

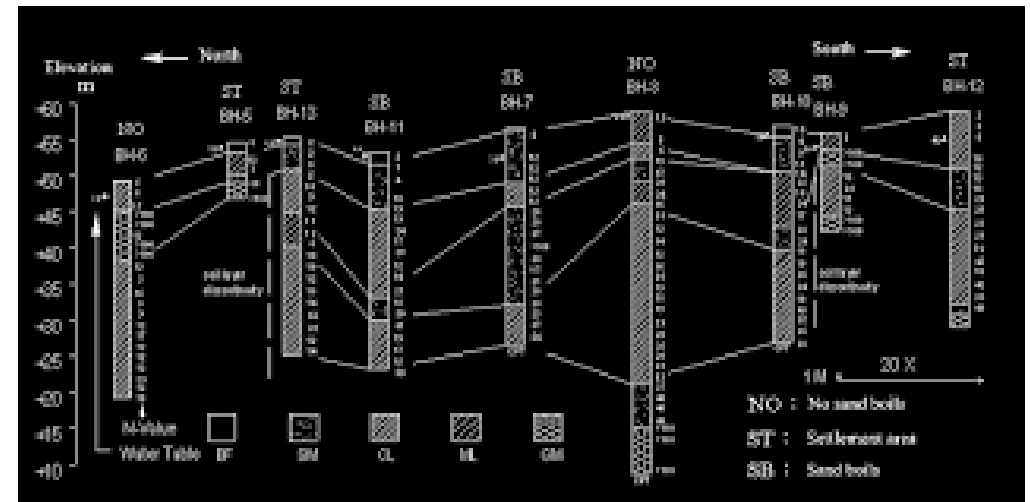


Materials & Research

Year in Review

Soil Borings/Testing

- Soil Boring Proposal Guidance
 - Utilize DRC guidance for any drilling done by drillers subcontracted by consultant designers
 - https://deldot.gov/Business/drc/pd_files/plan_development/soil_boring_proposal_guidance_w_stormwater.pdf
 - Consistency for design and construction
 - Reliable data for soil boring database
- Consultant Designers have two options for testing and drilling
 - Subconsultant drilling and testing
 - Utilize DeDOT drilling agreement and laboratory for testing



