TIDC Transportation Infrastructure Durability Center AT THE UNIVERSITY OF MAINE

UTC Project Information – Project 3.11	
Project Title	Assessment of micropile-supported integral abutment bridges
University	University of Maine
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Funding Source(s) and Amounts Provided (by each agency or organization)	Federal: $225,045; UMaine: $88,100; MaineDOT: $85,647
Total Project Cost	$398,792
Agency ID or Contract Number	69A2551847101
Start and End Dates	9/1/2019-6/30/2023
Brief Description of Research Project	Integral abutment bridges (IABs) are the preferred method of construction by Maine Department of Transportation (DOT) and other transportation agencies throughout the United States due to their durability and reduced upfront and life-cycle costs. Shallow bedrock, commonplace at bridge sites throughout the state of Maine, has precluded the use of conventional driven pile foundations and IABs in some instances. Micropiles are an attractive foundation alternative at shallow bedrock sites where conventional foundation systems (e.g. driven piles) cannot develop sufficient length to achieve fixity and/or adequate geotechnical resistance. These foundation elements can be installed through challenging glacial geology, including boulder material and bedrock. Currently, there is no guidance on the design of micropile-supported IABs, or long-term instrumentation data capturing their performance. The objective of this study is to develop a design methodology and engineering recommendations for the structural and geotechnical design of micropiles for IABs, and to demonstrate that micropiles satisfy strength and stability requirements for IAB applications when shallow bedrock is present.
Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here	This project is in its initial research phase. Implementation of Research outcomes will be reported upon completion of initial research.
Impacts/Benefits of Implementation (actual, not anticipated)	This project is in its initial research phase. Impacts and benefits of the research will be reported after the implementation phase.
Web Links • Reports	

• Project website	