



**SPECIAL PROVISIONS
FOR
WARM MIX ASPHALT WITH RECYCLED ASPHALT SHINGLES**

**Muscatine County
HSIPX-061-4(107)--3L-70**

**Effective Date
July 20, 2010**

THE STANDARD SPECIFICATIONS, SERIES 2009, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS AND APPLICABLE DEVELOPMENTAL SPECIFICATIONS.

090087.01 Description.

This work consists of HMA shoulder paving in cooperation with Iowa DOT and Iowa State University research. Mixtures containing RAP, recycled asphalt shingles (RAS), and warm mix asphalt (WMA) shall be produced and placed according to the following requirements.

090087.02 Materials.

- Mix Design
 1. Test Section S1 (Control)
Design and submit for approval, a WMA mixture which contains approximately 20% binder replacement (80% virgin) from RAP only.
 2. Test Section S2
Design and submit for approval, a WMA mixture containing 5% RAS and a percentage of RAP which results in a combined binder replacement of approximately 30%.
 3. Test Section S3
Design and submit for approval, a WMA mixture containing 7% RAS and a percentage of RAP which results in a combined binder replacement of approximately 30%.
- The Contractor may request an HMA test strip
- Produce and place the mixtures such that each appears in each lift in approximately equal quantities.
- Design, production and placement of WMA mixtures shall adhere to the Developmental Specifications for Warm Mix Asphalt. Do not use a water-injection system. Moisture sensitivity testing for shoulder mixtures used on this project shall be for information only and is not subject to penalty.
- RAS shall adhere to the Developmental Specifications for Recycled Asphalt Shingles. Do not use pre-consumer RAS.
- Adjust the prescribed binder grade as required by Materials I.M. 510 and the Developmental Specifications for Warm Mix Asphalt
- Do not use multiple RAP sources.

090087.03 Research Sampling.

Provide advanced notification of mixture placement to the Engineer such that research sampling can be coordinated. Provide safe access to Iowa State University research personnel at the plant and on the grade to collect samples. Research samples shall be for information only.