Concrete Paving Field Inspection Inspector’s Workshop

What do you look for in urban paving? What paperwork?

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

www.cptechcenter.org
WHAT DO YOU LOOK FOR IN URBAN PAVING?
Urban Paving Challenges

• Challenges
  ➢ Utilities, Staging, Access

• Become familiar with locations of:
  ➢ Intakes
  ➢ Manholes
  ➢ Sidewalks
  ➢ Utilities – gas, water, electric, etc.

• Granular base
  • Haul roads
  • Access for property owners
Environmental Regulations

• Ready mix truck washouts & disposal

• Storm water pollution prevention plans / Erosion Control
Boxouts - Uses

- Intake and manhole locations
- Side streets
- Accesses
- Pavement width changes
Boxouts - General

- Usually formed with steel forms staked in place
- Rock placed in boxout to prevent filling with concrete
- Check forms for stability
- Post paving check for dowel bar locations
Curbs

- Check gutter flow line elevations
- Hand finishing at driveway and sidewalk curb drops
- Median and stop sign islands require special shaping
Hand Pours - Types

- Irregular areas
- Parking locations
- Turn lanes
- Intersection radius
Hand Pours – Subgrade/Subbase Preparation

- Uniformity needed
- Check for soft areas
- Utility locations
Hand Pours – Form Placement

- Clean Forms
- Straight
- Oiled
- Anchored
- Match thickness of paving
- Achieve proper drainage
Hand Pours – Concrete Placement

• Concrete Placement
  ➢ Vibratory Screed
  ➢ Roller Screed

• Vibrator
  ➢ For consolidation
  ➢ Not for moving concrete (shovels)
Obstructions

• Some obstacles can’t be avoided
• Be aware of potential conflicts
• Quadruple check elevations
• Think and look ahead
• Delays can cost the contractor and/or the agency $$
Proper Jointing

• Proper jointing is critical for long lasting pavement

• Check plans for joint spacing and placement

• Layout ahead of time with contractor

• Layout intersections and driveways first
The Rules of Jointing

**Things to Do**
- Match existing joints or cracks
- Place joints to meet in-pavement structures
- Remember max. joint spacing
- Place isolation joints where needed
- Can make field adjustments to joint location!

**Things to Avoid**
- Slabs < 1 ft (0.3 m) wide
- Slabs > 15 ft (5.0 m) wide
- Angles < 60º (~90º is best)

  Do this by dog-legging joints through curved radius points
- Creating interior corners (L-shaped slabs)
- Odd Shapes (keep slabs square or pie-shaped)


[Step 7][Step 8]
WHAT PAPERWORK?
Documentation

Document
Document
Document
Helpful Forms

Paver Setup

General Notes:
1. Spec Limits – Refer to specification 2301.
2. Spacing not to exceed 16”. Centerline spacing may be increased to 30” max due to physical limitations of paver such as mounting bracket locations; spacing should not be increased for tie steel insertion or lack of adequate number of vibrators.
3. When vibration monitoring is used, check and record frequency on a minimum of two vibrators daily.
4. When vibration monitoring is not used, check and record frequency of each vibrator twice daily.

Note: If any information changes during the project, a new form needs to be completed.
Helpful Forms

Subgrade Checks
Helpful Forms

Depth Checks

<table>
<thead>
<tr>
<th>Date</th>
<th>Sta</th>
<th>Sta</th>
<th>(Side)</th>
<th>Req’d Depth</th>
<th>Actual Depth (Inches)</th>
<th>By</th>
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### Air/Slump Tests

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<th>Date</th>
<th>Location</th>
<th>Mix Type</th>
<th>Air (%)</th>
<th>Witnessed Quality Control Test (X)</th>
<th>Slump (in)</th>
<th>Application</th>
<th>Remarks</th>
<th>By</th>
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**Helpful Forms**

Air/Slump
Helpful Forms

Paving Items

PC Concrete Item Check List

|----------|-----------|-------------|-------------|-----------|--------------|-------------|

<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
<th>Basket</th>
<th>Plastic</th>
<th>Hard</th>
<th>Vibrator</th>
<th>Air &amp; Bump</th>
<th>Depth</th>
<th>Width</th>
<th>Yield</th>
<th>Slope</th>
<th>Texture</th>
<th>Mix Temp.</th>
<th>Protect</th>
<th>Cure Rate</th>
<th>By</th>
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### Daily Paving Report

<table>
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<tr>
<th>Date</th>
<th>Station From</th>
<th>Station To</th>
<th>Lane No.</th>
<th>Time Start</th>
<th>Time Stop</th>
<th>Length (ft)</th>
<th>Width (ft)</th>
<th>Estimated CY (Used)</th>
<th>Est. Used (%)</th>
<th>Slip Formed (Y/N)</th>
<th>Cold Weather (Y/N)</th>
<th>Pay Today</th>
<th>Pay to Date</th>
<th>By</th>
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**Helpful Forms**

Daily Paving Summary
### Texture Tolerance Checks

<table>
<thead>
<tr>
<th>Date</th>
<th>Sts</th>
<th>Land Area Between Grooves ((\text{in}))</th>
<th>Avg.</th>
<th>Texture Depth ((\text{in}))</th>
<th>Avg.</th>
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**Blade segment thickness:** 0.180 in. max. 0.160 in. - 0.120 in.

**Limestone:** Target of 0.18 in. with an average of 0.12 in. - 0.16 in.

**Gravel:** 0.180 in. max. 0.160 in. - 0.110 in.
Helpful Forms

Pavement Markings

<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
<th>Length (feet)</th>
<th>Meas. Factor</th>
<th>Today (Stations)</th>
<th>To Date (Stations)</th>
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Painter’s Signature

Inspector’s Signature
Helpful Forms

Drawing
Inspector's Tool Kit

SPECIFICATION BOOK
SUPPLEMENTAL SPECIFICATIONS
ROAD STANDARDS
MATERIALS I.M.'S
COPY OF FORMS OR SMALL BOOK
PEN OR PENCIL
CALCULATOR
AIR METER
SLUMP CONE
BEAM BOXES
BUCKETS
SQUARE NOSE SHOVEL
RAGS
RUBBER GLOVES
CAN OF SPRAY PAINT
MAGIC MARKER
SMALL TROWEL
NUMBERS FOR STATIONING
6’ RULER – ENGLISH/METRIC
4’ LEVEL
STRING
VIBRATOR CHECKER
PAVEMENT DEPTH CHECKER
TIRE DEPTH GAUGE – CHECKING TEXTURE
HARD HAT
SAFETY VEST
WATER
SNACK FOOD
SUN BLOCK
THANK YOU!

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