The Canadian Society for Civil Engineering

The Canadian Geotechnical Society

London & District Section **2016/2017 Program**

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Contact Trisha Wilbur @ (226) 268-7778, (Email: trisha.wilbur@csce-cgs-london.org) for more details.

Notes about Meetings

- *Events are held at 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 pm.*
- *Dining at 6:30 pm*
- *Presentation at 7:15 pm, followed by Q & A.*

2016/2017 PROGRAM

Wednesday September 21st, 2016

CSCE National Lecture Tour - National Infrastructure Report Card

Presenter: Nick Larson, P.Eng.; GM Blueplan Engineering Limited

Wednesday October 19th, 2016

Achieving Long Life Pavement through Better Design, Construction and Maintenance

Presenter: Dan Pickel, P. Eng.; University of Waterloo

Wednesday November 16th, 2016

Assessment of Stormwater Management Performance of Green Roofs

Presenter: Clare Robinson, Ph.D., P.Eng.; University of Western Ontario

Wednesday January 18th, 2017

The Climate Reality Project

Presenter: Tom Davis, P.Eng., LEED® AP BD+C; Fanshawe College

Wednesday February 15th, 2016

The Burbrook Storm Trunk Sewer Tunnel

Presenter: Paul Choma, P. Eng.; City of London

Wednesday March 15th, 2017

Sarnia Road Bioretention – A Low Impact Development Solution

Presenters: Bryanne Wouters, E.I.T. and Christopher Moon, P. Eng.; AECOM

Wednesday April 19th, 2017

My Dundas – Dundas Place Flexible Street Class Environmental Assessment

Presenter: Sabrina Stanlake-Wong; Dillon Consulting Limited

Wednesday September 21st, 2016 Presenter: Nick Larson, P.Eng.; GM Blueplan Engineering Limited

CSCE National Lecture Tour – National Infrastructure Report Card

Canada's latest Infrastructure Report Card (CIRC) was released in January 2016. As for the first one (published in 2012), it was sponsored by the Federation of Canadian Municipalities (FCM), the Canadian Construction Association (CCA), the CSCE and the Canadian Public Works Association (CPWA). The 2016 CIRC reports on potable water, storm and wastewater systems, roads and bridges, buildings, sport and recreational facilities, and public transit. The Report Card provides comprehensive, scientifically based, and standardized information on the inventory, condition and asset management practices of Canada's core public infrastructure. It is intended to assist policy-makers, asset owners and managers in their infrastructure asset management, planning and decision-making. One-third of our municipal infrastructure is in fair, poor or very poor condition, increasing the risk of service disruption. Nearly 35% of assets are in need of attention. Assets in fair, poor and very poor conditions represent a call for action. Survey results demonstrate that roads, municipal buildings, sport and recreation facilities, and public transit are the asset classes most in need of attention. The presentation provides a detailed overview of the CIRC process and results. Nick Larson's recent experience has focused on the advancement of sustainable infrastructure and asset management practices in municipalities, including policy development, data collection and management, and infrastructure monitoring and reporting mechanisms. He has also been involved with projects dealing with the development of sustainable municipal infrastructure services, risk and condition assessments, and level of service reviews. Nick is Chair of CSCE's Infrastructure Renewal Committee and was involved in the development of the first Canadian Infrastructure Report Card.

Wednesday October 19th, 2016 Presenter: Dan Pickel, PhD Candidate; University of Waterloo.

Achieving Long Life Pavement through Better Design, Construction and Maintenance

The Centre for Pavement and Transportation Technology (CPATT) at the University of Waterloo in Ontario, Canada has been at the leading forefront of advancing state-of-the-art pavement engineering through research and education. It is the result of a partnership between federal, provincial and municipal governments, private sector, and the University. The research themes include evaluating new and innovative materials, improving recycling and material characterization, being proactive on climate changes, design to mitigate natural disasters and use state-of-the-art analysis tools for evaluating innovative designs. A key aspect to determining if a pavement design can be effectively used in Canada, it must be resistant to harsh environmental and traffic loads. Currently, public agencies are also investigating the feasibility of incorporating sustainability and climate change impacts into transportation asset management. The potential benefits are diverse and of strategic importance as they encompass improvements to virgin material usage, alternative material usage, pavement in-service monitoring and management, noise, air quality, water quality and energy usage. The presentation will provide a framework for formally evaluating new materials and designs into pavement engineering. An evaluation of the concept of a solar road and the advanced application of SEM and CT scanning tools for evaluating and predicting performance of asphalt materials for usage on Canadian pavements will be presented. Engineering tools such as Finite Element for more sustainable and climate factors into asset management programming at the network level work will also be presented. Finally, the presentation will wrap up with some closing comments and identify some future opportunities for advancements.

