Design Standards Letter

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Section/Plan No.: S0101, S0108, S0109, S0301, S0401, S0402, S0403, S0404, S0501, S0502, S0601, S0613, S0702, S0702, S0703, S0712, S0715, S0902, S0903, S1002, S1005, S1015, S1018, S1019, S1026, S1041, S1042, S1045, S1057, S1057

Subject: Revised General Special Provisions and Form D-14

Body

Attached are copies of revised General Special Provisions and form D-14.

A brief description of the latest revisions follows:

D-14. Sec 601 Field Laboratories, Sec 715 Vertical Drain at End Bents, Sec 1002 Aggregate for Asphaltic Concrete and Sec 1045 Paint for Structural Steel and Wood have been added. Throw-in Provisions, Portland Cement Concrete - Volumetric Batching and Continuous Mixing and Use of Fly Ash in Concrete have been removed from checklist and placed in Sec 501.

Sec 101. Add definition of Central Laboratory

Sec 108. Sec 108.7.3 describes methods for charging the contractor the costs incurred by the department when it becomes necessary to correct signal malfunctions on new projects.

Sec 109. In Sec 109.4.4 the rate the contractor will be allowed will now be based on the Rental Rate Blue Book for Construction.

Secs 301, 401, 402, 403. The revisions to Secs 301, 401 and 402 mainly change sieve sizes to provide continuity between all bituminous sections and tolerance requirements on percent asphalt content and clarify truck bed covering requirements. These are only partial revisions of these sections. The revision for Sec 403 replaces the entire specification. The revision combines the current standard specifications with MR SP-5B (Limestone Porphyry) MR SP-6A (Limestone-Steel Slag) and MR SP-40B (Type I-B and I-C).

Sec 404. The revisions for Sec 404 require only one asphalt cement storage tank and an automatic locking device to prevent material from being discharged from the surge bin when the surface of the material has been drawn down to the top of the sloped portion of the bin. This is only a partial revision to the specification.

Sec 501. Added the item "Fly Ash" to the table in 501.2.1.

Sec 501.2.2.3 and 501.8.1 include requirements when gradation F aggregate is used. 501.5.13 updates requirements for field labs. Sec 501.6 was added and replaces throw-in provision Portland Cement Concrete - Volumetric Batching and Continuous Mixing. Sec 501.8 and 501.9 were renumbered to 501.9 and 501.10 and the last sentence in each was deleted. Sec 501.13 was added and replaces throw-in provision Use of Fly Ash in Concrete.

Secs 502 and 601. Sec 502.3.17, 601.2 and 601.3 update requirements for field laboratories.

Sec 613. The entire Sec was replaced and should be reviewed along with Standard Drawing 613.00B.

Sec 702. Secs 702.4.3, 702.4.5.1, 702.4.7 and 702.6.7 were revised to clarify the time period for prebore, number of pile splices and eliminate System A protective coating.

Sec 703. Sec 703.3.14 and 703.3.14.1 were revised to clarify prodcures for placing and finishing deck concrete on bridges. The table in 703.2.1 had a minor revision.

Sec 712. This section contains several revisions primarily dealing with welding and revisions to the latest AWS specifications. Further, the requirements for red lead paints have been deleted.

Sec 715. This is a new specification to replace MR SP-32B entitled Vertical Drain at End Bents.

Sec 902. This contains a large number of revisions to the section on signals, updating the requirements to those presently in use and available from the industry. Secs 902.2.1, 902.5.9 and 902.5.9.1 were revised to clarify the procedures for charging the contractor for time, labor and equipment when required.

Sec 903. Section 903.5.6 and 1042.2.8.1 were revised to require that

reflectorized backgrounds be used for all shoulder mount signs on both the freeway and interstate systems.

Sec 1002. The revision for Sec 1002 replaces the entire specification. Only two paragraphs remain unchanged. The revision includes current standard specification with MR SP-41B (Type I-B and I-C) and provisions from MR SP-5B (Limestone-porphyry) and MR SP-6A (Limestone-Steel Slag).

Sec 1005. Sections 1005.1.4.4 and 1005.1.4.5 delete gradation C paving stone and adds a finer gradation paving stone (gradation F).

Sec 1015. A table in 1015.1.6 was added to specify the test methods to be used.

Sec 1018. Section 1018 was completely replaced.

Sec 1019. Sections 1019.3.3 and 1019.3.4 were revised to clarify the intent of the specifications.

Sec 1026. Section 1026.4 was revised to allow the use of fly ash.

Sec 1039. Complete replacement of Sec 1039 to include the necessary requirements for epoxies presently needed.

Sec 1041. Section 1041.2 was revised to change the requiremets for construction signs with less than 16 sq. ft.

