

**DATE:** November 14, 2006

**SUBJECT:** Concrete Pavement Construction Bus Tour  
And Meeting Minutes

**TO:** All Attendees

**FROM:** Roger L. Apple, P.E., Acting Director/s/  
Bureau of Construction and Materials

The 2006 PENNDOT/Turnpike/ACPA concrete pavement tour and meeting was held September 6-7, 2006, in Altoona, PA.

On Wednesday the 6th, there was an overview of the day provided by John Becker and Bill Miller along with welcoming comments by Assistant District Executives Roger Dodson and Ben La Parne. The tour covered the following projects: US-220 (Section 008) & I-99 (Section SR-I) Bedford County, and SR-6220 (Section B10), Centre County. A demonstration on diamond grinding was performed which was narrated by John Roberts and John Depman at the US-220 (Section 008) site. Bridge deck hydro-demolition and CPR full and partial depth CPR repairs were demonstrated on I-99 (Section SR-I). The tour included commentary during the tour of the SR-6220 corridor & of pyretic rock mitigation efforts in Centre County and the upcoming US-22 (Section 027) truck climbing lane in Blair County.

On the 7th, a group meeting was held where the following items were discussed:

- A recap of the tour was made by Dodson and Becker.
- Tucker Ferguson and Bill Miller (for Roger Apple) addressed the 2005 follow up items.
- Briefings from the Concrete Pavement Quality Improvement (CPQI) Teams were presented.
  - Bases - Dan Dawood stated that the team has developed a specification for an untreated base material (aggregate) with a gradation to provide stability for CPR projects and bridge reconstruction work and perhaps for southeastern Districts to consider for larger projects.
  - Strength and Testing – Bill Miller stated that the team recommends no change in the strength requirement for Sec.501 paving. Efforts on the reporting of Maturity testing will be forthcoming. BOCM – ETI Division is coordinating a consultant presentation on implementing maturity meter usage. Hardened air research work related to the use of the AVA in District 12 and of ETI research by Penn State is ongoing on SR 22-B02 and the PA turnpike projects.
  - CPR – Steve Grassetti reported that one-day training on best practices for CPR will be presented at Grantville on February 1 and that an eastern and western site for this training will also occur. A pilot session will take place in December. The team is also looking at cost-effectiveness and costs for several CPR strategies.

- Van Port Limestone – Prisby reported that this Team is diagnosing Van Port skid issues, is pursuing research to evaluate blending of aggregates, is reviewing the economics of two-lift construction, and is looking at grinding and texture patterns. Paul Majoris is co-leading this effort with Prisby.

The following new items were discussed and where appropriate, follow up items have been established in the attachment:

- Pavement Preservation – patching guidelines and patching economics for jointed plain and jointed reinforced pavements needs to be reevaluated.
- Permeable Bases – NCHRP evaluated the performance of pavements on permeable bases. European practice is to construct pavements on dense bases with deep foundations.
- Maturity Testing – evaluating the benefit of using this method for opening pavements to traffic should be evaluated. Maturity testing is extensively used in the private sector.
- Joint resealing – details for resealing joints originally sealed with neoprene need to be developed. One size fits all is not effective.
- Widened Lanes – geometric standards for widened lanes need to be established
- VE/ACTT – this process is for evaluating cost and time savings on large projects; contractors are encouraged to participate
- Unbounded overlays – evaluating the economics of unbounded overlays versus other treatments needs to be undertaken
- Life Cycle Costing - PENNDOT is evaluating the findings of the LCCA research work. Industry has recommended that all costs (escalators, incentives, etc.) for all pavement investment strategies be included in the process.
- 2007 Material needs – Districts are estimating the concrete, aggregate, and asphalt material needs for 2007. ACPA will be given the data when available.
- Hardened air – The Department and industry will be discussing hardened air in order to bring resolution to this topic.
- The Pennsylvania Concrete Conference is scheduled for January 30-February 1, 2007, at the Holiday Inn in Grantville. ACPA is open to suggestions for topics and speakers.