Wednesday November 16th, 2016 Presenter: Clare Robinson, Ph.D., P.Eng.; University of Western Ontario

Assessment of Stormwater Management Performance of Green Roofs

Green roofs have been used for centuries to insulate buildings and beautify urban environments. European countries, especially Germany, have adopted green roofs use in modern buildings, helping raise awareness of their many potential benefits. Green roofs have been shown to reduce stormwater volumes and peak storm water runoff, provide insulation and lower roof surface temperature leading to a decrease in building energy performance and extend the life of a roof by decreasing the temperature fluctuations which cause roof damage. Green roofs are becoming an increasingly popular low impact development tool in North America for managing urban stormwater runoff. However, the implementation of green roofs in North American urban environments

remains underused, in part due to a lack of climate appropriate green roof design guidelines. A greater understanding of how green roofs perform with respect to fundamental stormwater management processes, such as stormwater retention and peak flow attenuation, is required. The effect of key design parameters including depth of soil and vegetation type are also unclear. This study investigated the impact that differing climates have on the storm water management performance of three green roofs in three distinct Canadian climates (i.e., London, Calgary, and Halifax). Data were collected over 2.5 growing seasons and the impact of green roof vegetation types and soil depths on evapotranspiration rates and thus stormwater retention were also evaluated.

Wednesday January 18th, 2017 Presenter: Tom Davis, P.Eng., LEED® AP BD+C; Fanshawe College

The Climate Reality Project

Today, climate change is standing in the way of a healthy tomorrow for all of us. Community by community, we are demanding action on climate change. Join us for a presentation on the impacts, solutions, and what you can do to help drive action. The presenter is a Climate Reality Leader, one of over 8,000 dedicated volunteers in 126 countries around the globe who has been personally trained by former Vice President and Nobel Laureate Al Gore to educate the public about climate change.

Wednesday February 15th, 2017 Presenter: Paul Choma, P. Eng.; City of London

The Burbrook Storm Trunk Sewer Tunnel

If at first you don't succeed, try again. After more than a ten year hiatus the City of London moved forward with the redesign and eventual completion of the Burbrook Storm Trunk Sewer Tunnel. Microtunnelling was used to complete the largest micro tunnel in Ontario to date thus enabling the elimination of combined sewers and basement flooding upstream. This presentation will focus on the construction of the tunnel shafts and the tunnel itself.

Wednesday March 15th, 2017 Presenters: Bryanne Wouters, E.I.T. and Christopher Moon, P.Eng.; AECOM

Sarnia Road Bioretention – A Low Impact Development Solution

Low impact development stormwater management measures aim to mimic the natural hydrologic cycle by infiltrating, filtering, evaporating, harvesting and/or detaining storm runoff as close to the source as possible. As part of the City of London's proposed 2017 road reconstruction of Sarnia Road from Beaverbrook Avenue to Hyde Park Road, a self-mitigating stormwater management strategy has been proposed through the use of low impact development (LID) measures for the road corridor. This presentation will discuss the proposed bioretention systems along Sarnia Road and how they have been incorporated into the design of the road reconstruction.

Wednesday April 19th, 2017 Presenter: Sabrina Stanlake-Wong; Dillon Consulting Limited

My Dundas – Dundas Place Flexible Street Class Environmental Assessment

The City of London retained Dillon Consulting Limited to complete the Dundas Place Flexible Street Class Environmental Assessment Study. The goal of the study is to transform five blocks of Dundas Street from a conventional downtown public right-of- way into a public space, "Dundas Place", that is a unique destination in and of itself. The flexible street will be a space shared by pedestrians, cyclists and motorists that can serve different functions for the community depending on the time of the day, week or year. Dillon partnered with Gehl Studio for the study, an internationally recognized design firm, focusing on people-first design of public spaces. The City and Dillon partnered to undertake an innovative public engagement approach for the study, with an emphasis on gathering feedback from all different stakeholders, not just the "usual suspects". The presentation will provide an overview of the Public Space Public Life observational survey completed, engagement approach and design challenges for the flexible street.