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Reducing the Risk of Inflow and Infiltration in New Sewer Construction: A new report from Norton Engineering, the Institute for Catastrophic Loss Reduction, Engineers Canada and the Standards Council of Canada

As climate change hits home, the need for resilience in our infrastructure is greater than ever. In many towns and cities across Canada, that includes managing the increased risks of extreme rainfall. A new report from Norton Engineering, the Institute for Catastrophic Loss Reduction, Engineers Canada and the Standards Council of Canada (SCC) will make a significant contribution towards mitigating that risk.

The report, *Reducing the Risk of Inflow and Infiltration (I/I) in New Sewer Construction*, compiles methods that can be applied when sewers are first constructed to limit the risk of leakage. Every year across Canada, billions of litres of clean rain and groundwater leaks or flows into sanitary sewers and on to sewage treatment plants. This entry of excess water into sewers -- referred to as Inflow/Infiltration (I/I) -- shortens the lifespan of pipes, takes up capacity in the sewage network, and drives up costs for governments and taxpayers. Recent research in Ontario suggests that excessive I/I occurs even in new sewer systems which, if built properly, should be essentially leak-free.

“Sewers overburdened by excess water limit the potential for new and expanded development in Canada’s urban areas and increases the risk of flooding and environmental damage,” says Chantal Guay, CEO of SCC. “This report is an important step toward establishing a clear national standard for preventing unacceptable I/I. Put into practice, this knowledge will save public money, reduce the risk of basement sewer backups, and contribute to more resilient urban infrastructure in Canada.”

This new report was supported by an Expert Stakeholder Committee and a national consultation process that engaged municipal, building, development, insurance and engineering experts from across the country. It is expected that the report will form the basis for a new National Standard of Canada.

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About Norton Engineering Inc.

Norton Engineering Inc. was established in 2015 by Barbara A. Robinson, M.A.Sc., P.Eng., after a 23-year private-sector career and two years as City Engineer for Kitchener. Norton’s primary area of interest is inflow and infiltration (I/I) in new construction, a topic Robinson has been

working on since the mid-2000s. Norton leads a variety of ongoing projects looking at all aspects of I/I across Ontario and Canada, delivering dozens of presentations, workshops, training and media spots on the subject every year.

Norton provides boutique engineering services to clients across Ontario and Canada. Norton staff Chaired the CSA committee which developed CSA Z800: Basement Flood Protection and Risk Reduction Guideline (June 2018), and has recently published a Best Practices Manual for Reducing I/I Risk in New Construction.

For additional information, visit: <https://www.nortonengineeringinc.ca/>

About the Institute for Catastrophic Loss Reduction

Established in 1997 by Canada's property and casualty insurers, the Institute for Catastrophic Loss Reduction is an independent, not-for-profit research institute based in Toronto and at Western University in London, Canada. The International Council for Science designated the Institute as an International Centre of Excellence in integrated research on disaster risk. The Institute is also a founding member of the Global Alliance of Disaster Research Institutes. The Institute's research staff are internationally recognized for pioneering work in a number of fields including wind and seismic engineering, atmospheric sciences, water resources engineering and economics. Multi-disciplined research is a foundation for the Institute's work to build communities more resilient to disasters.

For additional information, visit: www.iclr.org

About Engineers Canada

Engineers Canada upholds the honour, integrity, and interests of the engineering profession by supporting consistent high standards in the regulation of engineering, encouraging the growth of the profession in Canada, and inspiring public confidence. For over 80 years, we have worked on behalf of the provincial and territorial associations that regulate engineering practice and license the country's 300,000 members of the engineering profession.

For additional information, visit: <https://engineerscanada.ca/>

About the Standards Council of Canada

The Standards Council of Canada (SCC) is a federal Crown corporation responsible for promoting standardization in Canada. SCC leads and facilitates the development and use of national and international standards and accreditation services in order to enhance Canada's competitiveness and well-being.

SCC's mission involves working with its stakeholders and customers to promote efficient and effective standardization that strengthens Canada's competitiveness and social well-being.

For additional information, visit: www.scc.ca