

Title:	Develop Sediment Control Approved Products List
The Problem:	TxDOT is required to comply with state and federal rules governing the protection of water resources. Failure to adequately protect water resources during construction activities has led to violations, fines, and lawsuits in the past, and that risk is present today. To protect water resources in accordance with these state and federal regulations, TxDOT construction projects implement sediment control measures called best management practices (BMPs). Some of these sediment control BMPs are physical devices such as sediment control logs, rock filter dams, inlet protection devices, and floating turbidity barriers. Sediment control BMPs are selected during the project design phase to develop the storm water pollution prevention plan (SWP3), to be implemented during construction. Currently, there are no TxDOT-established minimum performance requirements for sediment control BMPs. TxDOT has sparse information in TxDOT Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges, Item 506, "Temporary Erosion, Sedimentation, and Environmental Controls," which is limited primarily to materials, installation and maintenance requirements, but no performance measures. There are a several one-time use specifications and various out-of-date guidance documents on how to install and maintain certain sediment control devices; however, no guidance exists to provide quantitative information to TxDOT personnel on the efficacy of these sediment control devices or information on under what conditions they will perform adequately. In an effort to generate more technically sound SWP3s during design and construction, an approved list of sediment control devices needs to be developed. This will enable designers and construction staff to reference specific criteria when selecting and implementing these devices on a project. There is an existing Erosion Control Approved Products List, and this proposed Sediment Control Approved Products list will complement the work that has already been done for erosion control BMPs. Failure to properly implement effective sediment control BMPs on projects can lead (and has led) to violations, fines, and lawsuits from state and federal agencies and private citizens.
Technical Objectives:	This research will provide tools to help designers develop better SWP3s and tools for construction personnel to implement these plans. The work to be performed shall include: 1. Test dewatering bags, floating turbidity barriers, sediment control logs, and inlet protection devices from various manufacturers. 2. Based on that data collected, determine minimum acceptable performance limits for each category of device and generate a list of products that meet those performance limits. 3. Determine performance limits based on the testing and ability to maintain acceptable water quality standards in real world conditions. 4. Develop a standard testing protocols for each category of device, including establishing performance measures for each category of device that TxDOT will use to test sediment control devices that are submitted in the future. The expectation of the project end product(s) shall attain a Technology Readiness Level of 8.
Anticipated Deliverables:	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 final research report; <u>not a stand-alone deliverable</u>. 4. Product: Manual or guidance document that outlines design and selection criteria for each sediment control device to outline under what site conditions a device will function properly. 5. Research report documenting the findings of the research, including testing protocols for each category of device, including establishing performance measures for each category of device. 6. Project Summary Report

Proposal Requirements:	1. Utilize the "Proj/Agre" and "PA_Form" templates located at the TxDOT RTI website. 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, which is also located at the RTI website. 3. Proposals should be submitted in PDF format, 1 PDF file per proposal. File name should include project name and university abbreviation. 4. This project will be tracked during the life of the project using a Technology Readiness Level (TRL) scale. For more information about the use of a TRL, click.
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