Florida Department of Transportation

CHARLIE CRIST
GOVERNOR

605 Suwannee Street
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STEPHANIE KOPELOUSOS
SECRETARY

December 13, 2010

Monica Gourdine
Program Operations Engineer
Federal Highway Administration
545 John Knox Road, Suite 200
Tallahassee, Florida 32303

Re: Office of Design, Specifications
Section 921
Proposed Specification: 9210100 Portland Cement and Blended Cement.

Dear Ms. Gourdine:

We are submitting, for your approval, two copies of the above referenced Supplemental Specification.

These changes were proposed by Susan Blazo of the State Materials Office to include Type II (MH) cement. This gives the Department the ability to specify a cement type with a moderate heat of hydration in applications where heat is critical, such as mass concrete and extremely aggressive environment.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via email to SP965RP or rudy.powell@dot.state.fl.us.

If you have any questions relating to this specification change, please call Rudy Powell, State Specifications Engineer at 414-4280.

Sincerely,

Rudy Powell, Jr., P.E.
State Specifications Engineer

RP/cah
Attachment
cc: Gregory Jones, Chief Civil Litigation
Florida Transportation Builders' Assoc.
State Construction Engineer

PORTLAND CEMENT AND BLENDED CEMENT.
(REV 9*10*-2*1*~~0~~-10)

ARTICLE 921-1 (Page 845) is deleted and the following substituted:

921-1 General.

921-1.1 Type of Cement: Cement shall conform to the requirements of the following AASHTO designations except where a particular type of cement is specified on the plans or Specifications, and as specifically restricted in Section 346, cement may be Types I, II, *II (MH),* III, IV, V (AASHTO M-85), or IP, IP (MS), IS (AASHTO M-240). Different brands of cement, cement of the same brand from different facilities, or different types of cement shall be stored separately and shall not be mixed.

921-1.2 Alkali Content: Only Portland cement containing a maximum of 0.60% alkali, or less, calculated as Na_2O (% Na_2O plus 0.658% K_2O), may be used with no further testing. When tests performed in accordance with ASTM C-33 X1.3 on coarse and fine aggregate indicate the aggregate to be non-reactive to alkalis, cements exceeding 0.60% alkali is allowed~~,but a supplementary cementitious material meeting the requirements of Section 929 shall be used~~.

921-1.3 Heat of Hydration: ~~When the~~ *The* cement heat of hydration ~~is~~*for Type II (MH) shall be* 80 cal/g or less at seven days~~, the cement may be used in moderately and slightly aggressive environments without pozzolans or slag. If the heat of hydration is between 81 and 88 cal/gm at 7 days, pozzolans or slag meeting the requirements of Section 929 shall be used. If the heat of hydration is greater than 88 cal/gm at 7 days, use cement in slightly aggressive environments only~~ *in accordance with ASTM C-186*.

~~Do not apply these requirements to Type I or III cement.~~

PORTLAND CEMENT AND BLENDED CEMENT.
(REV 10-21-10)

ARTICLE 921-1 (Page 845) is deleted and the following substituted:

921-1 General.

921-1.1 Type of Cement: Cement shall conform to the requirements of the following AASHTO designations except where a particular type of cement is specified on the plans or Specifications, and as specifically restricted in Section 346, cement may be Types I, II, II (MH), III, IV, V (AASHTO M-85), or IP, IP (MS), IS (AASHTO M-240). Different brands of cement, cement of the same brand from different facilities, or different types of cement shall be stored separately and shall not be mixed.

921-1.2 Alkali Content: Only Portland cement containing a maximum of 0.60% alkali, or less, calculated as Na_2O (% Na_2O plus 0.658% K_2O), may be used with no further testing. When tests performed in accordance with ASTM C-33 X1.3 on coarse and fine aggregate indicate the aggregate to be non-reactive to alkalis, cements exceeding 0.60% alkali is allowed.

921-1.3 Heat of Hydration: The cement heat of hydration for Type II (MH) shall be 80 cal/g or less at seven days in accordance with ASTM C-186.