The status of 2005 action items are listed in the attached pages. Action items identified during the 2006 meeting are also listed; items 1 thru 10 are continuations or modifications from 2005 action items.

Attachment  
425/WJM/ec

## 2005 Follow-Up Actions

1. BOCM will reevaluate the patching standard for reinforced concrete. Details are currently being drafted.  
*Status:* Done. RC Standards have been revised.
2. BOMO will revise the RC Standards for geotextile covering of pavement base drains. The current detail cannot be built. The separation layer of geofabric is also to be addressed. A Clearance Transmittal will be distributed making geotextile optional.  
*Status:* Done. BOMO to provide option of putting in between 2A/Subgrade interface or not at all. Project plan to indicate which option to be used.
3. BOD will issue an update to the RC Drawings for an alternate tie bar placement scheme (RC-20).  
*Status:* Done. RC Standards modified.
4. BOCM will investigate the effects of adjacent lanes placed in different environmental conditions when there is accumulated movement at isolated joints (ongoing).  
*Status:* Efforts are ongoing. (2006 Action Item 1)
5. BOMO will issue a Strike off letter and change RC-25 to specify full depth pavement for shoulders and when to specify dowels for the shoulder.  
*Status:* Efforts are ongoing. BOMO initially issued clearance transmittal including all pavement types. Clearance Transmittal/SOL to be issued late 2006. (2006 Action Item 2)
6. BOCM is to evaluate the effectiveness of protective coating, Item 0503-0001 (linseed oil), and policies on when it is required.  
*Status:* Ongoing; discussed during meeting. Need for protective coating needs to be established and uniform guidance requested (2006 Action Item 3)
7. BOMO will develop patching details to include skewed joint concept in RC-26 drawings.  
*Status:* Complete. RC Standards modified.
8. CPQI Task Force will evaluate an option to utilize aggregate bases in lieu of treated subbase material.  
*Status:* Ongoing, under development by Base Team; promise to issue second stage clearance transmittal has been made. (2006 Action Item 4)
9. BOCM will evaluate hardened air requirements in Section 501 verses other specifications.  
*Status:* Ongoing. (2006 Action Item 5)
10. BOCM will consider cement price adjustment.  
*Status:* Considered. PENNDOT letter to Industry denied request as proposed.
11. BOCM will issue policy on sawing over-cuts during patching in areas where mid-slab cracking is acute.  
*Status:* Effort is ongoing and will be followed up considering best practices (2006 Action Item 6)
12. BOMO and BOCM will reconsider the use of male keyways.  
*Status:* Done. Both male and female keyways permitted.
13. BOCM is to re-evaluate the grinding specification Section 514.  
*Status:* Ongoing. Grinding specification requires same level of ride as is specified for new

pavements. Use of this specification on JRCP could cause issues with exposing reinforcing. (2006 Action Item 7)

14. BOD is to provide the existing IRI data in bid packages where diamond grinding is specified.  
*Status:* Discussed during 2006 tour. This information is needed by grinding contractors in order to provide best price for work to be performed. (2006 Action Item 8)
15. BOD will specify in the special provisions when diamond grinding slurry is to be hauled off site and disposed.  
*Status:* Done. District special provisions have included in 2006 contracts how slurry is to be handled. Since this is a project-by project decision, handling this issue in this manner is acceptable.
16. BOMO is to evaluate using FWD in determining voids under the pavement for identification of where to perform patching.  
*Status:* Complete. BOMO requires FWD testing on all patching jobs and pavement preservation projects.
17. BOCM is to provide ACPA with 2006 estimated material needs.  
*Status:* Done. Information provided by email from BOCM to ACPA and others November 2005. This information was requested to be provided for 2007. (2006 Action Item 9)
18. BOMO is to evaluate the thickness requirement for treated bases 4 inches verse 3 inches.  
*Status:* Ongoing. Several options for base thicknesses being considered based on findings from European Scanning Tour. (2006 Action Item 10)
19. BOMO is to consider reducing the centerline saw cut to ¼ inch wide.  
*Status:* Complete. RC standards modified.

