VDOT – VTCA AGGREGATE COOPERATIVE PARTNERSHIP

2018 VTCA SPRING CONFERENCE UPDATE

John Schuler, PE, VDOT Materials Division  
April 13, 2018
Purpose

• Update the audience on many of the successful results of the Aggregate Industry and VDOT working together to solve challenges.

• Promulgate best practices of our efforts to designers, contractors, and maintenance for cost savings.

• Receive input from the audience on increasing the value of our partnering efforts.
Highlights of the Year

• Implement a strategic vision for the cooperative

• No. 10 Screenings (Fines) Joint Task Force – Largest challenge for quarries statewide being solved

• MITS/PLAID CMA and HMA Database Automation and Analysis Tool – Task Force & continuing use

• Re-examine frequency and use of Atterberg Limits testing on aggregate.
Highlights of the Year

• MEPDG – New pavement design method for Interstates and Primaries – took effect Jan 1, 2018

• CTA Task Force

• Bioretention Soil Media – Improved, rigorous, best in region
Strategic Vision

- The VDOT-VTCA Aggregate Cooperative will implement a charter/mission statement agreed upon by members.

- Will seek to improve decision and implementation time on initiatives.

- Will continue to drive innovation and participation.

- Will continue to strive to understand needs and goals of each other and get the right people together.
No. 10 Screenings Uses

- Quarry Byproducts Task Force – mostly focused on No. 10 screenings reuse – includes multiple players

- VDOT Special Provision published. Next step - look to get their use specified in plans.

- Has resulted in increased awareness and cooperation from Districts, Residencies, and Contractors. Many projects.

- Showcase project – Atlee Road Extension – Hanover County LAP job – 176,000 tons of screenings used in 3 applications.
No. 10 Screenings Uses – Atlee Extension, Hanover Co.
MITS/PLAID

• Materials Information Tracking System / Producer Laboratory Analysis and Information Details (VDOT / Quarries)

• Started in 2011: Went through 3 development phases (including HMA): In Maintenance phase now (continuing upgrades).

• Very well received project to date. Many benefits: sample turn-around times: automated reports including TL-102s*: reduced data entry errors; real-time data; flags for actionable information
MITS/PLAID

- Have given over 20 training events to Producers, Weighpersons, and VDOT around the state, and continue with annual MITS users group meetings and training as requested.

This year: Total running tonnages; "Investigation" menu; TL 127 original design year; job mix approval status on TL 125 - - corrected TL-102s; LL/PL “cannot be determined”; automated submit button and email upload

- Communicating updates at VDOT-VTCA Aggregate Cooperative meetings – CO and Districts.
**Example of Results (from Quarterly Management Report):**

<table>
<thead>
<tr>
<th>District</th>
<th>- 48 hrs</th>
<th>- 60 hrs</th>
<th>- 72 hrs</th>
<th>- 84 hrs</th>
<th>- 96 hrs</th>
<th>Over 96 hrs</th>
<th>Negative hrs</th>
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<td>88.2</td>
<td>88.2</td>
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</table>
Atterberg Limits

• Have found very few impacts (quantity and quality) due to Atterberg Limits flags in MITS/PLAID.

• Much effort on Atterberg Limits testing. A lot of flags.

• Will work together to see if we can reduce testing frequency for aggregate.
MEPDG Implementation

• Mechanistic Empirical Pavement Design Guide

• Official VDOT design method for Interstates and Primary’s (except rehab) as of 1/1/18.

• No change in aggregate base course design/requirements.
• AASHTOWare Pavement ME Design 2.2.6: license from AASHTO $5,500 per year
• Continue with Stakeholder Group and Technical Working Groups
MEPDG Implementation

• Use resilient modulus or index testing or UC correlation for modulus of subgrade; still CBR for fine-grained soil suitability

• No change in traffic data collection: No environmental data collection required.

• Materials Mol has been updated.
• Files available at:
• http://www.virginiadot.org/business/materials-download-docs.asp
Cement-Treated Aggregate

- Task Force has finalized Special Provision for strength-based (650 psi, not standard 4% cement content) CTA.

- Under final review now. Phase I implementation first, strength for design, not acceptance.

- Will aim for strength (of plant samples or cores) – not checking cement content.

- Will use modulus value, not layer coefficient.
Bioretention Soil Media

• Popular Stormwater Pollutant Removal BMP – dual credit.

• A lot being used…but

• VDOT working on DEQ permission to trial new Special Provision the Cooperative worked on – improves on Spec 9.

• Need to ensure likely producers can meet this suggested SP
• Will then have SP, Approved List, and material checks.
Thank you!
Questions?