

CONSULTING ENGINEERS
GENERAL MEMORANDUM 09-01

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING AND
HIGHWAY OPERATIONS
OFFICE OF ENGINEERING

New Bridge Design Standard Practice

January 22, 2009

To: CONSULTING ENGINEERS

The "Bridge Design Standard Practices" are hereby revised to include the new enclosed standard practice entitled "Superpave on Bridge Decks". This bridge design standard practice supersedes a standard practice issued via Consultant Engineer General Memorandum 08-07 dated November 25, 2008 that contained an error in the superpave base course material designation.

Very truly yours,

Thomas A. Harley, P.E.
Manager of Consultant Design
Bureau of Engineering and
Highway Operations

Enclosure

BRIDGE DESIGN STANDARD PRACTICES

The following standard practice has been established by the Department.

Superpave on Bridge Decks – revision to pavement grade and thickness

The standard bituminous concrete superpave makeup on bridge decks is revised from the prior standard of a 1” Superpave No. 4 base course and 1-1/2” Superpave 0.5 top course. The base course will now be 1” of a newly developed HMA S0.375 and a 2” top course of HMA S0.5. The HMA S0.375 will replace Superpave No. 4 due to its limited availability. The thickness of the top course of HMA S0.5 is increased to 2” for improved ease of compaction and durability on all new bridges and on all existing bridges that have adequate capacity to sustain the additional superimposed deadloads. As the 3” bituminous concrete overlay will impose an additional superimposed dead load on an existing bridge, it will be necessary to prepare bridge load rating analyses on all existing bridges proposed to receive the 3” overlay. Existing bridges that have inadequate capacity to sustain the additional superimposed dead loads will be overlaid in accordance with the criteria explained in the following “New Practice” below:

New practice:

The minimum thickness of the bituminous overlay atop the membrane waterproofing shall be 3” on all new bridges as well as all existing bridges that have adequate load carrying capacity. The 3” bituminous overlay shall be comprised of a 1” bottom course of HMA S 0.25 and 2” top course of HMA S0.5.

Existing bridges that do not have adequate load carrying capacity for a 3” overlay shall receive a 2-1/2” deep overlay comprised of a 1” bottom course of HMA S0.25 and 1-1/2” top course. The top course shall be comprised of HMA S0.375, except for bridges located within the stopping sight distance of intersections and/or having longitudinal descending grades exceeding 3% which shall receive a top course of HMA S0.5.

On new decks where it is necessary to increase the overlay thickness to obtain the proper profile and cross-slope, such as bridges composed of adjacent box members, the bituminous concrete overlay shall have a top and bottom course, and an intermediate wedge course. The bottom course shall be a uniform 1” thick. The intermediate wedge course shall vary in thickness to achieve the desired profile and cross slope. A detail and /or note shall be included on the plans providing pavement lift requirement for the intermediate wedge course. The top course shall be a uniform 2” thick.

Standard parapet height and geometry above the top course of bituminous pavement on all new bridges shall be maintained in accordance with the Bridge Design Manual plates 6.2.1 and 6.2.2. Parapet geometry above overlay elevation on new bridges shall be maintained by increasing parapets height 1/2” in its base area. Parapet height modifications will not be required on existing bridges receiving 3” superpave overlays.