

MONTANA DEPARTMENT OF TRANSPORTATION
Helena, Montana 59620-1001

MEMORANDUM

To: RRC Members
Kent M. Barnes, P.E./Materials Bureau
Robert E. Burkhardt/FHWA
John D. Craig/Transportation Planning Division
Jim Currie/Deputy Director
Dave Galt/Director of Transportation
Jim Greil/Aeronautics Division
Dennis A. Hult/Motor Carrier Services Division
James E. Hyatt/Maintenance Division
Joel M. Marshik, P.E./Environmental Services
Stefan Streeter, P.E./Billings District
James A. Walther, P.E./Highways & Engineering Division
Darrell G. Zook/Accounting Service Bureau

From: Susan C. Sillick
Manager, Research Program

Date: July 27, 2001

Subject: Summary of Minutes from the June 26, 2001 RRC Meeting

The Research Review Committee meeting was chaired by Sue Sillick and held in the MDT Commission Room.

1. **Budget Report:** Distributed at meeting – No Comments
2. **Research Project – current listing:** Distributed at meeting – No Comments

2a. *Urban Erosion Control* (99.008)

The Technical Panel recommends this project for approval-in-concept prior to issuing an RFP. Terry Yarger distributed copies of the RFP and explained the scope of this project. This RFP will include an investigation of state-of-the-practice and state-of-the-art in erosion and sediment control, survey of needs, and development of a training program.

Terry further explained that state DOT's must be ready to demonstrate what measures are currently in use, as well as new and innovative measures that will meet the new EPA standards. The estimated cost for this project is \$150,000.00.

Kent Barnes moved the RRC accept this project in-concept and move forward with the RFP. All present voted in favor of the motion except Jim Greil, who voted opposed and Jim Hyatt who voted present. Motion carried.

2b. *Bridge Deck Service Life Prediction Model* (01.011)

The Technical Panel recommends this project for approval-in-concept, prior to issuing an RFP. Nigel Mendis was present to discuss this project. He explained that the Bridge Bureau is concerned about chloride contamination on Montana's bridge decks that could cause bridge deck deterioration beyond what the bridge program can handle. MDT needs a procedure to estimate remaining bridge deck life. This procedure would then be used to program project by providing performance and life cycle costs analysis. This RFP is for Phase I including literature review and feasibility study. The estimated cost is approximately \$100,000.00.

Joel Marshik made a motion to approve this project in-concept allowing the RFP to proceed. Jim Hyatt seconded the motion. All present voted in favor of the motion.

2c. *Soil Resistivity for Culvert Design*

Sue announced the results of this completed study would be presented July 18th.

3. Reports: No Comments

3a. *Methods for Determining Bankfull Discharge and Other Flood Discharges for Ungaged Sites in Western Montana Based on Channel Morphology* – Progress Report - 7/1/00 to 12/31/00 – Attached

3b. *Evaluation of Methods for Estimation of Bridge-Pier Scour for Streams with Coarse Bed Materials Based on Observed Pier Scour in Montana* - Progress Report - 7/1/2000 to 12/31/2000 – Attached (99.019)

3c. *Monitoring Animal Use of Modified Drainage Culverts on the Lolo South Project* – Interim Report – April 18, 2001 - Attached

3d. *Landslide Inventory Project* – Progress Report – 1/1/2001 to 3/31/2001 – Attached (98.023)

3e. *Highways as Potential Barriers to Movement and Genetic Exchange in Small Mammals* – Progress Report 3 – April 30, 2001 – Attached (99.028)

3f. *Behavior of Steel Pipe Pile-to-Concrete Pile Cap Connections Under Lateral Roads* – Progress Report 1/1/2001 to 4/30/2001 – Attached (96.030)

3g. *Hydraulic Characteristics of the Upper Yellowstone River, Montana* – Progress Report – 7/1/2000 to 12/31/2000 – Attached (99.018)

3h. *Field Evaluation of Corrosion Inhibitors for Concrete* – FHWA Pooled-Fund Study Progress Report – 1/1/2001 to 3/31/2001 – Available Upon Request

3i. *Extending the Season for Concrete Construction and Repair* - FHWA Pooled-Fund Study – Progress Report – June 2001 – Available Upon Request

3j. *LTAP* – Quarterly Progress Report 1/1/2001 to 3/31/2001 - Attached

4. **Contract Extensions:** None

5. **Proposals:**

5a. *Later Load Test on a Drilled Shaft in Cemented Clayey Sands and Gravel* - Pooled-Fund Study – Attached

John Moran attended the meeting to discuss this proposal with the Research Review Committee. The objective of this project is to develop procedures to analyze lateral load capacity of drilled shafts in cemented clayey sands and gravels. A set of p-y curves, which are curves that define the deflection of depth for this large diameter shaft and have previously never been developed, will also be developed from the load test data to help in preparing a prediction procedure. This will ultimately result in more efficient design procedures for drilled shafts subjects to high lateral loads.

Several committee members spoke in favor of joining this national pooled-fund study sponsored by FHWA, since this project is already in place in Arizona and it would economically benefit MDT.

Jim Hyatt moved to take part in this 3-year pooled-fund study at \$10,000.00 per year for a total of \$30,000.00. Joel Marshik seconded the motion. The motion passed unanimously.

5b. *Investigation of Aggregate Shape Effects on Hot Mix Performance Using An Image Analysis Approach* – Pooled-Fund Study – Attached

Kent Barnes discussed this proposal with the RRC. The objective of this project is to develop a precise, fast, and cost-effective test to describe aggregate particle shape and size distribution characteristics to quantify the influence of particle shape, regularity, and the surface texture in HMA Performance.

