



Research Project Statement 19-401 FY 2019 Annual Program

Title:	Evaluation of Geogrids for Asphalt Pavement Construction
The Problem:	<p>Geosynthetics offer promise for improving pavement section performance. In previous research, geosynthetics have been shown to reduce lateral cracking due to expansive soils and reduce necessary base material thickness; however, the mechanisms of performance are still being explored and real world testing is still necessary for certain use cases. One area for exploration that remains is the use of geosynthetics for reduction of hot-mix overlay thickness in asphalt pavement rehabilitation.</p> <p>The use of geosynthetics is currently planned for an overlay along SH 21 in the Austin District. Appropriate selection, installation, and monitoring of this work is necessary to ensure that the roadway performs as required. Furthermore, this work presents an opportunity to test different types of geosynthetics and evaluate their performance.</p>
Technical Objectives:	<p>The Performing Agency shall support the design, construction, monitoring, and data interpretation of pavement test sections to be constructed on SH 21 near Lincoln, using up to six geosynthetic products. Task details are as follows:</p> <ol style="list-style-type: none"> 1. The Performing Agency shall design a comprehensive field evaluation program to complement the construction of geosynthetic-reinforced asphalt overlay test sections along SH 21. The SH 21 reconstruction project is expected to start in early 2019. 2. The Performing Agency shall characterize the materials used in construction of SH 21 test sections as well as the natural subgrade, as needed. 3. The Performing Agency shall procure various components included in the instrumentation design identified in previous tasks and provide support to the Receiving Agency in the installation of instrumentation in the test sections. 4. The Performing Agency shall conduct a performance evaluation of geosynthetic-reinforced asphalt and control test sections constructed on SH 21. 5. The Performing Agency shall provide field monitoring services for test sections constructed on SH 21, with the specific goal of collecting long-term performance data from SH 21 test sections under public traffic and environmental loads. 6. The Performing Agency shall synthesize, analyze and interpret the experimental and field data collected as part of the activities proposed in Tasks 2 to 5. 7. The Performing Agency shall develop a specification appropriate for inclusion in a TxDOT manual and a stand-alone guide suitable for TxDOT use in future projects. 8. The expectation of this project is that the end product will obtain a TRL level 8.
Desired Deliverables:	<ol style="list-style-type: none"> 1. Technical memorandum for each task completed. 2. Monthly progress reports. 3. Value of Research (VoR) that includes both qualitative and economic benefits, to be included in the research report. 4. Research report documenting the findings of the research. 5. Project Summary Report. 6. A manual for implementing geosynthetics for HMA overlay rehabilitation.

Proposal Requirements:	<ol style="list-style-type: none">1. Utilize the deliverable based templates (see the appendices provided).2. Proposals will be considered non-responsive and will not be accepted for technical evaluation if they are not received by the deadline or do not meet the requirements stated in RTI's University Handbook.3. Proposals should be submitted in PDF format, 1 PDF file per proposal. The PDF file name should include the Project Statement Title, Project Statement Number and abbreviated Performing Agency(ies) Name.4. This project will be tracked during the life of the project using a Technology Readiness Level (TRL) scale. More information about the use of a TRL can be found at https://www.fhwa.dot.gov/publications/research/ear/17047/17047.pdf.
Pre-Proposal Meeting Information:	Friday, December 7, 2018 10:00 AM – 11:30 AM Austin Riverside Campus 118 E. Riverside Drive RTI Conference Room, 1st Floor Webex Information: <ol style="list-style-type: none">1. See attached Webex meeting notification.2. If requested, enter your name and email address.3. If a password is required, enter the meeting password: De8Mft7N4. Click "Join". Teleconference information: Provide your phone number when you join the meeting to receive a call back. Alternatively, you can call: Call-in toll-free number: 1-855-437-3563 (US) Conference Code: 734 619 030
Proposal Deadline:	Proposals are due to RTI by 3:00 PM Central Time, Thursday, January 24, 2019. Email submissions should be sent to RTIMain@txdot.gov .