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# Full-Scale Testing of Geogrid Reinforced Flexible Pavements at the ERDC

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Heavy Vehicle Simulator International Alliance (HVSIA) Meeting

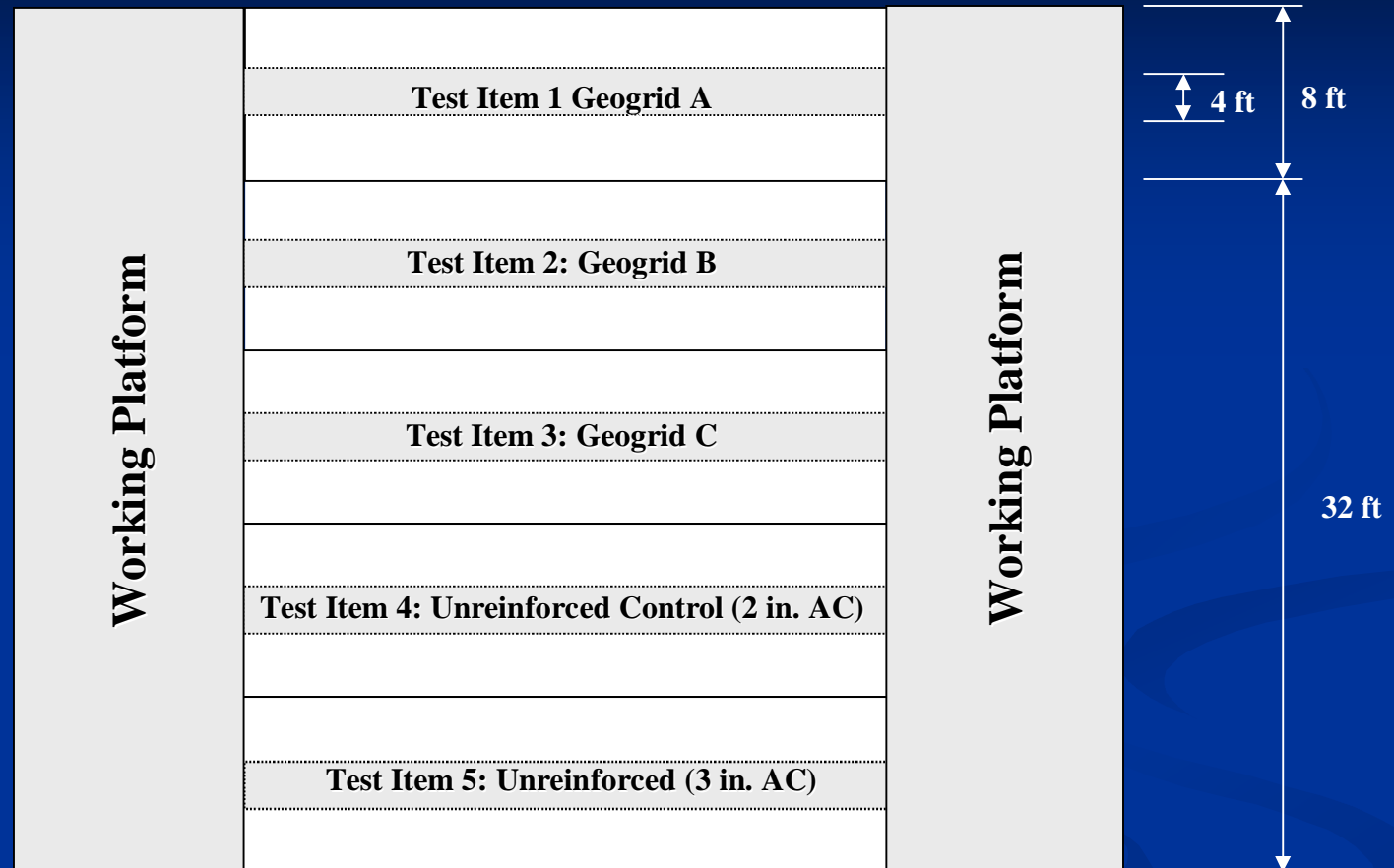


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**n Objective: Evaluate performance benefits of emerging geogrid technologies in low volume highway pavements**

