Rapid Bridge Replacement - Jack and Slide

Presented by MMM Group Ltd. – Sponsored by OPWA

Technical Sessions

10:00 a.m.  **Opening Remarks**  
Speaker: James Sherlock, Senior Project Manager, MMM Group

10:05 a.m.  **Lateral Slide Rapid Replacement of the Highway 406 Glendale Avenue Overpasses**  
Speaker: Matthew Bowser, Project Engineer, MMM Group

This presentation will provide an overview for the lateral slide rapid replacements for the Highway 406 Glendale Avenue Overpasses. The new 52m long, three span superstructures, were constructed in advance of the rapid replacement on temporary supports directly adjacent to the north bound and south bound lanes of Highway 406. Using a short duration full closure over two consecutive weekends, the old superstructures were jacked and slid onto temporary supports followed by a jack and slide installation of the new superstructures.

10:30 a.m.  **Rapid Bridge Replacements Using Lateral Slides – An MMM Group History**  
Speaker: Jeff Smith, Project Engineer, MMM Group

In this session Mr. Smith will present three projects that showcase lateral slides in Ontario: the lateral slide of the existing 24-m single-span steel truss to facilitate the Wabigoon River Bridge replacement; the lateral slide of the existing 82-m, two-span steel truss bridge to facilitate the Frog Rapids superstructure replacement; and the lateral slide of the new 192-m-long, four-span haunched steel plate girder Kenogami River Bridge. By implementing the lateral slide method these projects maintained traffic throughout each stage of construction.

10:50 a.m.  **Bridge Slides: Means and Methods**  
Speaker: Matthew Bowser, Project Engineer, MMM Group

Several case studies will be presented in this session to demonstrate the diversity of available means and methods for bridge slides. Case studies will provide a general overview of the following: bridges slid on Hilman rollers; bridges slid on Teflon skids shoes; bridge slides utilizing “double” strand jacks connected in series; bridge slides utilizing hydraulic push-pull jacks; and bridge slides utilizing cranes as winches.

11:10 a.m.  **Footbridges that Bring Social Change in a Walking World**  
Special Guest Speaker: Tim Windsor, Board Trustee, initiative 360 – Take it Global

Simple footbridges save lives and improve the quality of life for marginalized communities across sub-Saharan Africa. This presentation describes how a footbridge brings social change by: providing access for children to attend school and return home safely; allowing the sick to reach hospitals or clinics for life saving medical attention; and connecting villagers to weekly market centers that enable commerce and a source of income. Mr. Windsor will also explain how local charities, consultants, and contractors are supporting this cause.
Our presenters:

James Sherlock, PEng
James is a Senior Project Manager and Partner with MMM Group, with over 29 years of Bridge engineering experience and with direct involvement in the replacement or rehabilitation of over 200 bridges in Ontario. James was the Structural Design Manager for the replacement of the Highway 406 Glendale Avenue bridge, which was completed by the lateral slide method. This was the third bridge that James has either designed, or for which he has overseen the design, that utilized this increasingly popular Accelerated Bridge Construction (ABC) method. This trend continues as he is currently working on a fourth lateral slide bridge replacement involving a new, 200 m long, 5 span steel arch bridge in Caledonia. James is one of the lead bridge engineers in MMM’s Mississauga Bridge Group, which comprises a staff of 55, including 34 Bridge Engineers, 9 Bridge Inspectors, and 13 CAD and supporting staff.

Matthew Bowser, MASc, PEng
Matthew is a Project Engineer within MMM’s Bridge Group and was one of the lead engineers for the Highway 406 Glendale Avenue rapid bridge replacement project by contributing to concept development, preliminary and detail design, and construction liaison. In addition to his design experience, Matthew has spent more than 1000 days working on-site during the construction of several complex bridges including the lateral slides for Mount Hunter Creek Bridge in the Rocky Mountains, the incrementally launched Athabasca River Bridge in Fort McMurray, and the progressive cantilever segmental construction of the Fairway Road Grand River Bridges in Waterloo Region. Matthew is also an active member of the Technical Advisory Committee for Bridging the Gap Africa.

Jeff Smith, MASc, PEng
Jeff is a Project Engineer and Associate with MMM Group. He has a background in both municipal and structural engineering and completed a Master’s degree with the Bridge Engineering Research Group at the University of Toronto. Over the past three years, Jeff has been managing the preliminary design, detail design, and construction liaison activities for 32 bridges in northern Ontario. He is also currently working with Matthew on the design of a 45-m suspension bridge in rural Kenya for the charity, Bridging the Gap Africa. Jeff lives in Guelph.

Tim Windsor
Tim is the COO of Primary Care Niagara, President of Thinkers Marketing Consulting, President & CEO of Fervesco Inc., and a co-founder of Initiative 360 -Take it Global, a local Niagara Region Charity that is partnered with the Nairobi based NGO called Bridging the Gap Africa. Over the past 20 years Tim has held various senior management and consulting positions in the Executive & Employee Development, Healthcare, Automotive, Construction, Real Estate Management and Publishing Industries. He has led volunteer organizations and currently provides on-going Management and Marketing consulting services for a variety of private, public and non-profit corporations in Canada, United States and Zimbabwe. Over the past several years he has worked in Mozambique, India, Guatemala, and Zimbabwe in leadership and capacity development of Health Care, Business, Government, Civic and NGO leaders. He resides in Kitchener, Ontario.