Sec 1042. Sections 1042.2.7.4, 1042.2.7.5, 1042.2.8.3 and 1042.2.9 were revised to add the requirements for daytime color of the reflective sheeting and to add photometric requirements for red acrylic plastic delineators.

Sec 1045. Several sections of 1045 have been revised to eliminate specifications for "red lead" paint System A and to bring the requirements for zinc pigment in line with ASTM specifications.

Sec 1057. Sections 1057.2.6, 1057.2.7 and 1057.3 were revised to delete joint sealants containing asbestos fiber and change requirements for plastic joint material for vitrified clay and concrete pipe.

The above revisions are effective with the February 23, 1990 letting. To view the Special Provision for Channelizers, hit the PF1 key.

FLEXIABLE NON-METALLIC DRUM-LIKE CHANNELIZERS January 1990

1.0 Description. This work shall consist of furnishing and placing reflectorized flexible non-metallic drum-like channelizers used for traffic control as specified in the contract or as directed by the engineer.

2.0 Materials
Channelizers shall be manufactured from a plastic polymer, plastic copolymer, rubber elastomer, or any other non-metallic material which can be compounded to meet the requirements of this specification.

2.2 Channelizers shall be pigmented and molded of a Highway Orange color throughout and stabilized against fading by ultra-violet or other light rays by the incorporation of adequate inhibitors.

2.3 Channelizers shall be approximately 36 inches high and a minimum of 18 inches in diameter if circular in shape. If other than circular, the minimum side to side dimension at the narrowest point shall be 18 inches.

2.4 Reflective markings shall be horizontal, circumferential, alternating orange and white stripes 4 to 8 inches wide. If there are non-reflectorized spaces between the horizontal orange and white stripes they shall be no more than 2 inches wide. The reflectorized stripes shall be Type 2 reflective sheeting meeting the requirements of Sec 1042 unless otherwise noted on the plans. There shall be at least two orange and two white stripes on each channelizer laid out in accordance with Section 6C-6 of the Manual on Uniform Traffic Control Devices as shown on the plans.

2.5 The channelizer shall be a two-piece closed top breakaway design and shall be capable of being securely fastened together in such a manner as to prevent accidental separation from air turbulence created by such things as passing trucks or normal winds, but be capable of separating if struck by a vehicle. The base shall contain a self-draining storage compartment for ballast. The ballast, consisting of loosely filled sand bags or loosely shoveled sand, shall be stored in the base in such a manner that it will not become a projectile upon impact. The weight of the ballast shall not exceed 50 pounds. The base shall be low enough to allow a vehicle to pass over it without making contact with the undercarriage. Channelizers shall exhibit good workmanship and shall be free of objectionalble marks or defects which affect appearance or serviceability. Channelizer seams shall be equal in strength to the rest of the channelizer.

2.6 The top surface of the channelizer, including any recessed areas, shall be designed to drain.

3.0 Approval and Prequalification.

3.1 Prior to approval and use of flexible non-metallic drum-like channelizers, the supplier shall submit to the Division Engineer, Materials and Research, a fabricator's certification stating the channelizers conforms to all of the requirements of these specifications. The certification shall include the brand name or model number, channelizer dimensions, and the type, grade, manufacturer, and the number and width of stripes for each color of reflective sheeting. The certification shall also include certified test results that comply with the following requirements:

3.1.1 Two randomly selected channelizers representative of those to be used on MHTD projects were subjected to three direct impacts by a vehicle moving at 55 miles per hour whose bumper height was approximately 20 inches above ground.

3.1.2 Following the three impacts, the channelizers were inspected and found to have:
a. only negligible damage to the impacted vehicle and no injury would have been sustained by occupants.

b. no hazard created by any separation of the channelizer from its snap-on base with ballast.

c. no part of the unit or ballast trapped under the vehicle.

d. no permanent deformation or damage to the channelizer that impairs its function or physical appearance which renders it unusable.

e. no significant loss of effectiveness of the reflective material.

A new certification will be required upon any modification of the channelizer or or any change in the formalation of the plastics used in its manufacture.

3.2 Upon satisfactory submittal of a fabricator's certification, the brand name or model number will be placed on a prequalified list and will remain on the list as long as the brand name or model number does not change and continued satisfactory results are obtained. The brand name or model number shall be clearly visible on each channelizer.

4.0 Basis of Acceptance. Channelizers furnished under this specification will be accepted for use on the basis of brand name or model number upon receipt provided they are on the prequalified list. After being received on the project, should the engineer determine that the channelizer constitutes a potential hazard to traffic because of rupture, excessive damage to an impacting vehicle, or other hazardous behavior, the channelizer shall not be used for

traffic control and shall be replaced with an approved channelizer.

5.0 Basis of Payment. Payment for flexible non-metallic drum-like channelizers will be in accordance with Section 616.