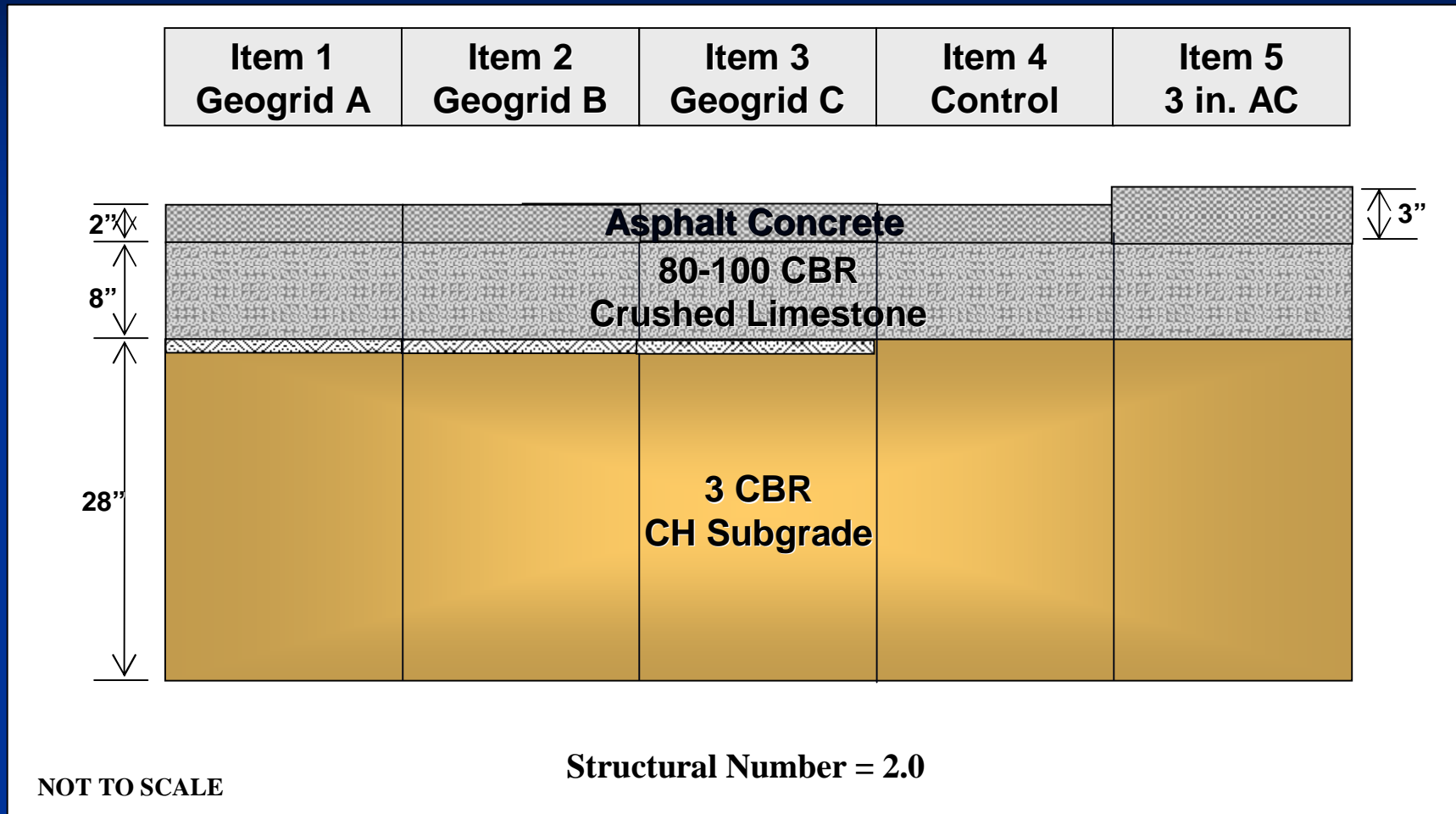
**n Method: Construct and test full-scale highway pavement test section containing geogrid reinforced test items and unreinforced control test items**

