



WSDOT

High Binder Replacement



Steve Landers – WSDOT Materials Laboratory
PCCAS Paving Asphalt Committee Meeting
November 15th, 2017

Current Practice

- ▶ For mix designs with High RAP/Any RAS
 - ▶ Test the RAP and RAS during stockpile construction
 - ▶ RAP Every 1000 tons
 - ▶ RAS Every 100 tons
 - ▶ Report the test data to the Contracting Agency on WSDOT Form 350-042 as part of the mix design submittal for approval on the QPL
 - ▶ Do not add to these stockpiles after starting the mix design process.



Maximum Amount of RAP and/or RAS in HMA Mixture

Binder Replacement


- RAP – 40% minus contribution of binder from RAS
- RAS – 20% Maximum

- Calculated as the weight of asphalt binder contributed as a percentage of the total weight of the asphalt binder in the mixture



Mix Design Process

Contact Data

- ▶ Perform Extraction and Recovery of recycled materials
 - ▶ Test recovered asphalt Residue per AASHTO R29 to determine asphalt binder grade
 - ▶ Determine the % of recycling agent and/or grade of new asphalt binder in accordance with ASTM D4887
 - ▶ Test final blend of recovered binder from **RAP/RAS**, **new asphalt binder** and **recycling agent** in accordance with AASHTO R29
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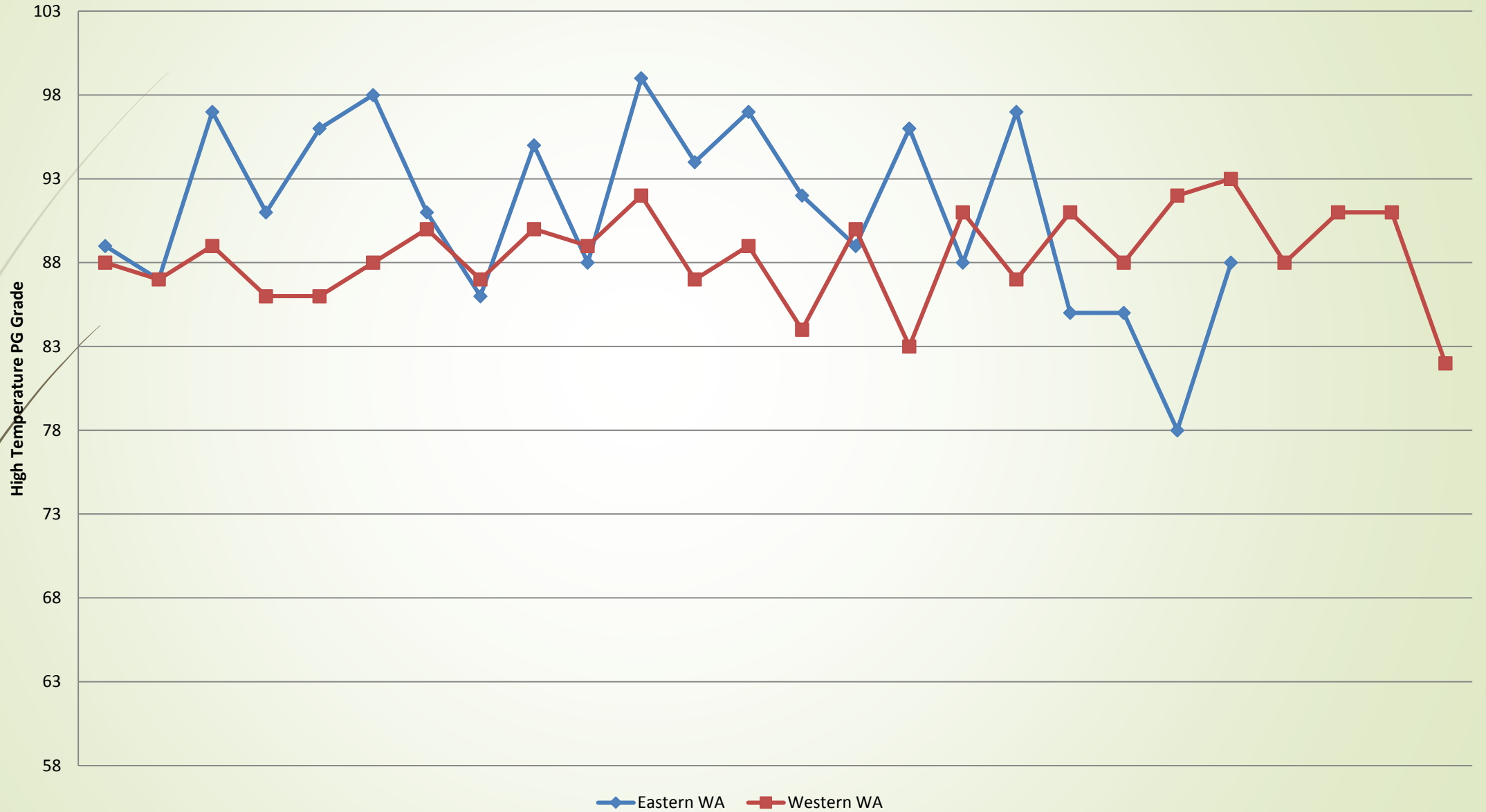
Final Blend

