of the particles retained on a 12.5 mm sieve shall consist of flat or elongated particles. A flat or elongated particle is defined herein as one which has its greatest dimension more than three (3) times its least dimension. Acceptance for this requirement will normally be based on a visual inspection by the Engineer. When the State elects to test for this requirement, material with a percentage greater than 30 will be rejected.

### **CONSTRUCTION DETAILS**

All material supplied for this Item shall be stockpiled unless waived as noted below. Stockpile construction, sampling and testing procedures shall be as stipulated in the appropriate current Departmental publications which are current on the date of advertisement for bids. These publications are available upon request to the Regional Director or the Deputy Chief Engineer (Technical Services). No material shall be removed for use from any stockpile until the stockpile has been sampled, tested and approved, in writing, by the Departmental Geotechnical Engineer.

Stockpiling will be waived by the Departmental Geotechnical Engineer provided manufacture and storing are as follows:

Processing shall be by a continuous belt system that is capable of accurately proportioning each size of aggregate.

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This system shall have the capacity to blend the various aggregate sizes in the proportions as indicted in "Materials" above and the blend shall be directly deposited in acceptable storage bins or silos. Cone shaped piles placed on the ground will not be allowed.

The storage bins or silos shall have a discharge gate that will allow the material to be deposited directly into the delivery trucks.

Samples for testing purposes shall be obtained by discharging from the gate into a front end loader or similar equipment. Testing and approval shall conform to the requirements contained in the current appropriate Departmental publications. No material shall be removed for use from any bin or silo until it has been sampled, tested and approved in writing by the Departmental Geotechnical Engineer.

This waiver may be revoked if at any time, in the opinion of the Departmental Geotechnical Engineer, the requirements listed above have not been met. In the event of revocation of this waiver, subsequent material from this same source shall comply with the stockpiling, sampling and testing requirements of the current appropriate Department publications.

The crushed stone aggregate subbase course material shall be placed on the grade with a mechanical spreader box. The Departmental Geotechnical Engineer may waive this requirement, in writing, for locations where it is deemed not practical. In these situations, trucks shall be carefully unloaded on the grade at locations which minimize the distance the material must be moved. Uncontrolled spreading from piles dumped on the grade will not be permitted. The maximum layer thickness shall be 375 mm compacted. No highway or construction equipment traffic shall be permitted over the final finished subbase course surface except as necessary for the construction of the overlying pavement course at that location. Prior to final finishing of the course, however, traffic over the course may be permitted at locations designated by and under such restrictions as may be imposed by the Engineer.

The Contractor shall assume full responsibility for any contamination and/or degradation of any part of this course during construction and shall, at his own expense, remove any and all portions of this course which do not conform to the requirements of these specifications and replace these portions with specified material.

All compaction details shall be in accordance with Section 203.3.12, "Compaction." Compaction of any subbase course lift shall not lag spreading operations by more than 150 linear meters.

Any depressions that develop during rolling shall be filled with crushed stone aggregate subbase course material, and further rolled until the entire surface of the subbase course is true to grade and cross section. After compaction, the top surface of this course shall not extend more than 10 mm above, not more than 10 mm below, true grade and surface at any location. The course shall be compacted and completed to the above tolerance and approved by the Engineer before any pavement course is placed.

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Minor rutting due to hauling equipment may occur during the paving operations. If, in the opinion of the Engineer, this rutting becomes excessive, corrective procedures shall be taken. Rutting shall be considered excessive when the depressions in the wheel tracks exceed 25 mm when measured from the bottom of the rut to the underside of a straight edge laid across the depression. Excessive rutting shall be eliminated by recompacting the rutted areas. Additional crushed stone aggregate subbase material shall be added as necessary to bring the course to within the tolerances noted above.

### **METHOD OF PAYMENT**

The quantity shall be the number of cubic meters of material, placed and compacted in its final position, computed from payment lines shown on the plans, or where changes have been ordered, from payment lines established in writing by the Engineer.

### **BASIS OF PAYMENT**

The unit price bid for this work shall include the cost of furnishing all labor, material and equipment necessary to complete the work. The cost of adding water shall be included in the price bid unless the items for furnishing and applying water are included in the contract. No direct payment will be made for losses of material resulting from compaction, foundation settlement, erosion or any other cause. The cost of such losses shall be included in the price bid for this item. No deductions shall be made for the volumes occupied by manholes, catch basins and other such objects.

Progress payments will be made after the subbase course has been properly placed and compacted. Payment will be made at the unit price bid for seventy-five percent (75%) of the quantity. The balance of the quantity will be paid for after the final finishing to the required tolerance and just prior to the placing of pavement.