

**State of Wisconsin/Department of Transportation
RESEARCH PROGRESS REPORT FOR THE QUARTER ENDING: DECEMBER 31, 2007**

Program: SPR-0010(36) FFY99	Part: II Research and Development
Project Title: An Asset Management Approach for Drainage Infrastructures & Culverts	Project ID: MRUTC 06-08
Administrative Contact: Nina McLawhorn	Sponsor: MRUTC
WisDOT Technical Contact: Jason Bittner	Approved Starting Date: 1/1/06
Approved by COR/Steering Committee: \$145,257	Approved Ending Date: 6/30/2008
Project Investigator (agency & contact): Michigan State University – Center for Underground Infrastructure Research and Education, Mohammad Najafi, Najafi@uta.edu	

Description:

Total study budget	Current FFY budget	Expenditures for current quarter	Total Expenditures to date	Percent Complete
\$145,257	133,923	6,418.25	75,389.99	95%

Progress This Quarter:

(Includes project committee mtgs, work plan status, contract status, significant progress, etc.)

- UC invoice for amount of \$44,638.74 was received.
- A paper entitled, "Development of a Framework for Roadway Culvert & Drainage Structure Inventory and Inspection (08-1270)," will be presented at the Session 619 TRB's Structures Maintenance Committee (AHD30) of the TRB's 2008 annual meeting, on Wednesday, January 16, 2008, at the Marriott Thurgood Marshall East room. This Session will commence at 8:00 AM and end at 9:45 AM.
- The subcontract for \$46,499 with the University of Texas at Arlington (UTA) is being finalized.
- UTA and MSU have completed the culvert asset management model, including inspection and inventory protocols.

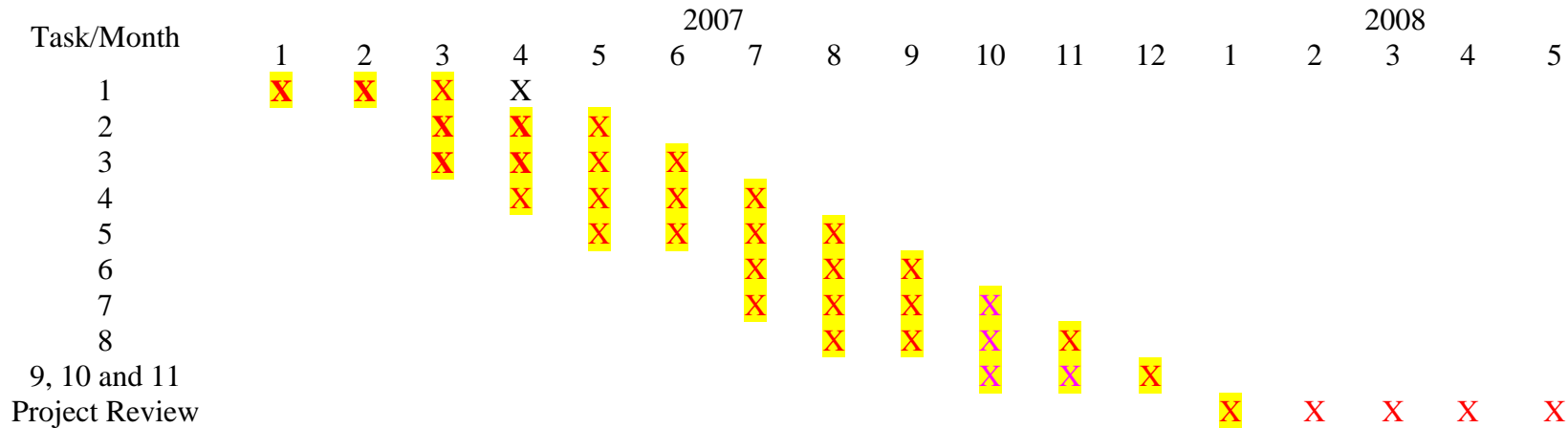
Work Next Quarter:

- Review the final report – final inventory and inspection protocols and manual.
- Finalize teaching materials to conduct workshops to train the inspectors and maintenance people on culvert asset management.
- Finalize UTA subcontract with MSU.
- Review UC final report.

Circumstances affecting progress/budget:

Due to late signing of contract and availability of funds, the project start date has been pushed back to May 31, 2008.

Gantt Chart:



X = Tasks completed or more than 80% complete.

1-Review of existing literature and conduct a national survey of best practices on drainage structures and culvert asset management efforts among the 50 state (specially the Midwestern states) DOTs and 10 Canadian provinces.

2-Review of various hydraulic, land-use changes and mechanical factors affecting the deterioration of drainage structures. Collected information will be checked against MDOT and ODOT documented history of failed, repaired, as-built and replaced drainage structures and culverts.

3-Review of existing inspection, data analysis and reporting methods for drainage structures and culverts and study of the modifications to be brought to buried pipes technologies to be implemented on drainage structures and culverts.

4-Develop an inventory and inspection protocols and business rules for MDOT and ODOT engineers and field operators.

5-Synthesize the research findings into a platform for a decision support system for culvert inspection, rehabilitation, maintenance, and asset management.

6-Project review

7-Perform pilot studies in Michigan and Ohio to validate the protocol and decision support platform

8-Collaborate with MDOT and ODOT engineers to write a section on inventory and inspection to be added to current best practices and business rules manuals.

9-Write a final report documenting all research findings.

10-Write several papers and articles to disseminate research results specifically for use of other Midwest states.

11-Offer educational workshops for MDOT and ODOT personnel to present results of this important research. Submit final report.