



Materials Division
2013 Fall Asphalt Conference

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State Materials Engineer

Materials Division Updates

Organizational Program Alignment

Asphalt Quality Task Force Recommendations

VDOT's Pavement Recycling Initiative

MITS – PLAID data system implementation

New Pavement Design Methodology – “MEPD”

Organizational Program Alignment

New Asphalt Laboratory Program Manager

Establishment of 2 Asphalt Field Engineer positions – *Provide technical assistance to Program Manager and field staff such as; troubleshooting and field support of program initiatives*

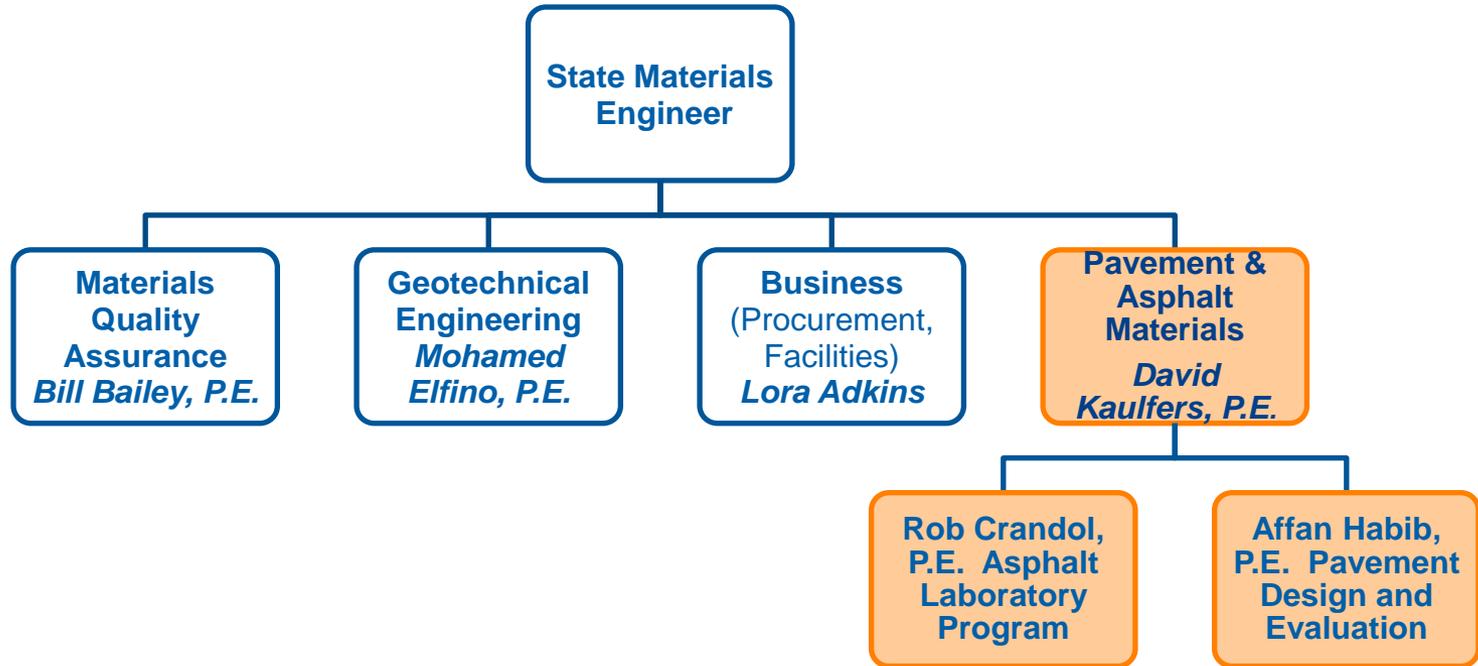
Richmond/Hampton Roads/Fredericksburg region

NoVA/Culpeper/Staunton region

FUTURE: Additional Field Engineer dedicated to Salem/Bristol/Lynchburg as resources permit

Coupling of Asphalt Laboratory Program with Pavement Design and Evaluation Program

Organizational Program Alignment



Asphalt Quality Task Force

Established in 2012 by former Chief Engineer;

Purpose: *“...to develop recommendations that will promote high quality asphalt construction on all VDOT roadways.”*

Task Force comprised of VDOT, VCTIR, and VAA representatives chaired by David Shiells, NoVA District Materials Engineer and Richard Shreck of VAA

Report issued in Aug of 2012 put forth 13 recommendations approved to move forward.

4 of 13 recommendations are complete with remainder in progress.

