

SECTION 6 – SUBBASE

6.1 SUBBASE *(Rev. 01-21-14)*

Most PCCP paving projects provide for a course of material to be placed under the pavement on a thoroughly compacted subgrade. The purpose of this subbase is to produce a uniformly composed foundation course for the pavement that is less susceptible to frost action and to eliminate the soil condition that contributes to subsequent pavement pumping.

There are two types of subbase utilized with concrete pavements. One is “Subbase for PCCP” and consists of two aggregate layers. The top layer consists of coarse aggregate No. 8 and serves as the drainage layer for the subbase. Water that enters the pavement structure will flow through this drainage layer to the underdrain system. The bottom layer consists of coarse aggregate No. 53, which serves as a separation layer for the subbase. Its function is to prevent the migration of fine particles from the subgrade to the drainage layer. The second type of subbase used is “Dense Graded Subbase” and it only consists of a 6 in. layer of coarse aggregate No. 53. Refer to the typical sections to determine which subbase type is utilized.

The source of subbase material must be on the Department’s list of certified aggregate producers. Stockpiling and spreading of the material shall be by approved methods to prevent segregation.

Offset grade stakes may be set on both sides of the subbase section. Then forms are placed, a scratch template will be used to check the subgrade. When forms are not used, checking shall be done by measuring proper ordinates down from a string stretched between the grade stakes. “Blue tops” may be set at subgrade elevation and used for final subgrade checking. A tolerance of 1/2 in. from true subgrade is allowable but it should be an average and not all one direction. If the contractor use GPS to control grades, the PE/S may require sufficient staking be done to be able to check grade.

Prior to placing subbase, the subgrade must be completed and approved in accordance with the specifications.

Subbase must be placed and compacted in accordance with Section 302 of the SS.

After the subbase has been completed to its finished grade, depth determinations should be made as required by the Frequency of Sampling and Testing Manual. If deficiencies are found, appropriate corrective steps must be taken. A permanent record should be kept of the date, location and depth of all checks, which shall be a permanent record to accompany the final construction record.

Unless otherwise specified, payment for subbase should be by theoretical volume of the section authorized. If subbase material is used beyond neat lines as shown on the plans, no payment will be paid for the excess material placed outside these lines.

The method for using the Light Weight Deflectometer for testing compaction of granular materials is found in ITM 508.

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