State Planning and Research Program
Quarterly Report

PROJECT TITLE: Understanding the Chemical and Mechanical Performance of Snow and Ice Control Agents on Porous or Permeable Pavements

OBJECTIVES: The objectives of this research are to identify the primary chemical and mechanical interactions that occur when deicers are applied to textured or porous pavements before, during and after a winter storm to determine optimal winter maintenance strategies and application rates for treating these types of pavements

PERIOD COVERED: April 1, 2015 – June 30, 2015

PARTICIPATING AGENCIES:
Western Transportation Institute, Montana State University – Bozeman

PROJECT MANAGER:	**SP&R PROJECT NO**:	**PROJECT IS:**
Tom Peters and Deborah Sinclair **LEAD AGENCY**: Minnesota Department of Transportation **PRINCIPAL INVESTIGATOR**: Michelle Akin	TPF-5(218) MnDOT Contract No.99006	_____ Planning __X__ Research & Development

PROJECT BUDGET:	**PROJECT EXPENDITURES TO DATE**:
$185,000	$153,494.15

WORK COMPLETED:

Task 1 – Project Management
- general management of project in terms of contractual compliance, budget and schedule, administrative tasks, and communication with technical panel
- in May a no-cost time extension and revised schedule was approved

Task 2 – Literature Search - *COMPLETE*

Task 3 – List and Categorize Pavement and Overlay Types - *COMPLETE*

Task 4 – Interviews - *COMPLETE*

Task 5 – Lab Testing - *COMPLETE*

Task 6 – Analyze Chemical and Mechanical Interactions
- Coordinated with Massachusetts DOT to receive cores of OGFC-surfaced roads; the cores originally intended for this project were reported by MassDOT to not be the most appropriate (permeability too low) and they are looking into options for other cores

Task 7 – Synthesize Best Maintenance Practices – no progress during this period

Task 8 – Recommend a Plan of Study – no progress during this period

Task 9 – Reporting
- Submitted Quarterly Report #9

SUMMARY OF ACTIVITIES EXPECTED TO BE PERFORMED NEXT QUARTER:

Task 1 – Project Management

- general management of project in terms of contractual compliance, budget and schedule, administrative tasks, and communication with technical panel
- Teleconference in August to discuss *White Paper on Chemical and Mechanical Interactions*

Task 2 – Literature Search – *completed*

Task 3 – List and Categorize Pavement and Overlay Types - *completed*

Task 4 – Interviews - *completed*

Task 5 – Lab Testing - *completed*

Task 6 – Analyze Chemical and Mechanical Interactions

- Use cores obtained by MassDOT to create slabs for lab testing
- Possibly run a few more experiments to 1) correlate friction to visual appearance of samples after simulated plowing/snow removal, and 2) determine if salt is "lost" in the voids of porous/permeable pavements

Task 7 – Synthesize Best Maintenance Practices

- Use information from literature search, interviews and lab testing to develop guidelines for best practices

Task 8 – Recommend a Plan of Study – no progress anticipated during this period

Task 9 – Reporting

- Write Quarterly Report 11
- Write *White Paper on Chemical and Mechanical Interactions*

STATUS:

The project is currently on schedule. After

Task	Start Date	Completion Date	Status
1 – Project Management	2/1/2013	9/30/2015	On-Going
2 – Literature Search	2/1/2013	5/31/2013	Completed
3 – List & Categorize Pavement & Overlay Types	6/1/2013	6/30/2013	Completed
4 – Interviews	6/1/2013	1/31/2014	Completed
5 – Lab Testing	3/1/2014	12/31/2015	Completed
6 – Analyze Chemical & Mechanical Interactions	1/1/2015	7/31/2015	On-Going
7 – Synthesize Best Management Practices	8/1/2015	10/31/2015	Not Started
8 – Recommend a Plan of Study	11/1/2015	12/31/2015	Not Started
9 – Reporting	5/1/2013	3/31/2016	On-Going