**2006 Follow-UP Actions**

<b>Item #</b>	<b>Issue</b>	<b>Responsibility</b>	<b>Status/ Timetable</b>	<b>Comments</b>
1	Investigate the effects of adjacent lanes placed in different environmental conditions when there is accumulated movement at isolated joints	BOCM	01/31/07	Ongoing; several projects monitored over past three years
2	Issue a clearance transmittal related to criteria for use of dowels for concrete shoulders.	BOMO	12/31/06	Clearance transmittal to be issued in 2006
3	Evaluate the effectiveness of protective coating and recommend policy on when to use.	CPQI Committee	01/31/07	New Team Assignment
4	Evaluate appropriate applications for using GPB in lieu of treated permeable material.	CPQI (Base Team)	March, 2007	CT comments to be evaluated
5	Evaluate plastic and hardened air data and share with industry	BOCM	April, 2007	Plastic air data provided by industry
6	Develop a policy on sawing over-cuts during patching	CPQI (CPR Team)	March, 2007	Clearance transmittal to be issued in 2007
7	Re-evaluate the grinding specification in Section 514 related to Section 507.	BOCM	01/31/07	Status report
8	Provide the available IRI and profile data in all bid packages where diamond grinding is specified.	BOD	01/31/07	Some but not all projects include this information
9	Provide industry with 2007 estimated material needs.	BOCM	01/31/07	
10	Consider reevaluating thickness requirements for bases.	BOMO	01/31/07	Status report – Based on findings from European Scanning Tour

**2006 Follow-UP Actions**

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11	Consider evaluating the merits of denser bases.	BOMO	01/31/07	Status report – Based on findings from European Scanning Tour
12	Consider reevaluating appropriate trigger and limit values for JPCP and JRCF	BOMO	01/31/07	Status report
13	Evaluate appropriateness of using the maturity method for determining strength for use in opening pavements to traffic	CPQI (Strength & Testing Team)	01/31/07	Status report – Pilot projects 2007 construction season
14	Evaluate criteria and best practices for partial depth spall repairs	CPQI (CPR Team)	01/31/07	Status report – CPR training Class
15	Evaluate joint resealing criteria for pavements originally sealed with neoprene seals.	CPQI (CPR Team)	01/31/07	Status report – CPR training class
16	Review criteria for cross slope and other design details for widened lanes.	BOD	01/31/07	Status report – Coordinate with BHSTE
17	Present material to PENNDOT on best practices for unbonded overlay techniques	ACPA	01/31/07	Presentation proposed for Concrete Conference
18	Present material to PENNDOT on traffic management best practices for concrete.	ACPA	01/31/07	Presentation proposed for Concrete Conference
19	Develop criteria for alternate bidding procedures	BOMO	01/31/07	Status report
20	Evaluate merits of incorporating escalator costs into the LCCA process	BOMO	01/31/07	Status report

