



The Canadian Society for Civil Engineering

The Canadian Geotechnical Society



London & District Section

2013 / 2014 Program

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Contact Tom Mara @ (519) 661-3338,
(Email: tom.mara@csce-cgs-london.org) for more details.

Notes about Meetings

- September 18th event is at the University of Western Ontario at 12:30pm (No cost).
- November 20th event is a site tour and pizza dinner; details to follow.
- Remaining events: Fox and Fiddle, located at King St. and Wellington St. (Citi Plaza).
- Parking validated for Citi Plaza lot.
- Cash bar is available.
- Networking opportunity starts at 5:45 p.m.
- Dining at 6:30 p.m.
- Presentation at 7:15 p.m., followed by Q & A.

See reverse side for event details.

2013 / 2014 PROGRAM

WEDNESDAY SEPTEMBER 18TH, 2013 – NATIONAL LECTURE TOUR

CANADA'S INFRASTRUCTURE REPORT CARD

TIME AND LOCATION: 12:30PM, UNIVERSITY OF WESTERN ONTARIO, SPENCER ENGINEERING BUILDING ROOM 2202

SPEAKER: Nick Larson, P.Eng., R.V. Anderson Associates Ltd.

WEDNESDAY OCTOBER 9TH, 2013

NIAGARA TUNNEL PROJECT

SPEAKER: MARY JANE FERARRO, STRABAG INC.

WEDNESDAY NOVEMBER 20TH, 2013

WINDEEE RESEARCH INSTITUTE TOUR

LOCATION DETAILS TO FOLLOW (RSVP BY NOV. 12 NECESSARY)

WEDNESDAY JANUARY 22ND, 2014

IMPACT OF BUILT HERITAGE ON ENGINEERING PROJECTS

SPEAKER: DR. CHRIS ANDREAE, GOLDER ASSOCIATES LTD.

WEDNESDAY FEBRUARY 12TH, 2014

REPAIR OF THE LYNN RIVER LIFT BRIDGE IN PORT DOVER

SPEAKER: JASAN BOPARAI, P.ENG., MINISTRY OF TRANSPORTATION ONTARIO

WEDNESDAY MARCH 19TH, 2014

GEOLOGIC CONTROLS ON GEOCHEMISTRY AND DISPOSAL OF EXCESS SOIL FROM CONSTRUCTION

SPEAKERS: KEITH LESARGE, P.GEO. AND DR. STORER BOONE, P.ENG., GOLDER ASSOCIATES LTD.

WEDNESDAY APRIL 23RD, 2014

THE CHALLENGES OF IMPLEMENTING DETAILED CONDITION ASSESSMENT OF PCCP FOR THE LAKE HURON PRIMARY WATER SUPPLY SYSTEM

SPEAKER: BRIAN LIMA, P.ENG., CITY OF LONDON

Wednesday September 18th, 2013 Presenter: Nick Larson, R.V. Anderson Associates Ltd.

Canada's Infrastructure Report Card – (University of Western Ontario, 12:30pm)

Canada's first Infrastructure Report Card was published in September 2012. It is sponsored by the Federation of Canadian Municipalities (FCM), the Canadian Construction Association (CCA), the CSCE and the Canadian Public Works Association (CPWA). The NLT presentation will provide details on the objectives and process of creating the first Canadian infrastructure report card. Stakeholder involvement was an important aspect of the data collection, analysis and reporting. The presentation explains how key national infrastructure associations were engaged. Finally, detailed results for the condition of potable water, wastewater, storm water and road systems are provided.

Wednesday October 9th, 2013 Presenter: Mary Jane Ferarro, Strabag Inc.

