

Mn/DOT Materials Engineer Organization
Summer Meeting Minutes
July 18-19,2000
Red Wing

Day 1 Meeting called to order by chair Janisch at 12:15 pm on Tuesday, July 18, 2000.

Note: Items shown in bold were distributed at the meeting. If you did not receive a copy please contact the person in charge of that portion of the meeting.

- Introductions
- Gerry Rohrbach comments, Gerry was unable to attend due to conflicts
- Liaison Reports
 - Resident Engineers, Mike Kempinger
 - Paving over faulted concrete Spec. 2350
 - 4.0 void as target with wide variation. May need averaging or standard deviation. Let John Garrity know about problems.
 - Uniformity guidelines, Joe Meade
 - Use expertise available in Mn/DOT. Up to draft 4. Close to signature for guidelines.
 - Independent Assurance Inspectors, Mitch Jordahl
 - Software. D-6 is using and will be distributing soon.
 - Spec. 2350 leaves out a lot of the good practice language (stock piling, etc.)
 - John Garrity explained that we are moving towards acceptance of material and away from method specifications.
 - Certified plants ticket is not being enforced the same from district to district, Doug Schwartz is working on making this uniform.
 - Lab Supervisors, Jack Thoreson
 - Need to update the Lab Manual
 - To be AMRL certified you need to calibrate the sieves annually, but there is no equipment available for sieves smaller than the #4.
 - LIMS is making progress. Would like to extend mobility for Dina Buchen.
 - AASHTO T-104 was modified to require continued temperature monitoring within 1° F every 10 minutes. Mike Rief may be coming up with a solution for this.
 - Soils Engineers, John Helcl
 - Soils Engineer Meeting next week will include a tour of the Meridian Quarry.
 - Discussion on plotting borings on cross-sections and profiles. Some are in favor of plotting borings on the plans and others are opposed. This will be brought up at the Materials and Resident Engineer's Joint Meeting.
 - ADE's, Joe Meade
 - TRB representative from MEO will be Joe Korzilius
 - Discussed the significance of Groupwise mail versus a hardcopy with a signature. Some feel that a Groupwise note is sufficient and others follow-up with a hardcopy. Joe Meade will pursue this further.
 - FHWA, Bill Lohr
 - The light weight profiler has been found to have varied results due to variations in drivers. There are difficulties with startup. Results don't compare from one profiler to another.

- Research Overview, Glenn Engstrom
 - **PROPOSED FIVE-YEAR RESEARCH PLAN**
 - **OFFICE OF MATERIALS AND ROAD RESEARCH-RESEARCH (ONE PAGERS)**
- Mn/Road Update, Ben Worel
 - The Mn/Road project is six years old. There is a mainline and a low volume road. **LOW VOLUME TEST ROAD/ MAINLINE TEST ROAD** (Graphs).
 - Discussed forensic findings, in particular, top down cracking.
 - Demonstrated infrared camera.
- Pavement Preservation, Roger Olson
 - Crack sealing. **SAW & SEAL – SURVEY RESULTS.**
 - Cold in-place recycling.
 - Superpave, Shongtao Dai
 - Low temperature cracking.
 - Cost/benefit analysis.
 - Twelve sections selected.
 - Five overlay projects.
- Concrete Durability, Retrofit Dowels & 60-yr Pavement, Curt Turgeon
 - Tom Burnham discussed new PCC test cells at Mn/Road.
 - Eric Embacher is on mobility.
 - Micro-silica bridge decks have had problems due to caking of micro-silica.
 - Julie Vandenbossche is still at TRB.
 - **SUMMARY ON I-35W HIGH PERFORMANCE RIGID PAVEMENT PROJECT**
- ME Design & Performance Based Spec & More, John Siekmeier & Bruce Chadbourn
 - **UPDATE OF ACTIVITIES OF THE OMRR DESIGN RESEARCH GROUP**
 - John did a show-and-tell with the Loadman, Humboldt and a Dannish portable FWD that could be used to do quick strength determinations.
 - Dave Van Deusen needs samples for the study he is working on (mechanistic design).
 - A Ground Penetrating Radar unit is being purchased.
- Dr. Mark Snyder, formerly with the U of M, is the newly appointed Director of the Concrete Pavement Association of Minnesota. He gave an overview of some studies he is finishing for the U of M.
 - Fracture Model Study of PCC is looking at using the Hydraulic Fracture test as a replacement for the Freeze-thaw test.
 - Measured –vs- Predicted has an R² of 1.000
 - Segmented Concrete Block Retaining Wall Study
 - There is some concern about pre-mature failure.
 - Snow/ice and salt seem to be causing problems.
 - Minne-ALF and tests of Retro-fit Dowels
 - They are on the eighth slab with eight more to go.
 - Stainless Steel clad re-bars are looking good.
 - Fiber Reinforced plastic re-bars are not performing as good. Need to be thicker.

Adjourned at 4:30pm

Day 2 Meeting called to order by chair Janisch at 8:00 am on Wednesday, July 19, 2000.

