# Guideline to Undertaking Flow Monitoring of New Construction: Who, What, Where, When, Why and How

**March 2021**

*Summary*

Norton Engineering Inc. initiated the development of this Guideline in February 2021. The purpose of this Guideline is to educate the industry in Ontario (municipal staff, consultants, developers, contractors, flow monitoring companies, etc.) in preparation for MECP's proposed Consolidated Linear Infrastructure ECA Framework, that is expected to be in force in Fall 2021.

The objective of this initiative is to prepare concise, specific guidelines on how to undertake these flow monitoring programs. Norton has not received an external mandate to do this work.

*Background*

In case you are unaware, Norton has been writing documents/guidelines for since inception. These all provide background to the currently proposed Guideline.

| *Standard or Guideline* | *Authors* | *Status* |
|---|---|---|
| Project to Address Unacceptable I/I in New Subdivisions, 2017 | Norton | Available on Norton website n/c |
| Building Code Regulations and Engineering Standards as they relate to I/I, 2018 | Norton | Available on Norton website n/c |
| Manual of Best Practices to Reduce Risk of I/I in Public Side New Construction, 2019 | Norton | Available on Norton website n/c |
| Manual of Best Practices to Reduce Risk of I/I in Private Side New Construction, 2020 | Norton | Available on Norton website n/c |
| Guideline on Basement Flood Protection and Risk Reduction, 2018 | CSA (chaired by Norton & co-chaired ICLR) | Available for purchase from CSA |
| Reducing the Risk of Inflow and Infiltration (I/I) in New Construction, Standards Council of Canada | Norton, ICLR, Engineers Canada | Seed document has been tendered and a national standard or guideline (by UL/ULC, CSA, BNQ, etc.) will be developed |
| Guideline to Developing an Efficient and Cost-Effective I/I Reduction Program, 2021 | Norton, ICLR | Seed document to be published in French and English, March 2021 |
| *Guideline to Undertaking Flow Monitoring of New Construction* | *Norton* | *Initiated February 2021: publication Fall 2021* |

All of Norton's research has first been self-published, and then (mostly) picked up by Standards Council of Canada (SCC) to be turned into a national standard or guideline. SCC are well aware of the current project. Norton consults very widely on all our research. Colleagues from across Canada are consulted exhaustively before anything is published.

Norton has been recommending for years that all new subdivisions be flow monitored. We have performance-based standards for new sewers and should be using them. I personally (with Norton and previously) have extensive experience in undertaking this work, having successfully undertaken in FM at dozens of sites across Ontario. Norton has also had occasion to review reports undertaken by other engineering consultants and has grave concerns about the apparent lack of understanding of how to implement the flow monitoring, and how to analyze the flows. Using a model to analyze these flows is inadequate unless done with much thought and care.

*New Sanitary Sewer Guidelines for Ontario*

The Ministry of Environment, Conservation and Parks (MECP) has been developing a proposed *Consolidated Linear Infrastructure ECA Framework,* for the past several years. Norton has been a very active participant in the Wastewater Stakeholder Group, a group of senior staff in Ontario, including in the review of the ECA template, and new sewer design criteria. Much of Norton's research has been captured in this document. Specifically, it is Norton's understanding that if municipalities wish to secure "pre-approval" of routine sewer designs (e.g. most subdivisions), flow monitoring will be mandatory. I am presuming that most developers will want to save several months by seeking pre-approval.

*Project Outline*

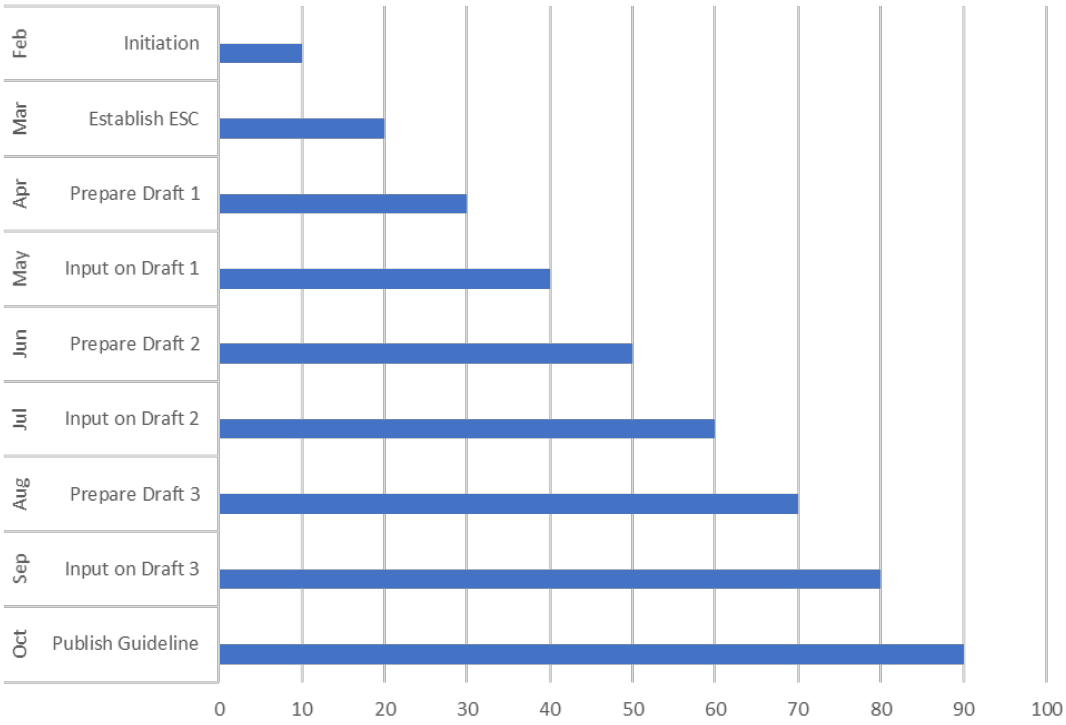
It is our intention to have this document published by October 2021, although the amount of feedback we get will determine this.

The Guideline to Undertake Flow Monitoring involves the following tasks:

- Establish an Expert Stakeholder Committee (ESC)
- Draft Version 1 of the Guideline (Norton, with support from ESC)
- Have ESC review Version 1 (ESC & Norton)
- Initiate public consultation via Norton Webinar and collect feedback (Norton)
- Repeat until a decent consensus is reached (all)

In addition to working with an Expert Stakeholder Committee, it is my intention to gather public feedback via Norton webinar. They will be scheduled as necessary.

The project schedule can be summarized as follows:




Thank you for your participation in this important work.

Barbara Robinson

**Norton Engineering Inc.**