April 3, 2009

HMA SHOULDER WIDENING COURSE

412 HMA Shoulder Widening Course

412.1 Description

This work consists of an HMA Shoulder Widening course to provide a non-structural, economical mixture to be used primarily for two foot widening of asphalt shoulders. This mixture is not intended to be used as a final riding surface course. This mixture must be mixed in an approved plant and constructed in accordance with the lines, grades, dimensions, thickness and typical cross section shown on the plans or as otherwise specified. All applicable special provisions and sections of the Standard Specifications, except as noted herein, will apply.

412.2 Materials
412.2.1 Aggregates

Use aggregates in the HMA Shoulder Widening Course meeting the applicable requirements of Subsection 401.2.2 of the Standard Specifications. Coarse aggregates, stone screenings, natural sand, and recycled asphalt are permitted in this mixture. Ensure that the parent stone or gravel meets the Los Angeles Abrasion requirements specified in Subsection 401.2.2.4 of the Standard Specifications. Recycled asphalt materials may be used up to 50%, and calculated combined viscosity limits do not apply.

412.2.2 Asphalt Binder

Use asphalt binder that conforms to all requirements of AASHTO M320 meeting PG64-22 performance grade unless otherwise specified.

412.2.3 Anti Strip Additive

Hydrated lime may be used as an asphalt anti-stripping additive provided it meets the requirements of AASHTO M303, Type 1. Blend the hydrated lime with the damp aggregate at a rate of 1.0% by weight of dry aggregate and meet all requirements of Subsection 401.2.1.3 and Subsection 401.3.3 of the Standard Specifications. Liquid anti-strip additive may be use in lieu of hydrated lime in accordance with SC-M-406.

412.3 Composition of Mixture

Conduct a mix design in a certified laboratory by a certified HMA Level IIS mix design technician. Submit the mix design to the AME for approval under the normal base mix criteria. Combine the aggregates with asphalt binder in such proportions that the composition by weight of the aggregate is within the limits specified below.

Sieve Designation		% By Weight Passing
1 ½”	(37.5 mm)	100
1”	(25.0 mm)	80-100
½”	(12.5mm)	75-92
No. 4	(4.75 mm)	45-65
No. 8	(2.36 mm)	35-55
Required Job Mix and Field Criteria		
Binder Content (%)		3.8 – 5.2

Submit the mixture composition to the AME for approval at least 30 working days prior to construction of mixture. Dust/Asphalt Ratio and Moisture Susceptibility requirements do not apply to this mixture.

Field Criteria is based on the tolerances found in Subsection 401.2.3.3 of the Standard Specifications. Do not extend the tolerance range beyond the mix design range limits.

412.4 Construction Requirements

412.4.1 General

Conform all work to Section 401 of the Standard Specifications and other applicable supplemental specifications and special provisions except when noted in this specification. Construct and compact the HMA Shoulder Widening Course in a manner that provides the desired in-place compaction, and provides a smooth riding surface.

412.4.2 Roadway

412.4.2.1 Tack Coat

Apply a tack coat of approved emulsified asphalt to the area on which the HMA Shoulder Widening Course will be placed. Conform the tack coat materials and method of application to the requirements of Subsection 401.4.18 the Standard Specifications.

412.4.2.2 Temperature Requirements

Conform the placement of this mixture to the weather and surface temperature restrictions and mixture preparation and delivery temperature restrictions of Section 401 of the 2007 Standard Specifications.

412.4.2.3 Spreading, Finishing, and Compaction

Spread the HMA Shoulder Widening Course at the rate of 400-600 pounds per square yard and promptly roll it with an 8 – 12 ton tandem steel-wheel roller. Cease rolling as soon as the mixture is properly seated to the underlying surface.

412.5 Acceptance

Base acceptance of this mixture on SC-M-400, and conform to the stipulations for Asphalt Aggregate Base Course. The acceptance will be based on binder content and gradation only.

412.6 Measurement

Measure and pay for this work as specified in Subsection 401.5 and Subsection 401.6 of the Standard Specifications.

412.6 Payment

Payment will be made under:

Item No.	Item	Pay Unit
3104000	HMA Shoulder Widening Course	Ton
4011004	PG 64-22	Ton