



Request for Proposals

Date: October 17, 2018

Best Practices for Evaluating Soil Stabilization Products

Deadline: November 8, 2018

A. INTRODUCTION

Stabilization of weak soils during road construction is a common practice among Canadian agencies. Numerous physical, chemical and biological stabilization products are available. When a new product enters the market, Canadian agencies seek information about that product's suitability for specific local conditions, application procedures, environmental effects, design life and long-term performance.

Most soil stabilization products are proprietary and there can be significant issues if failures occur, possibly due to inappropriate application or product limitations. There is a lack of guidance on laboratory and field testing protocols to evaluate the diverse stabilization products that are available. Further, field tests are expensive and time-consuming, and the validity of results may be uncertain. Consequently, the ability to assess products and determine under what conditions they will be successful is a challenge for Canadian agencies.

The Soils and Materials Standing Committee of the Transportation Association of Canada (TAC) is undertaking a project to determine how best to evaluate the performance of soil stabilization products. Specifically, the committee wishes to produce a synthesis of best practices for the laboratory and field evaluation of soil stabilization treatments in Canada, and provide guidance for Canadian agencies to evaluate and select stabilization products that will improve the long-term performance of roadways.

B. SCOPE

The objectives of this project are:

- To identify typical soil stabilization practices in Canada, available soil stabilization products, and procedures used by Canadian agencies to evaluate and select those products for road construction
- To summarize Canadian experience with various soil stabilization products, including long-term performance
- To develop a process for evaluating soil stabilization products that will help Canadian agencies to standardize laboratory testing, field trials and sharing of results

Topics the project will address include, but are not limited to:

- Problem soils typically encountered in Canadian highway construction
- Historic and current soil stabilization methods
- Soil stabilization product categories
- Current research areas
- Best practices for laboratory and field trial assessments of soil stabilization products
- Recommended approaches to share results among Canadian agencies

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Key tasks will include, but are not limited to:

- A survey of Canadian agencies, suppliers, contractors and geotechnical experts to identify key issues
- A review of soil stabilization practices and available products in Canada
- A review of North American and international research on available treatments and their performance, with a focus on Canadian soil types
- A review of methods for laboratory and field testing and evaluation of soil stabilization products

C. DELIVERABLES

The major project deliverable will be published by TAC. It will be a synthesis of best practices for evaluating soil stabilization treatments in Canada, containing an executive summary, detailed findings, table of contents, list of figures, list of tables and references.

Other deliverables will include:

- Status reports and presentations delivered by the consultant's lead team member at face-to-face meetings of the Project Steering Committee (PSC) during TAC's spring and fall technical meetings, and at other PSC meetings held by teleconference.
- Table summarizing comments received during PSC review of deliverables, tracking who submitted the comment and specifying how the comment was addressed. This table would be updated after each subsequent commenting period.
- Monthly progress reports including information on study progress, task status, schedule tracking task completion, and note of any perceived challenges.
- A PowerPoint deck describing the work undertaken, results, and an overview of the 100% draft report. The deck will be presented in person by the consultant's lead team member to the Project Steering Committee, Soils and Materials Standing Committee, Pavements Standing Committee, and Chief Engineers' Council.
- A five-page primer summarizing and providing an overview of the report, to be published by TAC
- Learning materials suitable for a 1-2 hour webinar to be delivered by the consultant through TAC's webinar platform after the project is completed.

The consultant will provide electronic files for all text, tables and figures, including:

- Microsoft Word version of all deliverables
- Adobe InDesign and PDF versions of the complete final draft report, inclusive of text, graphics, appendices, etc.
- All report graphics (e.g. tables, figures, photos) in Adobe Illustrator or Adobe Photoshop format, with all associated text being accessible and editable by TAC to facilitate translation. Embedded graphics in Word documents are not acceptable.
- Spreadsheets in Microsoft Excel format.
- Three to four high-quality colour photographs in TIF, JPG or EPS format, no less than 2400 pixels wide by 1800 pixels high, for use on the publication cover. The consultant should provide credit for each photo, and evidence of appropriate permissions for publication.



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Deliverables must adhere to the guidelines outlined in TAC's *Project Handbook*.¹ The Handbook contains an electronic template, pre-set with TAC format standards including fonts, headers, footers and references. Consultants must adhere to the template standards, and variations will be subject to TAC approval. Moreover, the selected proponent must adhere to the publication guidelines, and overall the TAC pooled fund project guidelines.

D. SCHEDULE

The consultant should propose a project schedule that will deliver a high-quality, comprehensive report in a reasonable timeframe. It is expected that a contract will be signed and work will begin in December 2018. Final draft deliverables will be submitted to TAC for PSC review no later than January 2020, and related presentations would occur during TAC Spring Technical Meetings in April 2020.

