Project Title	*Agmt./Task No.*	*Item No.*	*Agency Bgt. No.*
SPR-3(072) Strength and Deformation of Mechanically Stabilized Earth (MSE) Walls at Working Loads and Failure	**SPR-3(072)**		
Research Agency	*Start Date*	*Estimated Completion*	*Revised Completion*
Royal Military College of Canada	**12/1/99**	**04/30/04**	**12/31/08**
Principal Investigator(s)	*Technical Contact*		
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Funding Source	*Schedule Status*		
WA, NY, ID, CA, WY, ND, MN, OR, AZ, AK	☐ On schedule ☐ Ahead of schedule ☐ On revised schedule ☒ Behind schedule		
Research Area			

Original Estimated Cost	*Revised Cost*	*% Funds Expended*	*% Work Completed*
$360,104	**$690,000**	**60%**	**75%**

Objective

Develop a design procedure for the internal stability of MSE walls, especially those reinforced with fabrics.

Project Progress:

Phase 5 has begun and Dr. Bathurst has found the proper fill material. Construction has begun and testing will be performed throughout this winter. The delay in finding the proper fill material has put us behind by about one year, but Dr. Bathurst has been able to obtain an abundance of information from Japan.

The Japanese case histories significantly expand our data base, especially for walls built with marginal backfill soils. This research has enabled us to develop a design model modification to account for soil cohesion and other affects of using marginal quality backfill materials. The results have been excellent, and they have already developed journal papers to publish the results. These journal papers will form the basis of a report that will be made available to our funding organizations, hopefully by late this summer, that will explain the research results, providing a major leap ahead in addressing the use of marginal backfill soils in MSE walls. We still need the test walls, however, to fill in the gaps in the case history data to finalize our recommendations to address the use of marginal soils.

The other thing this recent research will do for us is that it will enable Japan to adopt out K-Stiffness method for use in routine design in Japan. The research using these Japanese case histories demonstrates the strength of the K-Stiffness design model, as the K-Stiffness method could accurately predict the performance of the Japanese walls for granular soils, as well as for wall case histories where marginal backfill soils were used, provided the cohesion factor developed through this research is used in such cases. This will help lend international support for our research results and the design method that has resulted from that, helping us to implement the research results.

New Period Proposed Activity:

Construct and test the next wall with the marginal fill. Continue work on Japanese case histories and finalize report.