## Attendees

John	Becker	ACPA-Pennsylvania Chapter	Chris	Sokol	PENNDOT, District 02-0
Sherry	Braafhart	ACPA-Pennsylvania Chapter	Jay	Miller	PENNDOT, District 03-0
Robert	Prisby	ACPA-Pennsylvania Chapter	David	Wise	PENNDOT, District 03-0
Bill	Lawrence	Armstrong Cement & Supply Corp.	Stephen	Caruano	PENNDOT, District 05-0
Robert	Ford	Baker Concrete Construction, Inc.	Keith	Fink	PENNDOT, District 05-0
Jim	Hosea	Baker Concrete Construction, Inc.	George	Dunheimer	PENNDOT, District 06-0
Brian	Eberhart	Callahan Paving Products, Inc.	Vicente	Morales	PENNDOT, District 06-0
Tom	Hunt	Cemex, Inc.	Harold	Windisch	PENNDOT, District 06-0
John	Depman	Central Atlantic Contractors	Doug	Frank	PENNDOT, District 08-0
Joe	Onesi	Dick Corporation	Benjamin	Singer	PENNDOT, District 08-0
Tom	Luby	Engius	Randy	Staudt	PENNDOT, District 08-0
Walter	Querry	Essroc Italcementi Group	Luis	Villegas	PENNDOT, District 08-0
Zahur	Siddiqui	FHWA	Patrick	Kelly	PENNDOT, District 08-0
Chuck	Niederriter	Golden Triangle Const. Co., Inc.	James	Campbell	PENNDOT, District 09-0
Clayton	Stahl	John Gulisek Construction Co.	Joe	Casper	PENNDOT, District 09-1
Lowell	Jensen	Hi-Way Paving, Inc.	Roger	Dodson	PENNDOT, District 09-0
John	Roberts	IGGA	Kevin	Gnegy	PENNDOT, District 09-0
Dan	Davis	KCI Technologies	Mellisa	McFeathers	PENNDOT, District 09-0
Andrew	Fedorko	L. Robert Kimball	Garry	Marks	PENNDOT, District 09-0
Adam	Katrancha	L. Robert Kimball	Phillip	Rampulla	PENNDOT, District 09-0
Tom	Mawhinney	Lehigh Cement Company	Michael	Smith	PENNDOT, District 09-0
John	Tarassenkov	McTich, Kunkel & Associates	Ed	Stoltz	PENNDOT, District 09-0
Mike	Moorman	Maguire Group, Inc.	Melissa	Wilkins	PENNDOT, District 09-0
Matthew	Fleury	Mascaro Contracting, L.P.	David	Wolfhope	PENNDOT, District 09-0
Tony	Rolin	Mascaro Contracting, L.P.	Larry	Cernansky	PENNDOT, District 10-0
Matthew	Corra	Meadow Burke Products	Paul	Majoris	PENNDOT, District 10-0
Tom	Bender	Charles J. Merlo, Inc.	Terry	Miller	PENNDOT, District 10-0
Jim	Kyper	New Enterprise Stone & Lime Co., Inc.	Richard	Polenik	PENNDOT, District 10-0
Ken	Crank	PACA	Mike	Shanshala	PENNDOT, District 10-0
Garth	Bridenbaugh	PENNDOT, Construction & Materials	William	Dipner	PENNDOT, District 11-0
John	Coldren	PENNDOT, Construction & Materials	Mike	McCart	PENNDOT, District 11-0
Steve	Grassetti	PENNDOT, Construction & Materials	Gary	Barber	PENNDOT, District 12-0
Gary	Hartman	PENNDOT, Construction & Materials	Thomas	Boyle	PENNDOT, District 12-0
Robert	Horwhat	PENNDOT, Construction & Materials	Larry	Maricondi	PENNDOT, District 12-0
David	Jarvis	PENNDOT, Construction & Materials	Dan	Dawood	PENNDOT, Maintenance & Ops.
Marcella	Lucas	PENNDOT, Construction & Materials	Tucker	Ferguson	PENNDOT, Maintenance & Ops.
Patricia	Miller	PENNDOT, Construction & Materials	Alberto	Medina	PENNDOT, Maintenance & Ops.
William	Miller	PENNDOT, Construction & Materials	Sunil	Patel	PENNDOT, Maintenance & Ops.
Joseph	Robinson	PENNDOT, Construction & Materials	Chris	Speese	PENNDOT, Maintenance & Ops.
Mark	Burkhead	PENNDOT, Design	John	Hetrick	SAI Consulting Engineers, Inc.
Jerry	Brosius	PENNDOT, District 01-0	Mike	Horan	Sanders Saws, Inc.
Jeffrey	Oswalt	PENNDOT, District 01-0	Bob	Priest	Sanders Saws, Inc.
Stephen	Snyder	PENNDOT, District 01-0	Mike	Golembiewski	Swank Associated Companies
Neal	Fannin	PENNDOT, District 02-0	John	McCaskie	Swank Associated Companies
Benjamin	LaParne	PENNDOT, District 02-0	Tom	Weber	Swank Associated Companies