What are PCPS Systems?

Ft. Miller - SuperSlab™

Prestressed Precast Concrete Pavement

Kwik Slab™

Uretek USA™

FDR/DBR
Why Use Precast Concrete Pavement Systems?

- Fabricated in Factory Environment
  - Higher Quality Control than field
  - Environmental Control – improved curing
  - Results in less residual stresses in slabs
- Installed Quickly – less risk!!!
- Can be open to traffic without final slab under-seal
- Durable Pavement Treatment that has been tested to over 140 million ESAL’s
- Cost Competitive with Rapid Set Concretes
Project Scoping
Pavement Evaluation

- Agency Established Protocols for Pavement Treatment Selection
- Assessment Criteria of Pavement and Pavement Foundation
Project Scoping
Capacity Restrictions/Lane Closures

What are the limitations of our Maintenance of Traffic configuration?

How does this effect my pavement treatment selection alternatives?
Pavement Treatment Selection Options - Based upon Lane Occupancy Limits

**RECOMMENDED GUIDELINES**

- 24 hours or more = Traditional CIP Methods
- Between 12 -24 hours = Rapid Set Concrete
- Less than 12 hours = Precast Concrete Pavement System
Types of PCPS Systems

Jointed Precast Systems
- Intermittent Repair & Rehabilitation
- Continuous Pavement

Prestressed Precast Systems
- Limited Intermittent Rehabilitation
- Continuous Pavement
## Engineering Details of PCPS

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<th>Type of system employed</th>
<th>Subgrade requirements</th>
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Construction Details of Installing PCPS

- Material handling equipment needs
  - Footprint requirements
- Various slab lift out methods
- Sub-base preparation needs
- Installation and preparation of Load Transfer devices
- Slab leveling & alignment needs
  - Slab under-seal
- Encasement material placement
- Contractor crew learning curve & productivity
Applications of PCPS

- Intermittent Repair
- Continuous Pavement
- Toll Plaza
- Bridge Approach
- Intersections
- Airport Runway
- Airport Taxiway
- Under Bridges
- Port Loading Pads

- Roundabouts
- Utility Cuts
- Tunnels
- Over poor Sub-base
- Radiant Heat-Snow & Ice control
- Interchange Ramps
- Architectural Cross-walks
PCPS Paving Applications Around the Nation
Summary

You should now know:

- Different types of PCPS systems & various applications
- Reasons why a PCPS treatment is selected
- Advantages of PCPS
- Basic understanding of Engineering & Construction details of PCPS
Summary

For the next 24 hours, you should be hearing about these basic principles and practices as they are applied to this specific project.

I encourage you to ask any question about PCPS throughout this workshop. I’m confident that we’ve got the right people here to get you the answers.
Thank you!

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To find out more details about Precast Pavements look at www.aashtotig.org