

Quarterly Progress Report:

Project Number and Title: 2.2: Concrete Systems for a 100-Year Design Life

Research Area: New Materials for Longevity and Constructability

PI: Professor Eric N. Landis, Ph.D., University of Maine

Postdoctoral Research Associate: Hosain Haddad Kolour, Ph.D., PE, University of Maine

Reporting Period: Oct 2020 to Dec 2020

Submission Date: 30 Dec 2020

Overview: (Please answer each question individually)

Summary of activities during the reporting period:

- Literature review.
- Attending various conferences (zoom) related to this project
- Receiving and reading some documents and reports from MaineDOT
- Field trip to Bangor and visiting Bangor Ohio St. bridge project (Friday, October 2nd 2020)
- Zoom Meeting with MaineDOT engineers (Friday, November 20th 2020)

During last three months, a field trip arranged with project manager on Friday October 2nd 2020 for visiting Bangor Ohio St. bridge project. Then, we had a Zoom meeting with MaineDOT engineers. We presented our results from another project with MaineDOT, then we talked about their issues with Maine concrete projects. Particularly, we discussed about bridges in Maine. They sent us some documents and reports. We spent some time on reading the reports and documents. Some literature review has been done.

Table 1: Task Progress			
Task Number	Start Date	End Date	% Complete
Task 1: Inventory early age cracking problems	03/01/2020	Continue	20%
Task 2: Inventory longer-term cracking problems	03/01/2020	Continue	20%
Task 3: Develop solutions using alternative concrete mixes	09/01/2020	Continue	10%
Task 4: Examine new technologies	09/01/2020	Continue	10%

Table 2: Budget Progress		
Project Budget	Spend Amount	Spend Percentage to Date
\$83,300 (from UTC)	Information is coming soon	

Describe any opportunities for training/professional development that have been provided...

One postdoctoral research associate is working in this project. It will be a great opportunity for him to learn about writing proposals, preparing reports, participating in meeting, attending conferences, and working with professionals in UTC, UMaine Advanced Structures and Composites Center, and MaineDOT.

Four undergraduate students have been involved in this project. It will be a great experience for them to be familiar with ASTM tests and standards. They will learn how to conduct the experiments, how to follow the standards, and how to work in a team in a real project.

Participants and Collaborators:

Use the table below to list all individuals who have worked on the project.

Table 5: Active Principal Investigators, faculty, administrators, and Management Team Members			
Individual Name	Email Address	Department	Role in Research
<i>Professor Eric N. Landis</i>	<i>landis@maine.edu</i>	<i>Civil and Environmental Engineering</i>	<i>PI</i>
<i>Dr. Hosain Haddad Kolour</i>	<i>hosain.haddad@maine.edu</i>	<i>Civil and Environmental Engineering</i>	<i>Perform the experiments and analysis the results</i>

Use the table below to list all students who have participated in the project during the reporting. (This includes all paid, unpaid, intern, independent study, or any other student that participated in this project.)

Table 6: Student Participants during the reporting period				
Student Name	Email Address	Class	Major	Role in research
Parry Seddiqi		freshman	Civil and Environmental Engineering	Help in performing the experiments
Kelsey Weir		freshman	Civil and Environmental Engineering	Help in performing the experiments
Madison Ala		freshman	Civil and Environmental Engineering	Help in performing the experiments
Nicholas Tiner		freshman	Civil and Environmental Engineering	Help in performing the experiments

Use the table below to list organizations have been involved as partners on this project and their contribution to the project.

Table 8: Research Project Collaborators during the reporting period						
Organization	Location	Contribution to the Project				
		Financial Support	In-Kind Support	Facilities	Collaborative Research	Personnel Exchanges
University of Maine	Maine	X	X	X		

Who is the Technical Champion for this project?

Name: *Michael.Redmond*

Title: *Concrete Quality Specialist at MaineDOT Bridge Program*

Organization: *MaineDOT*

Location (City & State): *Augusta, Maine*

Email Address: Michael.Redmond@maine.gov

Changes:



Because of COVID 19 pandemic, we started our project in June, not in March.

Planned Activities:

Reviewing MaineDOT and contractor documents and designing experimental program