Niagara Tunnel Project

The Niagara Tunnel Project is a 10 km long diversion tunnel with an excavated diameter of 14.4 m. It was constructed as part of an upgrade to the Sir Adam Beck 2 hydro power plant in Niagara Falls, Ontario. The tunnel was advanced with the largest hard rock TBM at the time through horizontally bedded layers of sedimentary rock (dolomite, shale, sandstone and mudstone), which are characterized by a wide range of strength as well as time-dependent deformation behaviour. The high in-situ stresses resulted in overstressing of the rock mass and significant overbreak which accompanied the TBM advance over considerable lengths. The various solutions employed to overcome the overbreak included a tunnel realignment, significant equipment modifications, and restoration of the circular geometry of the tunnel. The extent of the overbreak was typically limited to 3 m above crown and required backfilling in order to provide adequate bedding conditions for the later installation of a pre-stressed, unreinforced inner concrete lining.

Wednesday November 20th, 2013 Site Tour – Location details to follow

WindEEE Research Institute Tour

The Wind Engineering, Energy and Environment (WindEEE) Dome is the world's first hexagonal wind tunnel. Its large scale structure (25 meters diameter for the inner dome and 40 meters diameter for the outer return dome) will allow for wind simulations over extended areas and complex terrain. In a nutshell WindEEE will, for the first time, allow for the manipulation of inflow and boundary conditions to reproduce, at large scales and under controlled conditions, the dynamics of real wind systems.

Wednesday January 22nd, 2014 Presenter: Dr. Christopher Andreae, Golder Associates Ltd.

Impact of Built Heritage on Engineering Projects

Using examples of heritage assessments of bridges, buildings, brownfields and industrial properties undertaken by Golder Associates over the last five years this presentation will explain various ways in which cultural heritage can impact engineering projects. Typical triggers for conducting heritage assessments are initiated by legislation, such as the Planning Act or Environmental Assessment Act, or by various provincial or municipal standards and guidelines such as Infrastructure Ontario's guidelines for heritage buildings. In addition heritage assessments are increasingly undertaken to provide value added site information for projects such as brownfields and rehabilitation and stabilization of old structures.

Wednesday February 12th, 2014 Presenter: Jasan Boparai, P.Eng., Ministry of Transportation, Ontario

Repair of the Lynn River Lift Bridge in Port Dover

The Lynn River Bridge is a double leaf bascule bridge (lift bridge) constructed in 1969. Replacement of the main bearings and updating of mechanical and electrical systems had to be completed during the winter of 2012/2013, the period when lifting of the bridge was not required for the passage of boat traffic. An interesting aspect of the work included the use of liquid nitrogen to shrink fit the trunnion shafts to the main girders. This presentation will include an overview of the challenges faced repairing a 40 year old bridge with complex structural, mechanical and electrical systems, in the middle of winter.

Wednesday March 19th, 2014 Presenter: Keith Lesarge, P.Geo. and Dr. Storer Boone, P.Eng., Golder Associates Ltd.

Geologic Controls on Geochemistry and Disposal of Excess Soil from Construction

Regulatory thresholds considered representative of "background" geochemistry in Ontario are based on a statistical evaluation of near-surface soils from sites scattered around the province and are used by some receivers, such as aggregate pits, for acceptance of excess soil from construction sites. Materials exceeding these thresholds but falling below other regulatory risk-based thresholds are difficult to dispose of yet are "clean enough" with respect to site remediation standards. As a result, soils that are otherwise environmentally-suitable for re-use on new construction sites must often be diverted to landfills at significant costs. This paper outlines the basis for defining "background" soil geochemistry, presents evidence for trace metal concentrations being related to bedrock and glacial geology, and demonstrates the need for rational background geochemistry data that better represent regional geological controls.

Wednesday April 23rd, 2014 Presenter: Brian Lima, P.Eng., City of London

The Challenges of Implementing Detailed Condition Assessment of PCCP for the Lake Huron Primary Water Supply System

The original primary pre-stressed concrete cylinder pipe (PCCP) transmission main of the Lake Huron Primary Water Supply System has experienced four catastrophic ruptures resulting from similar modes of failure warranting the immediate non-destructive, electromagnetic condition assessment and leak detection inspection while the transmission system remains in service due to the physical and operational constraints of the transmission system.