Asphalt Quality Task Force

Completed Recommendations:

- *Revise the current specifications to clarify that performance milled surfaces can be left open to traffic over weekends up to 14 days total.*
- *Review alternative non-intrusive technologies for vehicle detection.*
- *Re-establish the Asphalt Field Engineer position.....*
- *Continuation of the Task Force through completion of recommendations*

Asphalt Quality Task Force

Recommendations still in Progress:

Quality measure – Smoothness

- 1. Make the “incentive only” rideability specification a default on all maintenance and construction contracts with speed limits greater than, or equal to, 45 mphProjects piloted this 2013 season*
- 2. Evaluate the cost effectiveness of making the “incentive only” rideability specification a default specification as well as the effect on ride quality.*
- 3. Review the rideability test data as well as incentive/disincentive payments to determine if incentives/disincentives are set at the appropriate levels to encourage quality asphalt construction.*

Asphalt Quality Task Force

Recommendations still in Progress:

Quality measure – Smoothness

Future impacts as a result;

A refined process for staff to select viable candidates for the incentive only specification

Any changes in specification and price adjustments (+/-) commensurate with desired smoothness quality

Target Completion – October of 2014

Asphalt Quality Task Force

Recommendations still in Progress:

Quality measure – Smoothness

- *Make joint density measurement; recording and reporting mandatory in 2013 and review the data at the end of the year to determine if incentives/disincentives are appropriate for longitudinal joint density.*

Future impacts;

Measurement of joint density

Incentive/dis-incentives for quality obtained

Target completion – February 2014

Asphalt Quality Task Force

Why are these recommendations a priority?

Smoothness

Extends service life, traveling public (primary customers) receive a better riding surface, quality can be measured directly

Longitudinal joint density

Reduces premature joint “failure”, thus extending service life, can be readily measured

Annually invest over \$450 million in paving, these quality are measures are important and should be given due attention.

VDOT's Pavement Recycling Initiative

November of 2012

Project Selection Guidelines issued

Statewide Specifications for Cold In Place, Cold Plant Recycling, and Full Depth Reclamation

Intent to ensure we are selecting appropriate projects and using same specification(s) for consistency.

Guidelines: Minimum requirements for asphalt overlay placed on recycled material for interstates and primaries and other routes based traffic loading.

Required designs to be submitted to State Materials Engineer for review and concurrence.

VDOT's Pavement Recycling Initiative

Pending Revision to Project Selection Guidelines

For Secondary roads;

Designs DO NOT have to be submitted to State Materials Engineer for review and concurrence.

This is and would be a local decision.

FDR is an appropriate application for low volume roadways and should be considered where depths of aggregate and asphalt layers are variable.

VDOT's Pavement Recycling Initiative

Future evaluation of RAP as an unbound construction material

- What are appropriate applications for VDOT?
 - Select Material for fill construction
 - Stabilization of unpaved roads
 - Roadway shoulder maintenance
- What are appropriate testing parameters considering application?
 - Gradation
 - Density
 - Environmental
 - Durability parameters



ME (Mechanistic-Empirical) Darwin Pavement Design

VDOT Implementation (Why change – ME Darwin predicts performance):

- *Jan 2014; VDOT will use as a companion design with AASHTO 1993 method*
- *VDOT will still require designs performed using the AASHTO 1993 design as outlined in the Materials Manual of Instructions, Section 600 – Pavement Evaluation & Design.*
- *Latest version of ME Darwin released July 2013 and after software packaging by IT staff, is currently being installed on the VDOT network*
- *VDOT's user manual for ME Darwin will be updated throughout the year as we learn to use the new design approach and it still going through internal development.*
- *VDOT's user manual will be released for industry/consultant comments in winter 2014.*
- *Work Ahead of us – Future local calibration, model refinement at the National Level and continued training and development.*

Materials Information Tracking System (MITS) & Producer Lab Analysis and Information Details (PLAID)

Web Based data entry and analysis program:

- *Requirement as of Jan 1, 2013 for Asphalt Producers*
- *Phase I implemented enabling split sample comparison*
- *Phase II implemented enabling real time comparison by VDOT of the running averages and variances, supporting greater feedback to the project*
- *Phase III to be developed includes control charts*
- *To be required of Aggregate producers Jan 1, 2014*

Summary –

VDOT is investing significantly in paving and improving the conditions of our network with the recent transportation bill

We expect quality and we should hold ourselves accountable to achieving it.

We must balance conservatism with risk.

We must continually look at alternatives.

Thank you.