

# Concrete Paving Field Inspection Inspector's Workshop

## What happens before you start paving?

National Concrete Pavement  
Technology Center



IOWA STATE UNIVERSITY

Institute for Transportation

[www.cptechcenter.org](http://www.cptechcenter.org)



# Concrete Paving Field Inspection Inspector's Workshop

1. Why are we here?
2. How do we achieve quality for PCC paving?
3. Got a project....Now what?
4. What is concrete?
5. What kinds of equipment are used?
- 6. What happens before you start paving?**
7. What happens when you're finally paving?
8. What is the inspector's role?
9. What about all of the other road building stuff?
10. What do you look for in urban paving?
11. What paperwork?

# Instructor



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Representing the National Concrete Pavement  
Technology Center

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# WHAT HAPPENS BEFORE YOU START PAVING?

# Daily Items Before Paving

- Dust Control
- Safety/Traffic Control
- Aggregate Stockpile & Plant
- Dowel Basket Placement
- Haul Road
- Vibrators
- Stringline Control/Grade



# Dust Control

- Environmental awareness
- Public relations
- Visibility  $\Rightarrow$  Safety



# Traffic Control & Safety



Inform the contractor of any traffic control deficiencies



Never walk under the spreader belt when it is in the upright position

# Safety



Be cautious when near trucks backing up to the spreader belt



Be alert when working near traffic



# Safety



Park vehicles in safe areas  
away from traffic

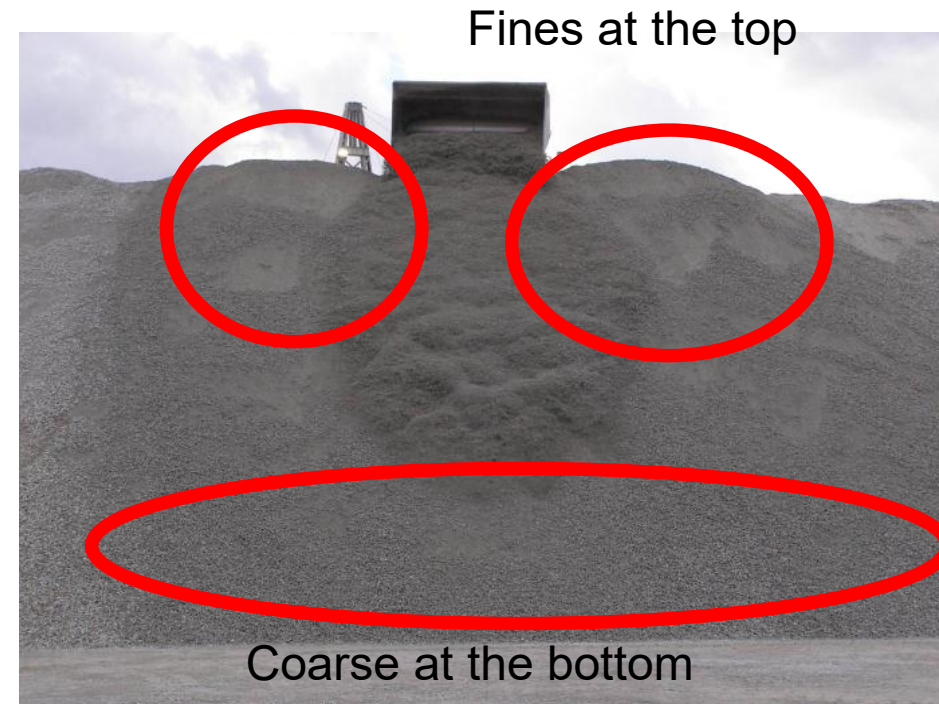


The plant site poses  
many safety concerns

# Aggregate Stockpile Management

Minimize segregation

- Build long and wide-NOT high!
- Build stockpiles in tiers to avoid segregation



Picture courtesy of Martin Marietta Materials

# Aggregate Stockpile Management

- Uniform Moisture
  - Stable and well drained foundation underneath stockpiles
  - Place a separation layer on top of soil
  - Draw from areas of known moisture content
  - Mix the pile to create a uniform moisture



# Aggregate Stockpile Management

On the tires

Contamination - mud balls



Dig too deep



# Plant Set-up and Calibration

- Calibrate scales and water meters
  - Each time the plant is set-up
  - At regular intervals
- Verify that the batch control computer
  - Has correct mix design(s)
  - Has appropriate aggregate moisture contents
- **TEST BATCH!**



# Mixture Verification Stage

- Compares field concrete to the mixture design
- **Is this the same concrete?**
- Trial Batch



SAME ?