Contact Data

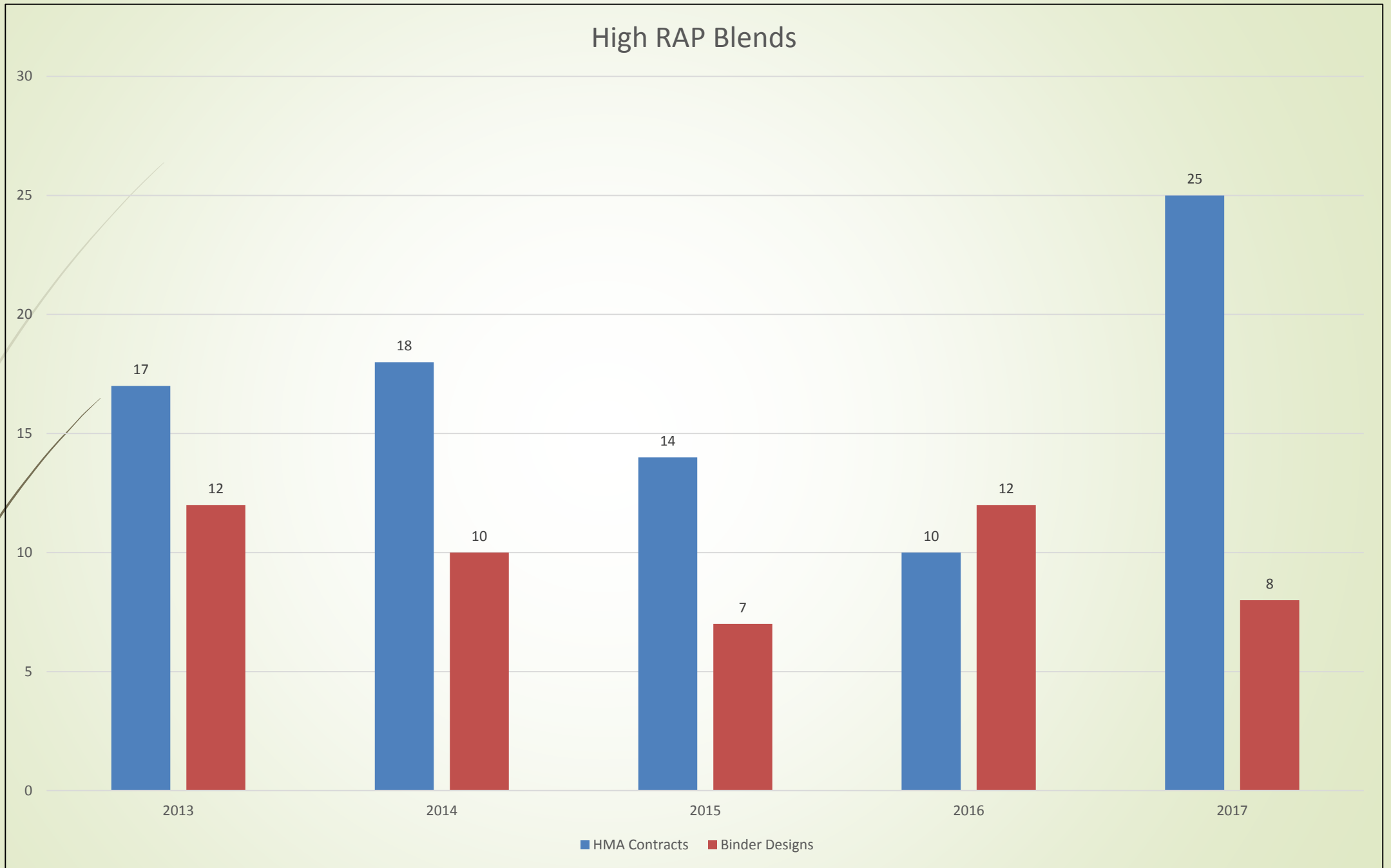
- ▶ Shall meet but not exceed the performance grade required by the Contract
- ▶ Comply with the requirements of Standard specification 9-02.1 (4)
- ▶ Submit data to WSDOT Materials Lab for verification (including all test data from stockpiles, HMA and binder)
- ▶ Representative samples of Aggregate, RAP, RAS and 150 grams of recovered asphalt residue from associated stockpiles

RAP PG Grade

contractor Supplied Data

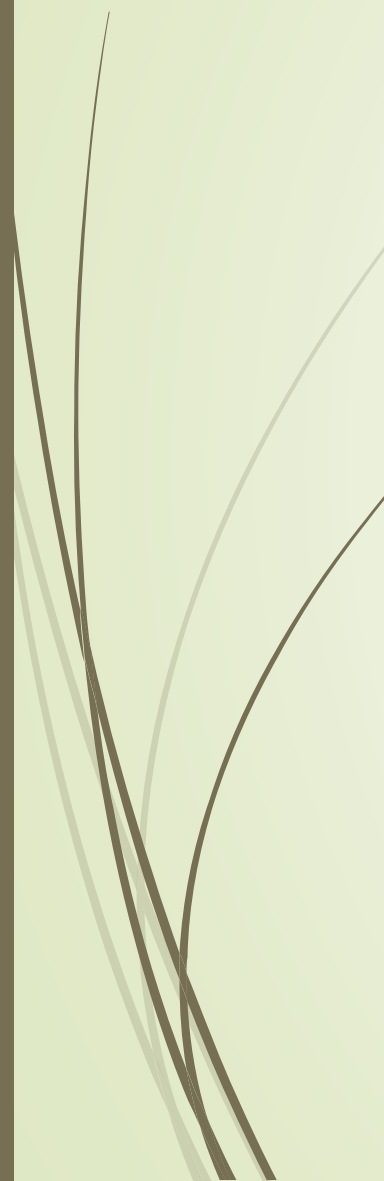


High RAP Blends











04/12/2017