Illinois Department of Transportation

Memorandum

To:	Studies and Plans Squads	PPM 40-07	
From:	P. A. Tegeler	Revised by:	Tim Brandenburg
Subject:	Hot-Mix Asphalt Mixtures		
Date:	September 30, 1993	Revision Date:	December 5, 2006

PLAN PREPARATION MEMORANDUM 40-07

BACKGROUND

This memorandum combines and supercedes Plan Preparation Memorandums 85-152.P dated 02-05-85, 85-135.P dated 11-21-83, 70-22.P dated 10-26-70, 63.9 dated 10-21-63, 90-125.S dated 07-20-90, 83-133.P dated 09-13-83, and supplements the BDE Manual, Chapter 53-4 in providing uniformity of district preference concerning the use of Hot-Mix Asphalt Mixtures.

Coordination with the District Bureau of Project Implementation (Materials): Early in the development of a project the Squad Leader should contact the Bureau of Materials to find out if there are any job specific requirements or suggestions. The Squad Leader should be prepared to provide information on job location, traffic forecast (current ADT w/S.U. & M.U. %'s.), scheduling, proposed resurfacing thicknesses, existing base materials and conditions (rutting, raveling, slag mixes, etc.).

PROCEDURE

Plan Details and Notes: When resurfacing sections have an omission for resurfaced sections the existing resurfacing will be removed to allow for a butt joint rather than a rundown. Also use butt joints at the ends of the section if the adjacent pavement has been resurfaced.

Normally on the typical cross sections only the target application rates (pounds per square yard) should be shown. Do not show thicknesses of proposed resurfacing on typical cross sections unless thickness controls as when matching a curb. In such cases, show thickness but not pounds per square yards. See applicable General Notes.

Keep in mind that the Ndes (N30, 50, 70, 90, 105) of mix relates to the stability of the bituminous concrete while the Mixture (C, D, E, or F) relates only to skid resistance. For “Half Smart” jobs, the appropriate “Type” of mix should be used. However, Mixture C should suffice for all ‘Half Smart” jobs as they receive a skid resistant seal coat.

Calculation of Quantities: Plan quantities should be intended to provide plan thickness and any specifically intended superelevation or crown corrections within the planned scope of the job.

The following should be taken into consideration when calculating quantities using current resurfacing policies (2¼”, 2½”, and 3¾” resurfacing):

1. If additional Leveling Binder is required to correct the existing crown, show the weight needed on the typical cross sections. Do not just use 84 pounds per square yard (¾ inch) if more is needed.

2. If cold-milling is used, this should correct the crown in most cases.

3. Whether the widening is to be level or is to be sloped 3/16” per foot (same as the crown), indicate it on the typical cross sections.

4. If the existing profile is irregular, we may want to have a profilograph run on the section, or part of the section, to better estimate the quantity of Leveling Binder required.

5. If the existing crown is irregular, too steep or too flat, it may be worthwhile to verify cross sections in the field to help define the milling scheme and intent as well as to identify any areas where additional leveling binder is needed.

6. Leveling Binder and/or Binder should not be rounded up by any arbitrary percentage. The Standard Specifications allow 3% overrun.

Hot-Mix Asphalt Widening or Patching: The District Bureau of Project Implementation (Materials) has asked us to use binder mix for Base Course, Base Course Widening, or Patching. This will also apply for shoulder detours and for Interstate shoulders where truck parking is a problem. The binder mix shall be the same "Ndes" as used for the resurfacing on the job.

This change will eliminate the use of BAM for these applications. The BAM mixture has been problematic because the proportioning specification is not detailed.

General Note 406H addresses the materials requirement.

Consistency of Mixture Types: All mixture Ndes numbers in a pavement structure should be the same. For example, if an Ndes=50 surface is called for Ndes=50 leveling binder and/or binder should be used. Contact Project Implementation (Materials) if there are any questions.