Joel Marshik made a motion to support this study for one-year with funding at \$20,000.00. Kent Barnes seconded the motion. The motion passed with Stephen Streeter and Jim Walther voting no.

Following the vote, a discussion ensued pertaining to the amount of funding allocated and upon re-evaluation committee members felt it was more than MDT's fair share. Therefore, Joel Marshik modified his motion to reduce MDT's amount to \$10,000.00 for one-year. Kent Barnes seconded the modified motion. The new motion for \$10,000.00 for one-year passed unanimously.

5c. *WASHTO-X Videoconferencing Program* – Pooled-Fund Study – Attached

Currently Montana along with South Dakota, North Dakota, Wyoming, Utah and several universities from these states run two monthly videoconference programs. These programs have grown to the point that the research staff from these states can no longer handle the load, mixed with their other duties.

Therefore, UDOT requested a pooled-fund study for a trial two-year program. Through this pooled-fund study a director would be hired to expand the program to the WASHTO states, increase the number of sessions, and develop agendas for each session.

Videoconferencing equipment capabilities and traveling costs have reached levels that make this method of choice for many technology transfer activities. Fourteen of the seventeen WASHTO states have committed to participate in this program.

Joel Marshik made a motion to approve \$10,000.00 per year for the next two-years for a total of \$20,000.00. John Craig seconded the motion. All present voted in favor of the motion.

5d. *LTPP Material Testing* – Attached

Jon Watson met with the RRC to discuss this proposal. MDT has been an active participant in SHRP and LTPP for several years and previously made a commitment to provide materials testing for LTPP tests sections. The two newest test sections, SPS-1 and SPS-9 experiments on I-15 near Great Falls, have incomplete materials testing. Western Region Contractors for LTPP, Nichols Consulting, recently contacted MDT asking for this data.

As previous commitment had been made and this is a valuable research with input into a national database, Dave Galt made a motion to fund this for \$100,000.00. Seconded by Dennis Hult; the motion passed unanimously.

5e. *Bat Use of Highway Structures: A Pilot Study* – Attached (01.016)

The Wildlife Ecology and Transportation Technical Panel recommend proceeding with this proposal. Dave Hill attended the meeting to present this proposal to the RRC.

MDT has very little knowledge of bat activity pertaining to Montana bridges. Due to reports from other states and some bat sightings on a bridge in the Butte District, MDT could be facing major concerns dealing with bats, bridges, and the Endangered Species Act in the near future. The end product of this study is to provide information on which bridges may be used or preferred by bats; it will also determine if landscapes play a roll in the bats decision to roost on bridges.

MDT's cost for this two-year study will be a total of \$55,604.00.

Jim Walther made a motion to approve this study with the addition that information on bat proofing bridges is provided through the study for \$56,000.00. Kent Barnes seconded the motion. The motion carried.

6. Implementation: None

7. Federal Highway Technologies Transfer Funding

Bob Burkhardt, FHWA, provided a handout titled "Procedures for FHWA Divisions to use in obtaining T² funds from the Western Resource Center during FY 2001." Bob would like T² funding proposals to run through and be prioritized by the RRC. \$10,000.00 is available from FHWA Montana Division, with additional funds available through the FHWA Western Research Center.

Since this was a new idea to the committee, it was decided to look this information over and discuss it at the next RRC meeting.

8. LTAP

The Administration Division would like to see LTAP move from a calendar year to a state fiscal year contract period. A meeting was scheduled this afternoon to work out details. Sue wanted to give the RRC a heads-up on possible changes. The RRC members felt that regardless of the possible changes, the monthly LTAP dollar amount should remain the same.

Copies of the LTAP Advisory Board meeting minutes were also distributed.

9. Changes in RRC Membership

Dave Galt, Director of Transportation, met with the RRC to tell them of his plans and visions pertaining to the RRC. He shared with the Research Review Committee that

research and the funding that this committee deals with is one of the most important areas to the State of Montana, Construction Industry, Department of Transportation and transportation in general and he is very interested in this committee. He feels that the current RRC has done a wonderful job; however he would like to elevate this committee to the Division Administrator level. He further stated he was going to work closely in the future with the RRC, as the new chairman. This decision was made solely because he wants to elevate the research program. The transition will take place starting with the next RRC meeting.

Dave thanked the current Research Review Committee for all of their past work and noted by this work, changes have occurred in Montana State Laws and in the way the Montana Department of Transportation does business.

With no further business the Research Review Committee meeting closed.

cc: Craig Abernathy/Pavement Analysis & Research Section
Bruce H. Barrett/District Administrator-Billings
D. John Blacker/Maintenance Division
Monte N. Brown/Administration Division
Michael D. Ferguson/Aeronautics Division
Loran Frazier, P.E./District Administrator-Missoula
Jason Giard, P.E./District Administrator-Butte
Gary A. Gilmore, P.E./Highways & Engineering Division
John Horton/Right-of-Way Bureau
Michael P. Johnson/District Administrator-Great Falls
Joseph P. Kolman, P.E./Bridge Bureau
Drew F. Livesay/Motor Carrier Services Division
William L. McChesney/District Administrator-Glendive
Russell G. McDonald/Human Resources Division
Kenneth H. Neumiller/Engineering Oversight Bureau
Jeanne Nydegger/Pavement Analysis & Research Section
Brooke Page/Pavement Analysis & Research Section
Carl S. Peil, P.E./Preconstruction Bureau
Timothy W. Reardon/Legal Services
Patricia Saindon/Transportation Planning Division
Robert D. Tholt, P.E./Construction Bureau
Jon S. Watson, P.E./Pavement Analysis & Research Section
File