

**State of Wisconsin/Department of Transportation  
RESEARCH PROGRESS REPORT FOR THE QUARTER ENDING: June 30, 2007**

<b>Program: SPR-0010(36) FFY99</b>	<b>Part: II Research and Development</b>
<b>Project Title:</b> An Asset Management Approach for Drainage Infrastructures & Culverts	<b>Project ID:</b> 06-08
<b>Administrative Contact:</b> Jason Bittner	<b>Sponsor:</b> MRUTC
<b>WisDOT Technical Contact:</b> Shiv Gupta	<b>Approved Starting Date:</b> 1/1/06
<b>Approved by COR/Steering Committee:</b> \$145,257	<b>Approved Ending Date:</b> 12/31/07
<b>Project Investigator (agency &amp; contact):</b> Michigan State University – Center for Underground Infrastructure Research and Education, Mohammad Najafi, <a href="mailto:Najafi@uta.edu">Najafi@uta.edu</a>	

**Description:**

Total study budget	Current FFY budget	Expenditures for current quarter	Total Expenditures to date	Percent Complete
<b>\$145,257</b>	<b>133,923</b>	<b>3,000</b>	<b>24,333*</b>	<b>85%</b>

\* This amount does not consider work done by UC.

**Progress This Quarter:**

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

- A paper was published at the *proceedings* of the ASCE International Pipeline Conference held July 8-11, 2007 in Boston, and was presented on Tuesday, July 9, 2007.
- The survey for state DOT's was completed and results analyzed.
- A paper was completed over the results of the project was accepted for presentation and publication at the ASCE Pipeline 2007 Conference.
- The subcontract for \$20,000 with the University of Texas at Arlington (UTA) is being finalized.

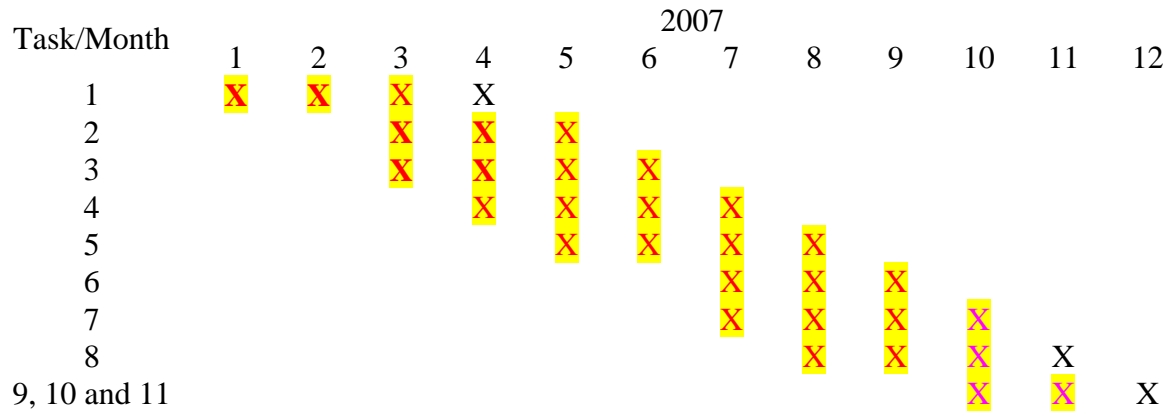
**Work Next Quarter:**

- Complete the final report – final inventory and inspection protocols and manual.
- Prepare teaching materials to conduct workshops to train the inspectors and maintenance people on culvert asset management.
- Sign a subcontract with UTA.
- Coordinate research efforts with UC.

**Circumstances affecting progress/budget:**

Due to late signing of contract and availability of funds, the project start date has been pushed back to December 2007.

**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.