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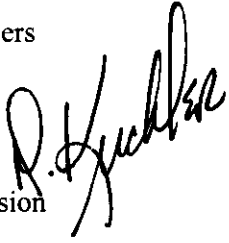
May 9, 2005

**MEMORANDUM
05-08**

TO: District Directors
District Construction Engineers
Toll Road Operations Engineer
District Material & Tests Engineers
District Area Engineers
Project Engineers/Supervisors

FROM: Dennis A. Kuchler, Chief
Contracts and Construction Division

RE: Dynamic Cone Testing of Chemically Modified Subgrade



The Division of Materials and Tests is recommending an alternative testing procedure to conventional (nuclear gauge, sand cone, etc.) methods of density testing of chemically modified soils on two projects per district for the 2005 construction season. This method is based on the Dynamic Cone Penetration Testing (DCPT) in accordance with ASTM D 6951-03. The Material and Tests Division has been using DCPT successfully for the last few years. This test involves dropping a 17.6 lb hammer along a 0.625 inch diameter rod over a free fall height of 22.6 inches and recording the number of blow counts required to develop a specific penetration depth. The Materials and Tests Division will be providing each District Testing Engineer with two DCPT units. Training and other support will be provided for district construction personnel who will be performing these tests.

In order to accommodate this testing, the contractor will be required to perform DCPT in conjunction with the chemical modifier mix design process contained in 215. The Geotechnical Consultant will have to provide the required number of blow counts associated with a six inch penetration of the chemically modified subgrade compacted at 95% and 100%. These blow counts will be the basis for compaction control. Moisture tests will be performed in accordance with ITM 506.

The Material & Tests Division is in the process of developing the forms necessary for the recording of the DCPT results.

The utilization of DCPT should simplify density determination and time delays associated with testing chemically modified subgrade compaction with a sand cone or a nuclear gauge.

DAK:JGJ;jgj

cc: Operations Support Division