



2016-2017

February Meeting Notice

Minnesota Geotechnical Society

Lesson learned from full-scale model MSE wall tests at RMC

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A long-term research program was carried out at the Royal Military College of Canada (RMC) between 1998 and 2011 with the objective to gather quantitative data on the behavior of MSE walls under carefully controlled (laboratory) conditions. The research program was funded by a consortium of 12 USA Departments of Transportation together with Canadian funding agencies. Fourteen heavily instrumented 3.6 m-high, full-scale reinforced soil walls were constructed with geogrid and welded wire reinforcement layers. Instrumentation included strain gauges and extensometers attached to reinforcement layers, connection load cells, horizontal and vertical toe load cells, earth pressure cells and displacement measuring devices at the wall face and at the backfill surface. For the hard-face walls more than 300 separate instruments were sampled simultaneously during construction and post-construction. Eleven walls were constructed with the same sand backfill material and were uniform surcharge loaded in stages to load levels well beyond working stress levels. Each wall was designed to isolate the influence of one of the following factors on wall performance: wall facing type, wall batter angle, reinforcement type, stiffness and spacing (number of layers). This talk describes the experimental design, examples of measured data, how the data have been used to verify numerical models and to guide the development of reinforcement stiffness-based design methods for internal stability design of MSE wall systems.

Date: Thursday, February 23, 2017

Location: Continuing Education and Conference Center
University of Minnesota - St. Paul Campus
1890 Buford Ave., St. Paul, MN 55108
(Pay Parking is available in lots S104, S108, and the Gortner Ave Ramp).

Time: **6:00** Social Hour – Sponsored by Hayward Baker
7:00 Dinner: Buffet Style
8:00 Presentation – Professor Richard Bathurst (One professional development hour toward continuing education requirements for Professional Engineers is available).

Cost: \$30.00 professionals, \$10 for full-time students
Pay online or make checks at the door payable to “MGS”

Reservations: Requested by 12 noon, Monday, February 20, 2017

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