Milestone	Date
Contract award	December 2018
Initial meeting with PSC (teleconference)	December 2018
Literature and jurisdictional survey results deliverable	March 2019
In-person meeting with PSC during TAC 2019 Spring Technical Meetings (Ottawa)	April 2019
Submission of 50% draft document	July 2019
In-person meeting with PSC during TAC 2019 Fall Technical Meetings (Halifax)	September 2019
Submission of 100% draft report	January 2020
Submission of revised 100% draft report and primer with PowerPoint deck	March 2020
Presentation of final draft report to the PSC, two Standing Committees and the Chief Engineers' Council during the TAC 2020 Spring Technical Meetings (Ottawa)	April 2020
Electronic ballot approval by Chief Engineers' Council	April-June 2020
Submission of final deliverables	June 2020

The PSC wishes to be an active participant in the project development, and will be interested in the scheduled interactions with the consultant. PSC teleconferences will be scheduled throughout the project, and the PSC may review draft deliverables at several points with the consultant expected to address all comments. A minimum of 15 working days should be allocated for PSC members to review interim drafts prior to meetings or teleconferences. At least four weeks should be provided for PSC and Soils and Materials Standing Committee members to review and provide comments on the 100% draft report. It is expected that the consultant Team Lead (i.e. Consultant Project Manager) will be present in room for the spring and fall project meetings. The consultant team is responsible to give the final presentations by a consultant team member in person to the listed committees. These committee meetings will take place over multiple days during the technical meetings. Teleconference meetings are to be scheduled between in person meetings as required surrounding discussion and deliverable

¹ <http://tac-atc.ca/sites/tac-atc.ca/files/site/doc/projects/docs/handbook-authors.pdf>



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schedules. The consultant shall allow for a minimum of 3 teleconferences to be held, one between each in person meeting, with allowance for additional teleconference meetings as required

E. LEVEL OF EFFORT

This project's maximum budget is \$76,000 plus applicable taxes. A detailed cost breakdown will be requested at the beginning of the project. Invoices will be processed only for completed and approved items, with 10% of each invoice payment to be held back until final deliverables have been accepted by the Project Steering Committee and approved by the Chief Engineers' Council.

F. PROPOSAL REQUIREMENTS

The following key proposal elements are reflected in the Evaluation Criteria shown in Appendix A.

Project understanding – Proposals will demonstrate a clear understanding of the project's objective/scope and describe challenges that might be encountered in its execution.

Methodology – Proposals will describe an approach to satisfy key objectives and create deliverables, including major tasks, resources to be applied, major sources of information, planned analyses, and means for developing recommendations.

Project schedule and resources – Proposals will show person-hours budgeted for each team member by task, and a schedule with key milestones enabling required approvals. Proposals will identify a total cost with fees broken down by task and team member, as well as travel or other expenses.

Consultant team – Proposals will identify a project leader and supporting team members (including subconsultants), and will include résumés (no more than four pages each) showing experience on similar projects. Proposals will highlight the project team's experience with TAC projects and processes.

References – Proposals will identify three organizations for which the proponent has completed projects of a similar scope and/or size, including the organization's address and the name and telephone number of an individual familiar with the proponent's work.

Conflict of interest declaration – Proposals will include a disclosure statement including information on possible sources of significant financial or organizational conflicts of interest in conducting the project. For example, under certain conditions, ownership of the proposing organization, other organizational relationships, or proprietary rights and interests could be perceived as jeopardizing an objective approach to the project. Proponents are asked to disclose any such circumstances and identify effective mitigating strategies.



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G. PROPOSAL SUBMISSION

One **electronic copy** of the proposal (ideally in Adobe Acrobat format) shall be delivered to the undersigned **no later than November 8, 2018**. One **printed copy** of the proposal shall be delivered to the undersigned within five business days after that deadline. TAC reserves the right to interview any or all candidates prior to selection of a preferred consultant.

The proposal's main body should not exceed 10 single-sided pages using one-inch margins, single-spaced text and 12-point type. Proposals may include additional pages for a covering letter, detailed pricing form, project schedule chart, conflict of interest declaration, organizational diagram, and résumés.

H. PROJECT ADMINISTRATION

TAC's Project Manager will act as liaison between the PSC and the consultant for this project. Together with the PSC, the Project Manager will be responsible for reviewing project deliverables and ensuring that the consultant successfully accomplishes the objectives set out herein. All technical and administrative enquiries should be addressed to the undersigned.

TAC will administer an online collaborative platform to enable documentation sharing for this project. Although the working language for this project is English, the consultant is expected to review French literature as part of the study.

A contract for consulting services must be established with the consultant before work can begin.

For more information, contact:

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Appendix A: Evaluation Criteria for Project Proposals

Evaluation Criteria	Weight
Understanding of project's scope and desired deliverables	25
General approach and methodology	20
Adequacy of work plan and resources to ensure quality and meet required timeframes	20
Qualifications and experience of consultant team and project coordinator, and their proven competence in related work	25
Experience with TAC projects and/or processes	10
TOTAL >	100