# Test Section Plan



NOT TO SCALE

# Test Section Profile



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## n Subgrade

- Nuclear Density and Moisture Oven Dried Moisture Content
- Microwave Moisture Content
- Lift Thickness
- In Situ CBR
- Dynamic Cone Penetrometer (DCP)

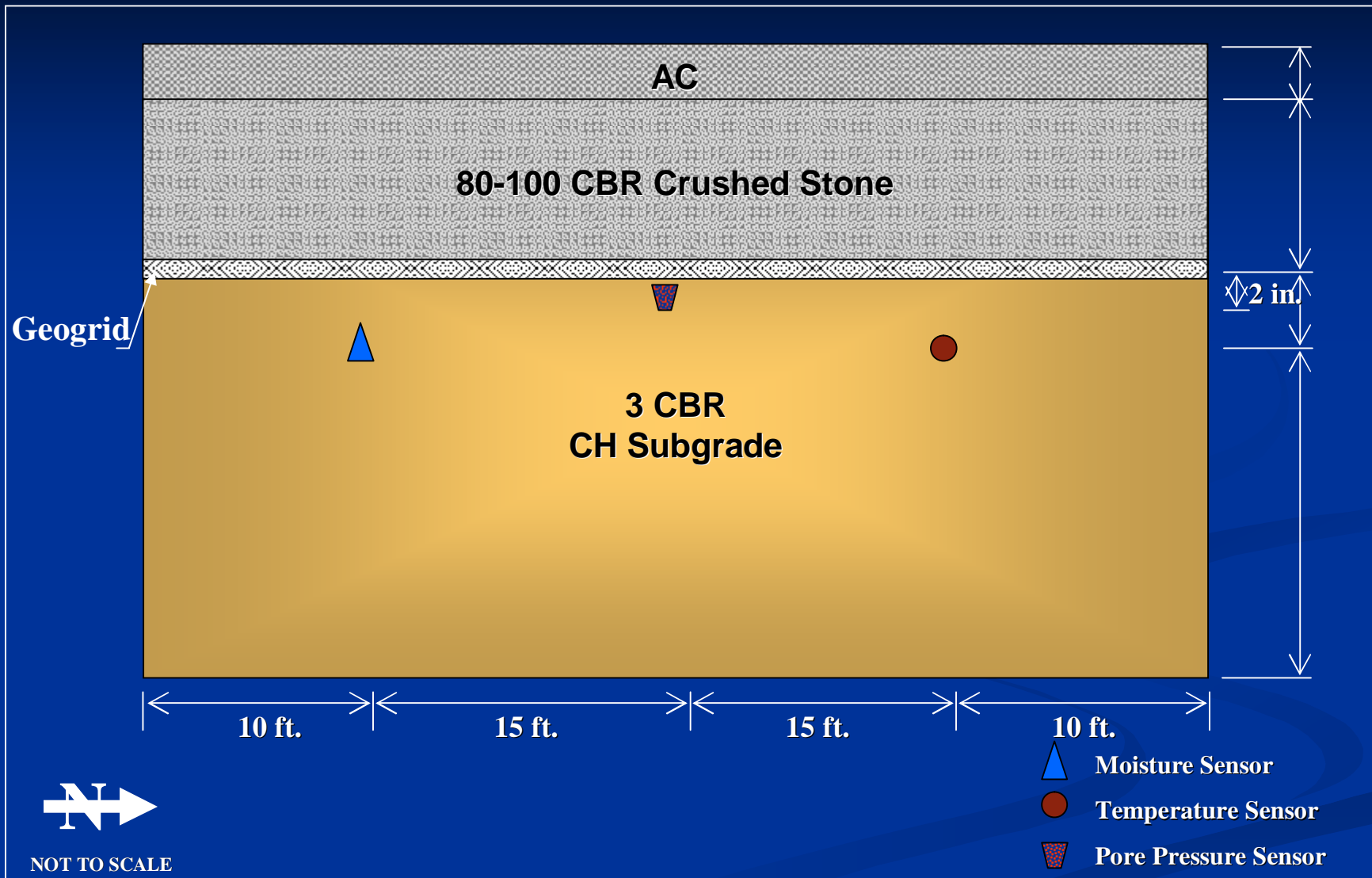
## n Base

- Nuclear Density and Moisture
- Oven Dried Moisture Content
- Microwave Moisture Content
- Lift Thickness
- In Situ CBR
- Dynamic Cone Penetrometer (DCP)
- Portable Seismic Pavement Analyzer (PSPA)

