The 44th Annual Drainage Engineers Conference

The 2012 Drainage Engineers Course and Conference at the Holiday Inn Guelph Hotel and Conference Centre.

- Friday, October 19 – Drainage Engineers Conference

Drainage Conference Program

Environmental Investments within Drainage, Catherine Tiessen, Ministry of Economic Development and Innovation

Infrastructure development is increasingly being shaped by environmental regulations and considerations. Within drainage, such compliance and effort requires additional costs in areas such as habitat creation / protection, sediment control, and erosion control activities. Earlier this year, drainage engineers and superintendents were surveyed to try to capture these environmental investments. This session will present the key information and findings of these surveys.

Glencairn Drainage Works – A Case Study, Tom Pridham, R.J. Burnside & Associates Ltd.

On April 1st, 2008 external surface flows entered the Village of Glencairn and caused significant flooding of multiple roads and properties. As a result of the flooding in the Village, Burnside was appointed by the Township of Adjala-Tosorontio to prepare a report under the provisions of the Drainage Act. A detailed hydrologic and hydraulic analysis was completed to capture and convey a 25-year rainfall event safely around the Village.

The drainage system was designed to cut-off flows prior to entering the Village with a trapezoidal open drain. Flows then continued under a road east of the Village and downstream to the floor of an active gravel pit operation via twin HDPE storm sewers. Due to the substantial grade difference flow control measures were incorporated into the design to reduce scour. A large concrete storm sewer, at a reduced grade, in conjunction with a plunge pool located at the outlet of the storm sewer were used to reduce velocities at the pipe outlet and within the pipe network.

Effect of the Two-Stage Ditch on Sediment Export and Nitrogen Removal in

Midwestern Agricultural Streams, Jennifer L. Tank, Professor of Ecology, University of Notre Dame

Conventionally-managed agricultural streams are generally disconnected from their floodplains and are characterized by unstable banks, and high sediment and nutrient export. The two-stage ditch is a novel management practice in which floodplains are constructed alongside formerly trapezoidal stream channels. Construction of floodplains increases channel stability by decreasing water velocities during storms. In addition, the two-stage ditch may also result in improvements of water quality including increased nutrient removal capacity and reductions in stream water turbidity.

Aboriginal Engagement and Consultation, Heather Swan, Associate, Dillon Consulting

The purpose of this presentation is to provide an overview of best practices around consultation and engagement with Aboriginal communities and to provide some clarity around what is meant by "Duty to Consult". Many municipal projects require approvals under other Federal and Provincial legislation which have requirements for Aboriginal consultation. This session is therefore, intended to increase awareness of Aboriginal consultation requirements that may impact projects undertaken by Drainage Engineers, and raise awareness about the benefits of relationship building with Aboriginal communities.

What's the Difference Between "Assess" and "Pay"? Sid Vander Veen, Drainage Coordinator, Ministry of Agriculture, Food and Rural Affairs

"Assess"… "Pay"… When working under the Drainage Act, is there any significant difference? This session will examine the engineer's responsibility under the Drainage Act to assess the cost of drainage projects to property owners and the common problems and temptations to become involved in the payment of costs that an engineer may be exposed to.

Wetlands in the Agricultural Landscape – Water Purification and Storage, Dave Richards, Ministry of Natural Resources, and Greg Nancekivell, C.E.T., Dietrich Engineering Limited

Green infrastructure (such as wetlands, forest cover and riparian buffers) reduces surface runoff and soil erosion, provides water purification and storage functions, as well as fish and wildlife habitat benefits.

This presentation promotes the use of the Drainage Act as a tool to incorporate green infrastructure along Municipal Drains in the Great Lakes Basin. This innovative approach to greening municipal drain design results in reduced landowner costs associated with drain maintenance and soil loss, as well as societal benefits including significant Great Lake drinking water benefits and healthy ecosystems which in turn promotes healthy communities.

Aquatic Species at Risk Protection and Recovery, Dave Balint, Species at Risk Coordinator, Fisheries and Oceans Canada, Ontario Great Lakes Area

In accordance with the federal *Species at Risk Act* (SARA), Critical Habitat (CH) has been identified in recovery strategies for several aquatic species at risk (SAR), and a number of additional recovery strategies are currently in progress. With the identification of CH, comes a greater need to be proactive in the protection of SAR by improving SARA knowledge amongst local governments, the development industry, and landowners. By providing upfront awareness of the public's responsibilities under SARA, stakeholders may avoid harm to SAR and their critical habitats when working in and around water and contribute to their recovery.

This presentation will address where CH is found, how it is protected and regulatory implications; improve awareness of ways that stakeholders may avoid harm to SAR when working in and around water; and address any on-going implementation challenges that are being encountered by stakeholders.