



MUNICIPAL INFRASTRUCTURE

Life Cycle / Asset Management



Town of Collingwood (Canada) SMART Stormwater Project

The project was initiated in September 2017 to help reduce stormwater inflows from private properties into the municipal sanitary sewer system and Wastewater Treatment Plant. The landmark project is funded by the Town of Collingwood and Federation of Canadian Municipalities (Green Municipal Fund).

Our project team will install new internet connected sump pump and rain (roof runoff) cistern products in neighbourhoods at high risk from flooding. These products will also prevent non-compliant connections to the sanitary sewer system and instead redirect most discharges to Low Impact Development (LID) features. Data collected from the smart technologies (SafeSump™ and RainGrid™) will then be used with a concurrent sewer system monitoring program and asset management study. Also, the University of Waterloo's "Intact Centre on Climate Adaptation" (www.intactcentreclimateadaptation.ca) is participating too.

The municipal-wide LID installations include monitored permeable parking lots at institutional and commercial sites, as well as rain gardens, internet rain cisterns and basement sump pump installations at residential sites. Over 2 years of data will be used to validate a continuous stormwater model and using proprietary decision support system tools developed by Greenland International Consulting (Greenland). Study findings will then be used to analyze how community solutions can be cost-effectively scaled up via de-risk investment programs with homeowner flood protection incentives. Reducing chronic extraneous inflows to the sewage system will reduce the Town's GHG footprint, including the Wastewater Treatment Plant. The concurrent asset management study results will help quantify the severity of the residential stormwater connections to the Wastewater Treatment Plant. This will enable Greenland to also develop a sustainable strategy that addresses sewer system inflow/infiltration concerns from climate change factors.

The "first-ever in Canada" work plan was developed by Greenland to address growing and costly problems of climate change induced stormwater inflows into municipal sanitary sewer systems. For example, in the spring of 2016 (during a severe rainfall event), untreated sewage from Collingwood's Wastewater Treatment Plant was released into Georgian Bay. Similar environmental impacts have occurred in Ontario from flood events affecting other municipally-owned facilities. Research by other municipalities indicate that inflow and infiltration from private properties may account for a significant portion of the storm event day flow rates that a wastewater treatment facility receives - which can be seven (7) times greater than the average flow rate. The Collingwood study aims to identify key factors for influent spikes at the Wastewater Treatment Plant during winter-spring snowmelt periods, as well as quantify the impact and develop a SMART Solution.

For more information, please visit the Project Partners' website at www.collingwoodpilotproject.com



