MISSISSIPPI DEPARTMENT OF TRANSPORTATION

Inter-Departmental Memorandum

TO: Design Team Leaders **DATE:** January 12, 2004

FROM: Steven W. Reeves
Quality Control Engineer

SUBJECT OR PROJECT NO: Quantity Calculations

INFORMATION COPY TO: **COUNTY:**

Roadway Design Division Engineer (Pickering)
Assistant Roadway Design Division Engineer (Purvis)
Special Projects Engineer (Boteler)
Roadway Design Section Engineers
Construction Division (Lewis & Funchess)
District Engineers
Active Consultants
FHWA
Files

In the future, the cement rates for chemical treatment shall be 4% for subgrade stabilization and 5.5% for base stabilization. Please see examples below.

SUBGRADE STABILIZATION
CEMENT TREATMENT **(note: cement rates are measured by volume)**

Application rate = 4% cement by volume
Weight of cement = 94 lbs per cubic foot

Mixing: width (ft) x length (ft) x 1/9 = SY
Cement: width (ft) x length (ft) x depth (ft) x %cement/100 x 94#\cf x Ton/2000# = Ton

Example: Treating 100 ft of subgrade, 30 ft wide and 6 inches deep
Mixing = 100 x 30 x 1/9 = 333.33 SY
Cement = 100 x 30 x 0.5 x 4/100 x 94 x 1/2000 = 2.82 Ton

BASE STABILIZATION

CEMENT TREATMENT (**note: cement rates are measured by volume**)

Application rate = 5.5% cement by volume
Weight of cement = 94 lbs per cubic foot

Mixing: width (ft) x length (ft) x 1/9 = SY
Cement: width (ft) x length (ft) x depth (ft) x %cement/100 x 94#\cf x Ton/2000# = Ton

Example: Treating 100 ft of Cl. 9, Gp. C granular material, 30 ft wide and 6 inches deep
Mixing = 100 x 30 x 1/9 = 333.33 SY
Cement = 100 x 30 x 0.5 x 5.5/100 x 94 x 1/2000 = 3.88 Ton

The application rates and equations shown above are to be used unless otherwise advised. Application rates are to be shown on typical sections. If you have any questions, please advise.

SWR/swr