

MEETING MINUTES
MEO Pre-meeting for Materials Engineers Only (Invited Guest - Curt Turgeon)

April 24, 2007 - Baxter Headquarters, 9:00-12:00

1. **OFFICIAL MEMBERSHIP OF THE MEO - CURT TURGEON PROPOSAL** – It has become a point of contention about the number of members that attend these meetings. The size of the group is getting too large. It is more of a convention than a meeting. Voting is not an issue because we rarely ever vote. The agenda should be more focused and personnel attending would depend on agenda. The MEO Executive Committee drives the agenda. Curt Turgeon presented a proposal to change the number of members of the MEO (**HANDOUT – MEO Member Changes.pdf**) The group decided to, “Accept Curt’s proposal but remove the Chief Chemist and add the Preventive Maintenance Engineer.” It was also suggested that on the first day the District Materials Engineers would meet and the entire group would meet on the second day. Personnel at the meeting the second day would be based on the proposed agenda. Finally, the MEO would meet two times a year, once in the Spring with the Soils Engineer Organization and in the Fall with the Lab Supervisors. This proposal was brought up at the full MEO and voted on.
2. **FOCUS MEO TOPICS MORE** – It was agreed that the MEO meetings should be driven by the agenda.
3. **LCCA/CPAM** – Are you doing LCCA on all projects? CPAM feels we aren’t looking at enough whitetopping projects. They attempted to modify proposed legislation to require Mn/DOT do LCCA on all projects, even Preventive Maintenance. The discussion centered on which categories of projects would need LCCA and if the Districts would be given flexibility on coming up with costs and life times for fixes. It was mentioned that LCCA that are currently being performed should be placed in EDMS. Also mentioned was a 1999 Memo by Gerald Rohrbach discussing LCCA. **Action Item** – The Pavement Design Subcommittee of John Hager, Tony Kempenich, and Dave Van Deusen to come up with guidelines for review, comment, and adoption.

4. **WHITETOPPING/CPAM** – As previously stated, CPAM is concerned that Mn/DOT is not looking at the option of whitetopping as a solution for Pavement Preservation projects. It was mentioned that it was proposed earlier this year that \$500K would be available to each District to do a whitetopping project. If you are looking at the option, talk to Curt about getting some of the proposed funding. It would be possible to leave the timing and type of fix up to the District.
5. **NUMBER OF DISTRICT REPRESENTATIVES AT LAB SUPERVISORS' MEETING** – This meeting is also getting too large. There were several complaints about their meetings including: that there were several conversations going on at once, they should structure their meetings better, and that it should be agenda driven. Need to limit the number of people each District is sending. Try to limit to one per District, unless it is at your District and then no more than 2.
6. **AUGER SURVEY** – Some people are concerned that the drilling rigs are not being used enough. This is not just from a mileage or hour's viewpoint but an efficiency of limited resources. They are mentioning that we look at the concept of “Shared Services” like the Striping Crew. It was stated that the group should develop a document to determine the real costs and limitations to flexibility associated with going to a “Shared Services” concept.
Action Item –Perry Collins, John Hager, and Ben Timerson to come up with a position paper on this item.
7. **LIAISONS** – Nothing resolved.
8. **OUTSTATE TRIP** – There is good news and bad news. The bad news, Dave Van Deusen hasn't gone on a trip, and the good news is there is no good news. **Action Item** – Ben Timerson to go to a Materials/Pavement conference in the next 2 month. More bad news, he didn't go. Perry Collins will be the next person to go on an outstate trip. Ben will try to go on a trip and then Perry will go on one the following year.

9. **LAB SUPERVISORS GROUP – ELIMINATE FORMS #24355 & #24570** – Currently, only 3 of the 8 Districts are using these two forms. The other 5 Districts have their own procedures to deal with the information in these forms. It was decided that the 3 Districts could continue to use the forms if they want.
10. **MEO – SOILS ENGINEERS AND LAB SUPERVISORS ATTENDANCE** – The attendance of these groups at the MEO Meetings should be agenda driven.
11. **ROUT & SEALS – WARRANTY** – Not discussed.
12. **GENERAL DISCUSSION ON WARRANTIES** – Not discussed.
13. **NEW SCOPING PROCESS** – Not discussed.
14. **FLOATING MANHOLES** – John Hager discussed his recent experience using this technology on a concrete pavement in District 7. The concrete pavement had poor compaction when constructed and has poor drainage. The concrete was breaking up near the manholes within 7 years of construction. The roadway moves up and down over the seasons while the manholes don't move because they extend below the frost line. This movement has resulted in a lot of cracking and faulting of the pavement at the manholes. The floating manholes are constructed using a neoprene gasket that allows up to 3" of movement (**HANDOUT – Floating Manholes.pdf**). The results are that where the floating manholes were installed, some have worked and haven't cracked the adjacent concrete pavement but some have cracked the pavement. John will continue to monitor the area and see if he can determine why some worked and some didn't.
15. **DISCUSS PAVEMENT MANAGEMENT ISSUES** – Not discussed.
 - A. **PERCENT USED FOR INFLATION**
 - B. **DISCUSS DOLLAR AMOUNTS DISTRICTS ARE SUPPOSED TO SPEND TO REACH MEASURES**
 - C. **HPMA COST ESTIMATES**

