

203-R-562 DYNAMIC CONE PENETROMETER TESTING FOR EMBANKMENT

(Revised 10-21-10)

The Standard Specifications are revised as follows:

SECTION 203, BEGIN LINE 831, DELETE AND INSERT AS FOLLOWS:

203.23 Embankment Other Than Rock and Shale, With Density Control

~~Unless otherwise specified, all embankments shall be compacted to at least 95% of their maximum dry density. The moisture content shall be controlled within -2 and +1 percentage points of optimum moisture content. Maximum density and optimum moisture content shall be determined in accordance with AASHTO T 99 using method A for soil and method C for granular materials.~~

SECTION 203, BEGIN LINE 909, INSERT AS FOLLOWS:

203.24.1 Compaction Acceptance with DCPT

The compaction will be determined by dynamic cone penetrometer testing, DCPT, in accordance with ASTM D 6951 using a 17.6 lb (8 kg) hammer. The moisture content shall be controlled within -3 and +2 percentage points of the optimum moisture content determined in accordance with AASHTO T 99.

The Department will establish the criteria for DCPT acceptance of compaction by performing the sieve analysis, liquid limit, plastic limit, and optimum moisture and maximum density testing in accordance with AASHTO T 88, T 89, T 90, and T 99, respectively, on representative samples of the soils to be used. The required blow counts will be determined based on the laboratory tests for each soil type.

Test sections shall be constructed in the presence of a Geotechnical representative with the available equipment of the Contractor to determine the roller type, pattern, and the number of passes for verification of the blow counts for a 6 in. (150 mm) lift. The Office of Geotechnical Engineering will be contacted prior to construction of the test sections to determine the number of test sections required for the evaluation of the DCPT process. The embankment shall be constructed in two 6 in. (150 mm) successive lifts placed in accordance with 203.23. The Engineer will select an area approximately 100 ft (30 m) long and 20 ft (6 m) wide within each lift for a test section. The test section in the second lift will be approximately in the same location as the test section in the first lift. The soil immediately below the test section in the first lift shall be proofrolled in accordance with 203.26 prior to construction of the lift.

Moisture tests will be performed in accordance with ITM 506 at 2 random locations and DCPT will be performed at 4 random locations in each lift. The locations will be determined in accordance with ITM 802. The moisture content shall be controlled within -3 and +2 percentage points of the optimum moisture content. Blow counts greater than 10 or less than 4 will be discarded and a new random test location will be selected in the test section in that lift. If all of the test section blow counts are outside of the range of 10 to 4, the Office of Geotechnical Engineering will be contacted for determination of the target blow counts.