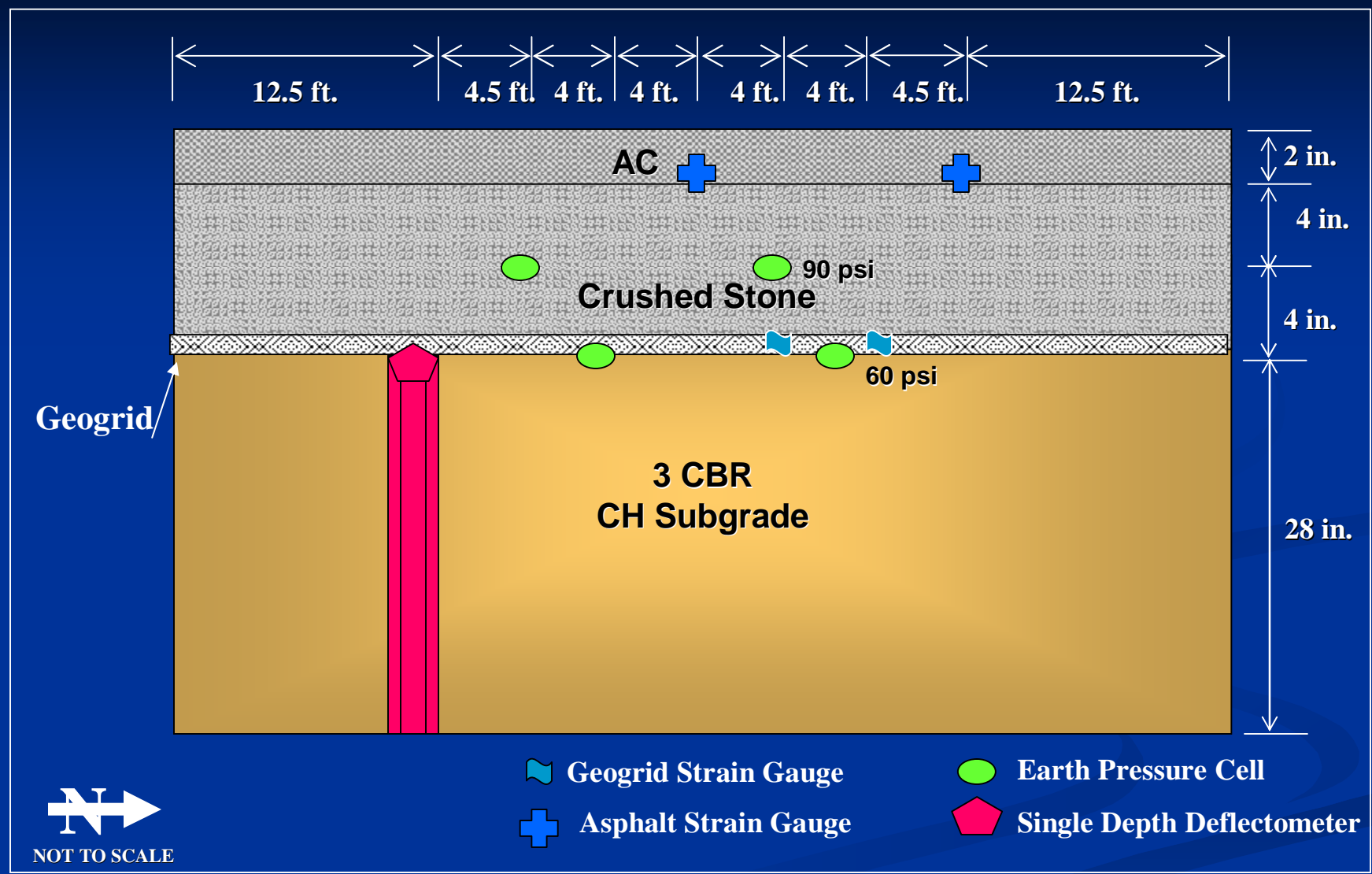
## n Asphalt Concrete

- Nuclear Density
- Lift Thickness
- Portable Seismic Pavement Analyzer (PSPA)
- Falling Weight Defelctometer (FWD)
- Ground Penetrating Radar (GPR)