16. **DISCUSS THREE SUBCOMMITTEES – PAVEMENT MANAGEMENT, PAVEMENT DESIGN, SPECIFICATIONS** – The Pavement Management Subcommittee members are Perry Collins, Rod Garver, and Tom Meath. The Design Subcommittee members are John Hager, Tony Kempenich, and Dave Van Deusen. The Specifications Subcommittee members are Art Bolland, Graig Gilbertson, and Ben Timerson.
17. **STREAMLINING/INNOVATION COMMITTEE** – Graig is going to the on-going meetings with the Resident Engineers on this subject. Graig presented a handout breaking down into categories what items they are looking at as far as streamlining. More was discussed and presented during the full MEO meeting. **(HANDOUT – Streamlining Innovation Committee (I))**
18. **BITUMINOUS PRICES** – Not discussed.
19. **BITUMINOUS ISSUES - AFT, CORELOCK, SPECIFICATIONS** – Not discussed.
20. **BRIDGE DECKS - CARGILL PRODUCT - SAFELANE OVERLAY** – Not discussed.
21. **GRADING ISSUES, LWD, DCP, TEST ROLLING, SPECIFIED DENSITY, ETC.** – Not discussed.
22. **PREVENTIVE MAINTENANCE STRATEGIES** – Not discussed.
23. **RUMBLE STRIPES** – This is the new practice of painting the fog line through the rumble strips. The MEO is concerned that this is allowing traffic to drive on the thin shoulder and accelerating their breakup.
24. **BITUMINOUS FULL DEPTH (BFD)** – There are up to 1,000 miles of BFD sections in the Mn/DOT system. The question is what to do with them and how to maintain them. The MEO is encouraging research to keep working on this subject. This subject is on the

research list with Roger Olson. District 8 has just under 100 miles of BFD roadway. Art was nominated to keep this subject moving forward.

**Materials Engineers' Organization (MEO) Meeting
Meeting Minutes
District 3 - Baxter Headquarters
April 24 – 25, 2007**

Day 1 – April 24, 2007, PM Session (Joint MEO/SEO Session)

Introductions

Grading & Base Items – Tim Andersen

- **Draft 3138 Specification - Aggregate for Surface & Base Courses (HANDOUT – Grading & Base-Draft 3138 Spec.pdf)**
 - Concern about drainage issue on 3138 with recycle & subsurface drains.
 - The word *Salvaged* has been removed from the wording and replaced with *Recycled*.
 - Break out tables between virgin material & recycled material.
 - Class refers to gradation.
 - B, C, & BC refers to what is recycled in the material.
 - 25% is the cutoff between virgin & recycled materials.
 - It is the contractor's option to use recycled material.
- **Full Depth Reclamation (FDR)**
 - Who owns the spec? Dave Van Deusen said grading & base should own it.
 - Gradation important for getting compaction.
 - Moisture requirement in Spec.
 - Adding oil – Concern is that it won't stay. Can you bump up your GE by adding oil? (Sounds like a bad idea) Tim is against it.
- **MPCA Permit for Gravel Pits (MNG490000)**
 - Requires monitoring and sampling when there is runoff.
 - Memo sent to all Districts on March 5, 2007 concerning issue. No guidance on inspection procedures or documentation was provided.
 - Review active pits by July 1, 2007.
 - Review inactive pits by July 1, 2008.
 - D1 = 151 pits, D2 = 86 pits, D3 = 74 pits, D4 = 60 pits, D6 = 26 pits, D7 = 14 pits, D8 = 23 pits, and Metro = 28 pits.
 - D2 and D6 have had their drillers go out and inspect the sites.
- **Base – (HANDOUT – Grading & Base – Changes to Base Specs.pdf)**
 - Discussion about changes to Base items.

- Is it a paving platform?
- Is it a filter layer for OGAB and PASB?
- Is it required if the pavement structure meets the design requirements?

