

Quarterly Progress Report:

Project Number and Title: Assessment of Micropile-Supported Integral Abutment Bridges

Research Area: Civil Engineering

PI: Aaron Gallant, Department of Civil and Environmental Engineering

Co-PI(s): Bill Davids, Department of Civil and Environmental Engineering

Reporting Period: Q2 2021

Submission Date: June 30, 2021

Overview:

In the last quarter the following activities were performed:

- Parametric 3D FEA of integral abutment bridges (IABs) supported on Micropiles.
- Preparation and submission of a peer-reviewed conference paper entitle “*Flexural Strength of Micropile Threaded Joints*,” which was submitted to Geo-Congress 2022 organized by ASCE’s Geo-Institute.
- Preparation of the final report for MaineDOT.
- Showcase presentation entitled “*Flexural Strength of Micropile Threaded Joints*” for the TIDC showcase.

Table 1: Task Progress			
Task Number	Start Date	End Date	% Complete
Task 1: Parametric FEA	January 1 st 2021	June 30 th 2021	99
Task 2: Literature review	January 1 st 2021	June 30 th 2021	95
Task 3: Conference paper	January 1 st 2021	June 30 th 2021	100
Task 4: Final report	January 1 st 2021	June 30 th 2021	50
Task 5: Showcase presentation	June 23 rd 2021	June 23 rd 2021	100
Overall Project:			

Table 2: Budget Progress		
Project Budget	Spend – Project to Date	% Project to Date*

*Include the date the budget is current to.

Table 3: Presentations at Conferences, Workshops, Seminars, and Other Events				
Title	Event	Type	Location	Date(s)
Flexural Strength of Micropile Threaded Joints	TIDC Showcase Presentation	Oral presentation	Online	June 23, 2021

Table 4: Publications and Submitted Papers and Reports				
Type	Title	Citation	Date	Status
Conference paper	Flexural Strength of Micropile Threaded Joints	Montoya-Vargas, S., Gallant, A., Davids, W.G. (2022). “Flexural Strength of Micropile Threaded Joints”. <i>Geo-Congress 2022</i> . Under review.	March 2022	Submitted, under-review

Participants and Collaborators:

Table 5: Active Principal Investigators, faculty, administrators, and Management Team Members			
Individual Name	Email Address	Department	Role in Research
Aaron Gallant	aaron.gallant@maine.edu	CIE	PI
Bill Davids	william.davids@maine.edu	CIE	Co-PI

Table 6: Student Participants during the reporting period				
Student Name	Email Address	Class	Major	Role in research
Sebastian Montoya		Master	Civil Engineering	Research Assistant

Table 7: Student Graduates			
Student Name	Role in Research	Degree	Graduation Date

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
Maine Department of Transportation	Maine	X				

Table 9: Other Collaborators			
Collaborator Name and Title	Contact Information	Organization and Department	Contribution to Research
Peggy Hagerty-Duffy	peggy@hagertyengineering.com	ADSC, Technical Director	Technical Champion

Who is the Technical Champion for this project?

Name: Laura Krusinski
 Title: Senior Geotechnical Engineer
 Organization: MaineDOT
 Location (City & State): August, Maine
 Email Address: laura.krusinski@maine.gov

Changes:

No changes at this time.

Planned Activities:

Micropile full-scale testing program beginning on the Fall semester of 2021. This will be supported by the industry group ADSC-IAFD.