# Environmental Sensors



# Instrumentation



# Traffic Testing

## ERDC HVS

- n Dual Axle  
(10,300 lb)
- n Dual-Tandem Axle  
(20,600 lb)





# Traffic Testing (Con't)

## Data Acquisition

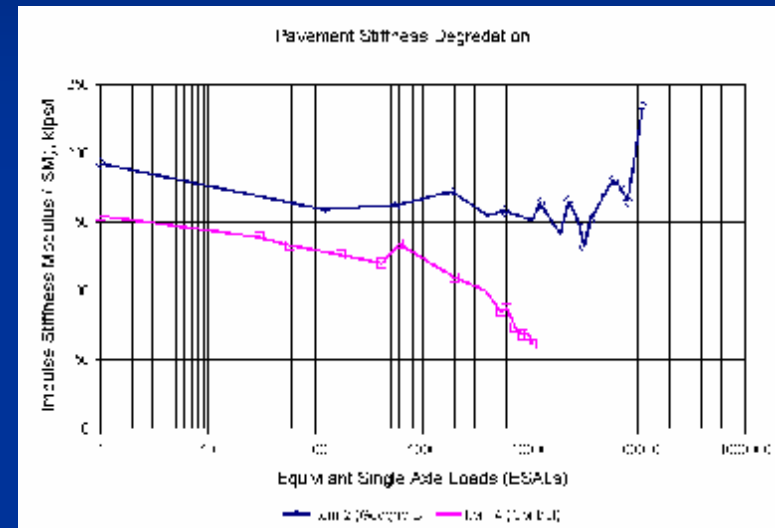
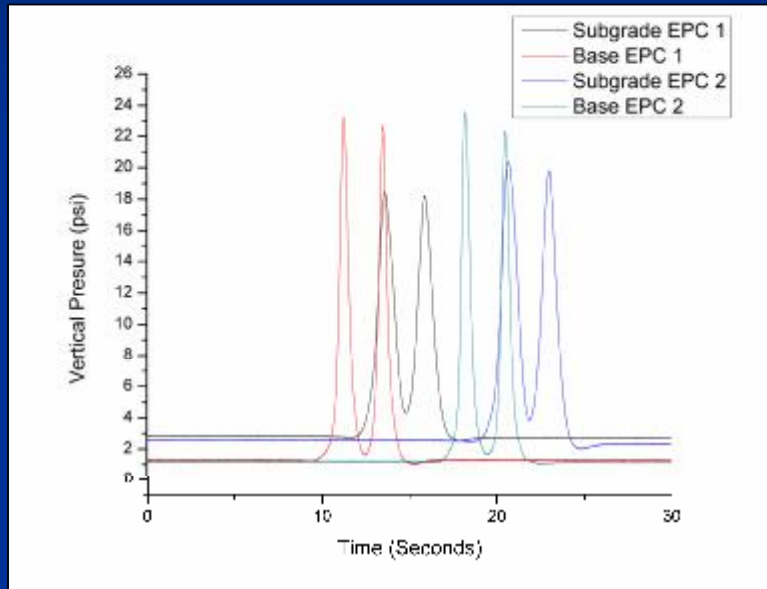
- n Survey Data  
Pavement Profiles, Cross Sections, Rut Depths
- n Instrumentation  
Static Conditions, Slow Rolling Loads, Real-Time Test Data, Environmental Data
- n Falling Weight Deflectometer

## Post Test Forensics

- n CBR Pits  
CBR (Base and Subgrade), DCP, Moisture-Density
- n Pavement Profile
- n Geogrid Exhumation



# Preliminary Results



# The Road Forward...

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