Resistivity Probe – Chuck Howe for Jason Richter

Jason not in today. He and his wife had a baby boy name Benjamin Bradley Richter, congratulations!

- New Earth Resistivity Imaging System (ERI).
- Based on Ohm's Law $R=V/I$.
- Soils have a large range in resistivity.
- Need drilling or CPT to provide ground truth.
- Where to use – Resistivity contrasts in soil, bedrock, and granular.
- Have done 7 sites, looking for more.

Concrete Issues – Doug Schwartz (HANDOUT – Concrete Office Presentation.pdf)

- Schedule of Price Reductions.
- Schedule of Materials Control:
 - Slump for slip form,
 - Compressive strength,
 - Flexural strength,
 - Slump tolerance not consistently applied,
 - Cementometer,
 - Maturity meters,
 - HPCP Curb & gutter & sidewalk mixes pilot projects,
 - Concrete curing boiler plate,
 - Cellular concrete for pipe grouting, expect 10-15 % over runs,
 - Concrete pavement rehab,
 - Concrete mix designs,
 - Bridge deck cracking,
 - Air content for concrete paving,
 - Concrete pavement base construction width 3' beyond outside edge,
 - Concrete probing,
 - Concrete pavement smoothness,
 - Dowel Basket Issues,
 - Joint Sealing – “Differences in: joint faulting, joint spalling, and corner deflections between pavements with sealed and unsealed joints are slight and inconsistent.”
 - Concrete pavement overlays in MN, (HANDOUT, 1 per District, Guide to Concrete Overlay Solutions, National Concrete Pavement Technology Center)
 - CP Roadmap.

Intelligent Compaction (Research & Implementation – John Siekmeir, Matt Oman, & Tim Andersen) (HANDOUT – IC Implementation.pdf)

- Soils 101 - Sand Cones and Proctors.
- Adequate moisture is needed at time of compaction.
- Has been used in MN since 2004.
- No test roller failures on the 2006 IC Project.
- Refine current IC specs based on lessons learned.
- 4 Projects in 2007 in D3, D4, D7, and Metro.
- Non-granular use pad foots.
- Granular use smooth drum.

Pavement Design – Jerry Geib

- M-E Pavement Design Guide – Version 1.0.
- MN Pave – Update for low volume roads.
- Seasonal Load limits – April 23 to 25th State wide.
- UTBWC Ultra thin bonded wearing course (Nova Chip).

Bituminous – John Garriety (HANDOUT – Bit Office Presentation.pdf)

- Tensile Strength Ratio (TSR)
- Blade-Laid Leveling Provisions (HANDOUT – Tight Blade Leveling Spec.pdf)
Action Item – Tim Anderson, John Garrity, John Hager, Tony Kempenich, and Dave Van Deusen to form subcommittee about FDR Stabilized Base.

Day 2 – April 25, 2007, MEO Session

Pavement Management – Dave Janisch

- Currently testing Metro & Northern MN. All but 17 counties will be tested by year's end.
- HPMAs Prices – Updating Unit Prices.
 - Almost all fixes going up 20% – 80%. Items included in the unit prices for each fix include:
 - ❖ Striping,
 - ❖ Guardrail,
 - ❖ Traffic control, and
 - ❖ Shoulders, etc.
- In 2011 to 2016 there is a predicted funding gap of \$646.8M for pavement needs.
- Five changes to HPMAs Program – mostly in prediction models.
- Locate your D – records in the field.
- HPMAs Training course (June 14th, 27th, or 29th).

- Little Roadway History Books, last printed in 2001, based on the discussion they will print more.
- 7th International Conference @ Calgary Canada on June 24th – 28th 2008.

Preventive Maintenance – Erland Lukanen (HANDOUT – Pavement Preservation Presentation.pdf)

- Data doesn't support that Preventive Maintenance helps the long term performance of the pavement based on review of HPMA data. This stirred up a little controversy. There was concern that the data may be skewed based on the practice that we do preventive maintenance on roads that are in good condition to keep them in good condition. More study will be done.

