

Subbase, which price and payment shall each be full compensation for preparing the roadbed; furnishing all material; all freight involved; furnishing scales and labor involved in weighing the material; pulverizing and applying cement, water; all processing, mixing, spreading, sprinkling, compacting, finishing, and curing the cement modified subbase; and all manipulations, tools, equipment, fuels, labor, and incidentals necessary to complete the work.

Base that is deficient in thickness will be paid for at the reduced unit price as provided in Subsection **301.17**.

Payment for each item includes all direct and indirect costs or expenses required to complete the work.

Payment will be made under

Item No.	Pay Item	Pay Unit
3011XXX	Cement Modified Subbase (<i>thickness</i> " Uniform)	Square Yard
3013000	Portland Cement for Cement Modified Subbase	Ton

SECTION 302

SOIL-AGGREGATE SUBBASE COURSE

302.01 Description. This work shall consist of increasing the strength of the subgrade by the addition of crushed stone, gravel or slag and shall be constructed on a prepared subgrade or other surface in compliance with these specifications and conforming to the lines, grades, dimensions and typical cross-sections shown on the plans, or as directed by the Engineer.

MATERIALS

302.02 Aggregate.

A. Crushed Stone. Crushed stone shall be produced from tough durable stone and shall be free from soft, thin, elongated or laminated pieces, disintegrated particles, vegetable or other deleterious substances. Shale or shale-like aggregates not approved by the Engineer shall not be used. The crushed stone shall meet the grading requirements of Aggregate No. CR-14. When subjected to the Los Angeles Abrasion Test (AASHTO T 96) stone shall have an abrasion loss of not more than 65%. Only crushed stone obtained from Department approved sources shall be used.

B. Gravel. Gravel shall be composed of hard durable particles of clean stone, and shall be free from an excess of thin or elongated pieces and vegetable or other deleterious matter. Gravel shall meet the grading requirements of Aggregate No. CR-14. When subjected to the Los Angeles Abrasion Test (AASHTO T 96), gravel shall have an abrasion loss of not more than 65%. Only gravel obtained from Department-approved sources shall be used.

CONSTRUCTION REQUIREMENTS

302.03 Placing, Mixing, and Compacting. The aggregate shall be placed upon the approved subgrade. The spreading shall be accomplished in such a manner that the finished subbase will conform to the rates, lines, grades, dimensions and the typical cross-sections as shown on the plans or as directed by the Engineer. The aggregate subbase material shall then be thoroughly mixed with the subbase or subgrade to the depth specified by the Engineer. During the mixing operation, sufficient water shall be added as necessary to bring the moisture of the mixture to that required for proper compaction.

The mixture of soil and aggregate shall be spread and shaped to a uniform thickness and while at optimum moisture content, shall be consolidated until the aggregates are bonded, and the subbase compacted to at least 95% of the maximum dry density as determined by AASHTO T 180. A uniform, dense surface, free from loose material shall be required. Care shall be taken during the shaping and rolling operations to retain the material within the lines specified on the plans. If during the mixing and shaping operations the material becomes segregated, the material shall be re-mixed until a uniform mix is obtained.

The Department reserves the right to increase or decrease the length of road on which the aggregate is to be used from that shown on the plans or stated in the proposal and also to increase or decrease the quantity of materials to be used per square yard. Material used in excess of the authorized amount will not be measured for payment.

302.04 Weight Tickets. The net weight of each load of aggregate and the accumulated net weight of the loads for the day shall be recorded in duplicate upon forms suitable to the Engineer. The weighing shall be performed in accordance with Subsection **109.01**. With each load of materials delivered to the work, one copy of the weight ticket shall be presented to the Engineer. The tickets delivered to the Engineer shall be included and submitted along with the final construction plans.

At any time during the delivery of material and for the purpose of checking the weighing equipment, the Engineer may direct the Contractor to weigh on tested and approved platform scales, without additional compensation, any truck load that is to be delivered to the work.

302.05 Maintenance. The Contractor will be required to machine, water, roll and perform other operations necessary to condition and preserve the aggregate subbase course until the base is applied.

302.06 Method of Measurement. The quantity of soil aggregate subbase shall be the number of tons of this material as weighed in trucks on approved platform scales and incorporated into the finished work.

No deduction will be made for normal moisture found in the aggregate.

302.07 Basis of Payment. The soil aggregate subbase will be paid for at the contract unit price for Soil Aggregate Subbase, measured as provided in Subsection **302.06** above, which price and payment shall be full compensation for furnishing all materials, handling, weighing, hauling, placing all materials, preparing the subgrade or subbase, watering, mixing, shaping and compacting, as well as furnishing all, tools, equipment, labor, machinery, maintenance, and incidentals necessary to complete the work.

When aggregate meeting the requirements of Subsection **302.02** is used alone, it shall be paid for at the contract unit price for Aggregate No. CR-14.

Payment for each item includes all direct and indirect costs or expenses required to complete the work.

Payment will be made under:

Item No.	Pay Item	Pay Unit
3021000	Soil Aggregate Subbase Course Aggregate No. CR-14	Ton
3022000	Aggregate No. CR-14	Ton