- Pavement Issues, Joe Meade
 - Independent assurance will need a report at the end of the year.
 - The year 2000 specification book is nearly ready.
 - Material certification audits.
 - Good job of putting life cycle costs in soils letters, there have only been a few instances without numbers.
 - Paving awards, National Asphalt Pavement Association **2000 NAPA QUALITY IN CONSTRUCTION AWARDS.**

- Gerry Rohrbach is submitting a list for Administrative Engineer Professional to Pat Hughes.
- There is concern about failing samples and contractors sending these to different labs until they find one that will pass it.
- RAPR comments, Mike Robinson
 - **ASPHALT DENSITY STUDY** and an abbreviated version.
 - Seventeen different projects.
 - Contractors were getting higher results.
 - Transtech has not performed as well as nuclear.
 - **REPORT ON CAMPACTION DENSITY.**
 - Dave Miller, expressed concerns about losing manpower/experience.
 - John Garrity
 - Joe Thomas will be filling the Assistant Bituminous Engineer position. Joe is coming from Hydraulics.
 - Arbitrations are going on for TH 34 and TH 169.
 - **DENSITY COMPANION CORES.**
 - **VARIOUS BITUMINOUS ISSUES**
- Lab Issues, Mark Gieseke
 - AMRL, Gerry's letter went out
 - Samples take a while to arrive.
 - Not receiving all forms for project certification.
 - Looking into doing comparison testing to see where differences in mag/sulfate testing may be coming from.
 - AET and Braun are willing to do round robin testing.
 - Micro-Duval testing, aggregate has come from Canada, now looking for a US source.
 - Mark Gieseke needs to supply a calibration aggregate.
- Foundations issues, Gary Person
 - Discussed the law concerning drilling of environmental boreholes. **MDH DEFINITION OF AN ENVIRONMENTAL BOREHOLE & SOILS EXPLORATION BORINGS, NEW REGULATIONS (CONTAINED IN Appendix F of the Geotechnical manual).**
 - Effective May 10, 1993 an environmental borehole can only be drilled by a licensed contractor with a licensed drill rig.
 - Gary Person, Foundations Engineer and Chuck Howe, Chief Geologist are both licensed Monitoring well Contractors. The foundations drill rigs are licensed.
 - Gary Person will also present this information at the Soils Engineer's meeting on July 27, 2000.
 - On accelerated projects, Foundations would prefer to handle all structure investigations either with their own forces or with consultants using the existing t-contract. In those instances where the district prefers to include this in their consultant contract, Foundations would like to be involved early. They can provide wording for what would be required for a foundation investigation.
- Project Manager Reports, Joe Korzilius
 - Preventive Maintenance Committee has met one time. More will be coming.
 - Smooth Pavement Task Force has met and information will be coming.
 - Drainage Committee has not met.
 - SIPS & LIMS, Ben Worel. Some of the problems with using LIMS appear to be due to general problems using the computer.
 - Saw & Seal, Lori Vanderhider
 - First meeting in June
 - **UPDATING SAW AND SEAL MEMO**
 - Setting up a database for saw & seal sections.
- Pavement Management Update, Dave Janisch
 - New 2000 data is ready for three districts.
 - Getting calls about history book. Hoping to have the books ready before the end of August.
 - A new van is being built. Training is planned for August.

- Video-log is underway. District 1 is done.
- Video-log will use new software next year.
- **EVALUATION OF PAVEMENT REHAB COSTS**
- The Federal government is requiring Mn/DOT to assign a value to pavements, bridges, and property.
- HPMA training will be handled by request.
- Annual meeting will be set up this fall.

- Round Robin
 - District two, discussion about mill and overlay and correcting the crown.
 - District six, has a Geofoam job that will be starting.
 - Duane Young,
 - New ES, Cari Efta
 - Encourage using DCP.
 - Pilot course **DEMO PROJECT: “CONSTRUCTION OF PAVEMENT SUBSURFACE DRAINAGE SYSTEMS”**
 - Skid trailer has been re-calibrated.
 - There is now a Grading and Base web page.

- Technical Presentation – Construction Cost Trends by Joe Tummers and Hatem Qamhieh
 - 3000 projects per year
 - Review negotiated contract changes
 - **MINNESOTA CONSTRUCTION COST INDEX**
 - Three indexes and composite.
 - Annual prices are increasing.
 - Price trends
 - Price of oil, labor cost, equipment rate, fuel escalation, changing specs, plan holder lists.
 - When contractor knows he is the only bidder, or when he knows all of his competition, he can raise his bid artificially high. Mike Rief gave an example of how it hurts prices in his area.
 - Factors affecting price include material prices, hauling distance, number of intersections, difficulty of job, construction staging, manufactured sand, recycled material, competition, and quality production rates.
 - Supplemental agreements
 - Who is making the change, us or the contractor?
 - As we rush more jobs, it will require changes and supplemental agreements
 - Warranty jobs usually cost us 15% more.

- Technical Presentation - Finnish Base Design by Tony Kempenich
 - Lack of thermal cracking (in Finland)
 - Angular stone base, drainable.
 - Tried some projects with modified Finnish method and using mostly Finnish method. Had trouble with segregation in coarse aggregate base.

- Round Robin continued
 - Blake Nelson
 - Tire bails
 - Geofoam
 - Reinforced walls
 - MSE sheets are done, Bridge won't sign.

Next Meeting November 28 & 29, 2000 at Arden Hills.

Meeting adjourned at 2:15pm