Research – Maureen Jensen (HANDOUT – Research Priorities.pdf)

- Research Items – Maureen Jensen.
- Cost & Performance of FDR, CIR, and Mill & Overlay – Shongtao Dai
 - Degredation Rate - CIP 0.040
FDR 0.021
Med. M&O 0.065
Thick M&O 0.021
- BFD, RAP and Superpave – Roger Olson
 - FDB – Starting to set up TAP.
 - RAP & Superpave- working on study.
- MNROAD & MEO Survey – Ben Worel
 - www.mrraps.dot.state.mn.us/mrrapps/tracking/tracking.asp

Materials Office Issues – Keith Shannon

- Meeting with Rick Arnebeck on Thursday
 - Tour of Office.
 - Budget Discussion.
- Concrete & Bituminous Industry Meeting
 - Both say they need more funding to do more projects.
- LCCA – Legislation pending (For Pavement Rehabilitation Projects).
- Alternate bids (bid both concrete & bituminous).
 - Looking @ pilot projects (Dist. 8 may be an option).
- Full Depth Reclamation (FDR)
 - Need design exception for FDR even though it is a preservation project.
 - Don't need to do design exception if you come up 2" or less for M&O.
 - Need to do a Safety Review for all projects.
- District Visits – District 7 next Monday. That will be the last one. District should get some time to present to the staff.

Pavement Engineering Update - Curt Turgeon

- MEO members to be reduced to 9 District Materials Engineers and 9 Engineers from Maplewood, (*HANDOUT – MEO Member Changes.pdf*) Voted on and unanimously approved
- Pavement Design Guide – Going through AASHTO Committees (No longer NCHRP Project) – Version 2.0 in 2010.

Lab Issues – Jim Kochsiek

- Forms 24570 & 24355 (optional now).
- Mercury – Get it in a safe area, Could be a real problem & risk.
- LIMS – RFP is out, May 21st vendor begins work.
- Productivity Task Force – working on it.
- AMRL reports will be out shortly, check how your lab is doing.
- Cost effectiveness? Couple dollars per test adding to outside test fees. Concerned about how much each district has to spend. It will be a dollar figure that someone may want to cut.

Committee Updates

- Drainage Committee – Graig Gilbertson & John Hager – Almost done, Tim Andersen has updated the OGAB and John Garrity working on PASB and PASSRC.
- Reclamation Committee – Still working. Two inches okay more than two inches may be a problem.
- Streamlining Committee – Graig Gilbertson (*Handout – Streamlining Innovation Committee (2).pdf*)
 - Get rid of things we always do just because we have always done it
 - Do we need to do certain things?
 - What is the value?
- Retention Schedule Committee – (Tom & Terry) Lab test documents, trouble finalizing the project.
- Activity Code Committee – Jim Kochsiek – cost to develop a project, spinning their wheels 20 video conferences.
- LCCA Committee-next couple months John Hager, Tony Kempenich, and Dave Van Deusen are working on letter.
- Auger Survey- Perry Collins, John Hager, and Ben Timerson are working on letter.
- Reclamation – FDR Stabilized – John Hager, Tony Kempenich, and Dave Van Deusen working on this item.

Liaisons

- **Lab Chiefs – Sandy**
 - **Form changes as previously discussed.**
 - **Ash recovery demo.**
 - **AMRL on-site scheduled for Nov. – Dec.**
 - ❖ **It cost District 3 \$12,000 for accrediting.**
 - **Joint meeting w/MEO, some discussion, not sure how productive.**
- **Resident Engineers**
 - **No issues to MEO group.**
 - **Discussion about change to Schedule of Materials Controls.**
- **Construction Managers Group**
 - **Scoping changes.**
 - **Estimating task force – No MEO personel on committee.**
 - **SA Audits task force**
 - ❖ **Geotech cost # 2**
 - ❖ **Design errors # 1**
 - ❖ **Spreadsheet for Task Forces (CMG has homepage)**
- **Soils Engineers**
 - **Estimating & LCCA.**
- **Design Engineers - Nothing**
- **Independent Assurance - Nothing**

Round Robin

- **Bill Lohr from FHWA- National Preventative Maintenance review, may be a year or two. % within limits job?**
- **Mike Robinson - AFT, call early if they are having problems making density on bituminous projects.**
- **Keith Shannon – S&I Meeting w/AFSCME may be some changes.**
- **Doug Schwartz – AGC meeting on Friday. More probing and reduce number of cores. Looking at preapproved stockpiles.**
- **Bill Lohr – AMRL helps against industry and contractor claims.**
- **Jim Kochsiek – Thanks Bill. This helps everyone understand why we need to spend the money to certify the labs.**
- **John Hager – Concerned about pit issues.**
- **Perry Collins – Task force for auger crews, write up white paper, look at utilization for equipment.**

- **Tom Meath– Names AGC Committee**
 - **Bituminious – Art Bolland**
 - **Grading & Base – Graig Gilbertson**
 - **Bridge – No One**
 - **Concrete – Perry Collins**
 - **Construction Practices Advisory Committee –CPAC - Tom Meath**

**NEXT MEO TENTATIVELY SCHEDULED IN
ST. CLOUD FOR OCTOBER 11th & 12th**