# Recommended Practices

## Adequate mixing time

- Uniformity
- Air entrainment
- Strength
- Workability



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# Dowel Basket Placement

## Placement tolerance

- Vertical – 2” cover
- **ALIGNMENT (TILT & SKEW)** – most critical,
- non-uniformity can cause joint lockup



# Dowel Basket Placement

- Joint spacing
- Lateral position
- Bar alignment
- Joint positively marked



# Dowel Basket Placement

- Bond breaker
- Anchoring to subbase



# Haul Road - Inspection

- Identify unstable areas
- Notify the contractor
- Have a back up plan



# Vibrators - Verification

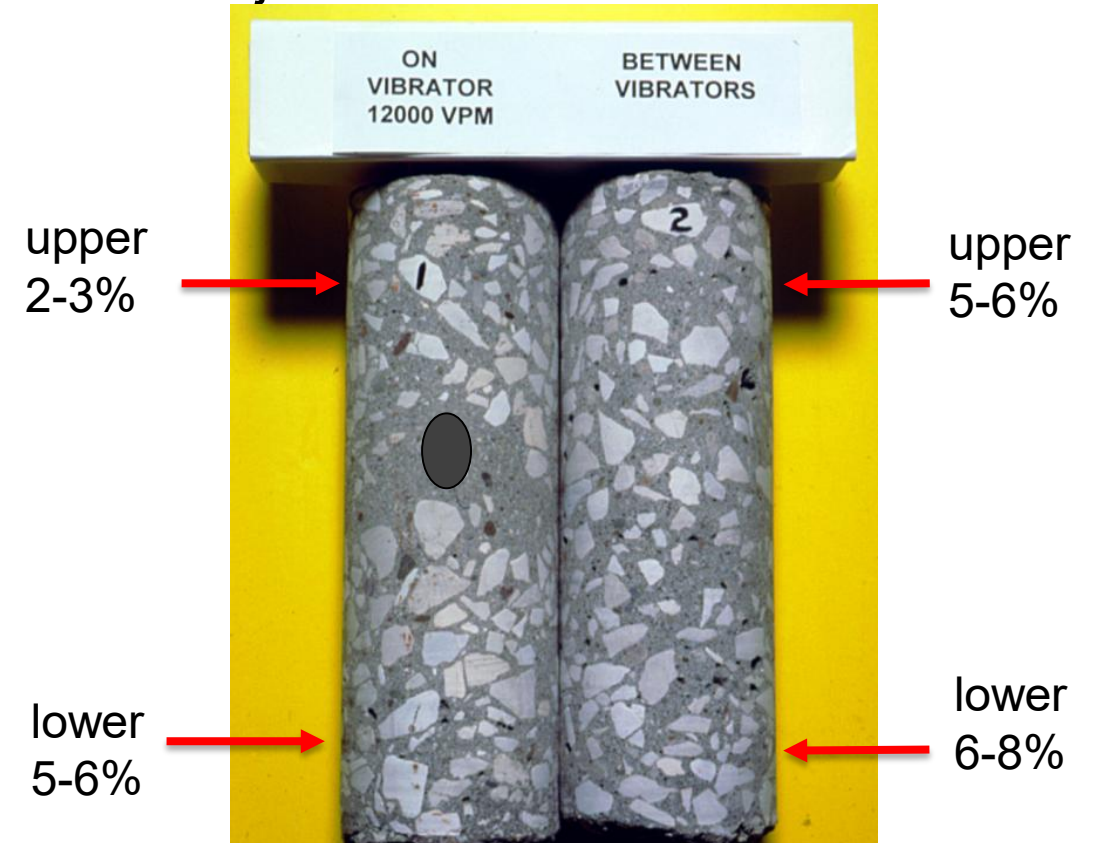
- Contractor decides upon number, spacing and position
- Vibrator monitor in use?
  - Time
  - Location
  - Frequency



# Vibrator Trails



- Noted by deeper groove
- Notify contractor and make adjustments



Left core - aggregate segregation (hardened air results)

# Check Equipment

Tining forks should be clean



Texture material should be clean/free of clumps



# Check Grade

- The grade should be checked before and during pour
- The paving equipment will follow the string
- It is easier and safer to adjust the string rather than to crank the paver sensors





# Summary – What happens before you start paving?

- Dust Control
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# THANK YOU !



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