Underdrain/Tufa



Picture: DelDOT

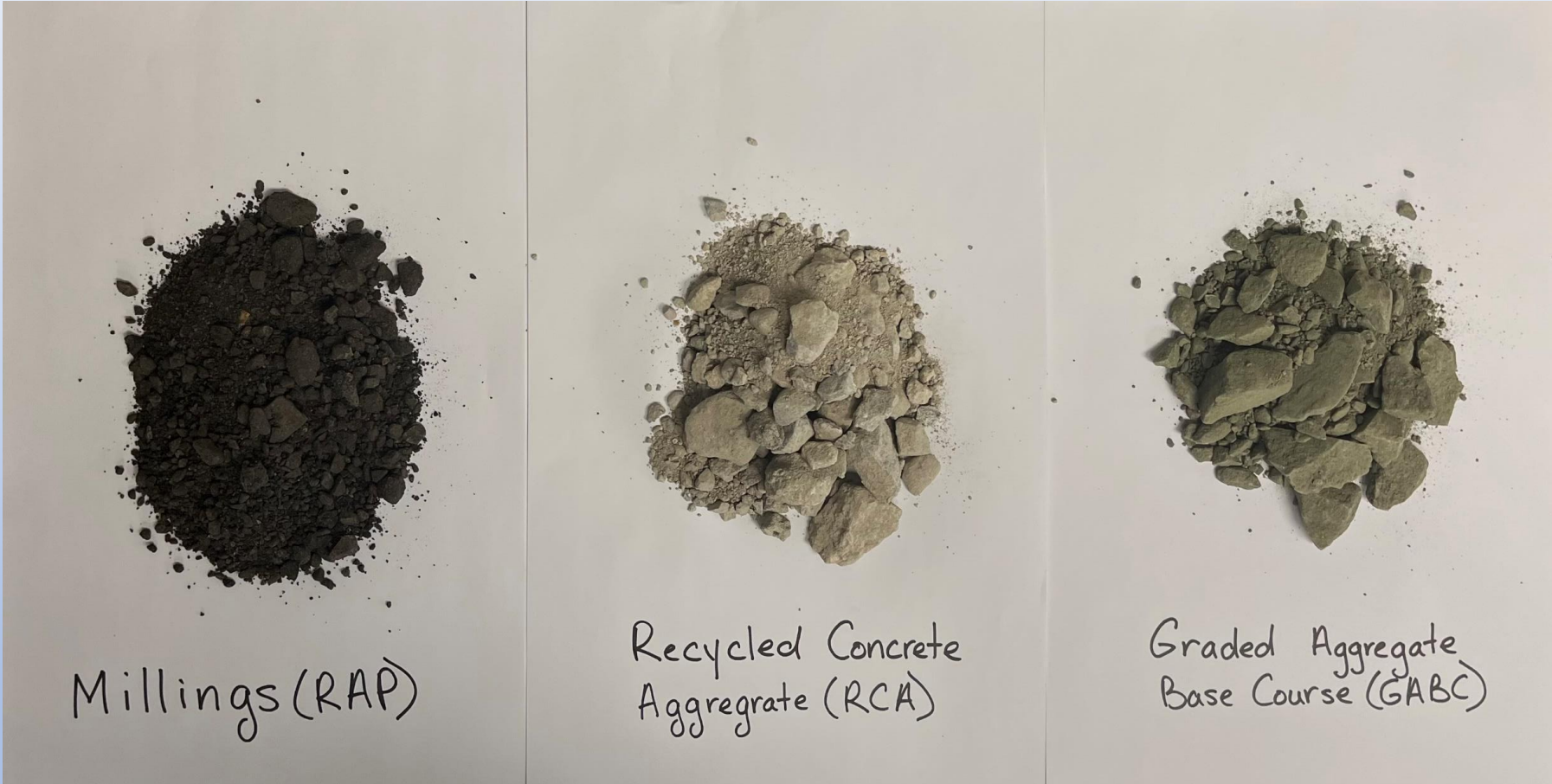
Underdrain/Tufa

- Tufa – limestone forms when carbonate materials precipitate out of water
- Underdrain damaged in field during construction, allowed infiltration of materials from the Recycled Concrete Aggregate (RCA) base



Picture: PennDOT

Base Materials



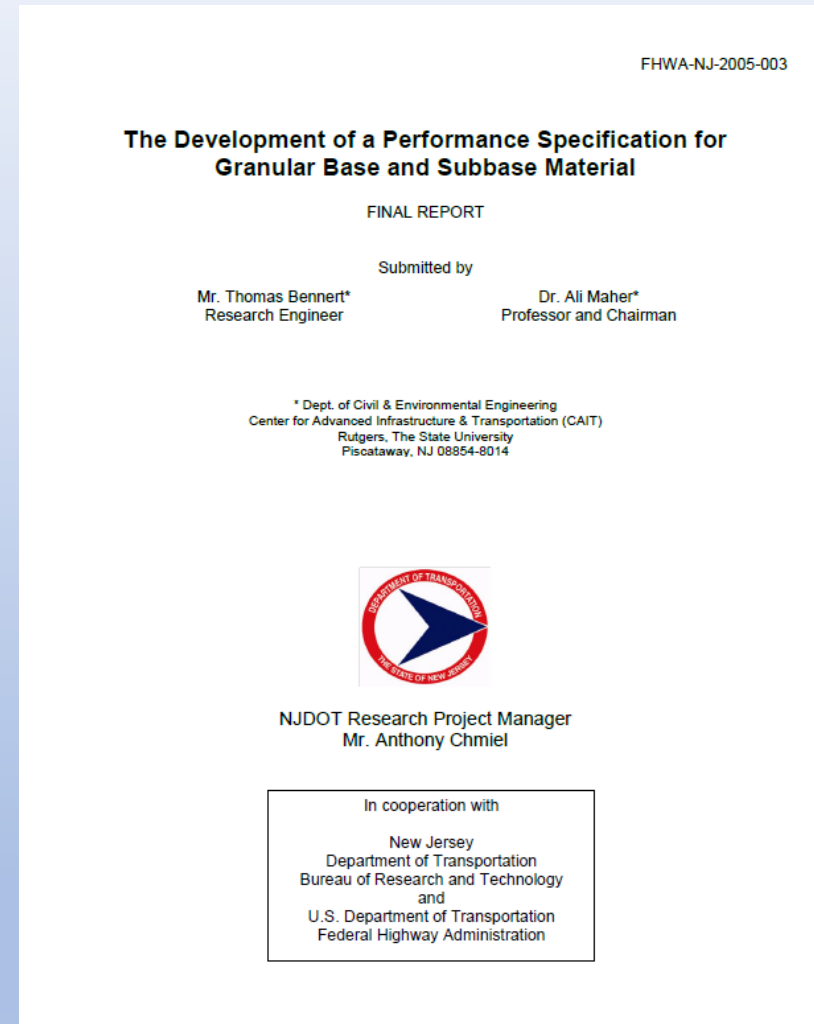
Millings

- Recent failures
 - 6 newly constructed concrete panels cracked (pictured)
 - 2" settlement on Rt. 1 ramp



NJDOT RAP Study

- Pumping from the loss of fines
- Decreased permeability
- Low shear strength
- Significant decrease in CBR value, which correlates to total thickness needed for design
- Conclusion, once you get above 50% RAP your base material becomes very unstable increases soil creep, shoving, and rutting.



1L Cement

- 1L Cement contains 8-15% limestone compared to 5% in standard cement, DeIDOT will specify max 12%
- Ready Mix plants currently utilizing:
 - Bear Concrete
 - Chaney
- Precast Plants
 - Gillespie – Chestertown & Greenwood
- Slower set times
- Lower early strengths (7 day)
- Not tolerant of additional water in the field

Special Provisions - Materials

- Drafting/modifying special provisions related to materials, circulate to M&R for comment
 - Can M&R test the material?
 - Are the tests listed still valid/active?

Tack

- Notify M&R if you see issues with the material such as dilution
- Proper and consistent application, no stripes
- Best Practices Video: <https://mdasphalt.org/2019/best-practices-applying-tack-coat/>



Questions?

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