

## REGION OF HALTON WATER MODEL UPDATE & CONTROL NARRATIVES

Delivering Value Through the Water Cycle: Source to Tap, Tap to Source™

C3 Water Inc.  
350 Woolwich St. S.  
BRESLAU, ON  
N0B 1M0  
t. 519.772.9620  
[www.C3Water.com](http://www.C3Water.com)

a C3 Group Company



### Overview

The Region of Halton utilizes **Infowater** modeling software to model the Region's water supply and distribution system. The water model includes all watermains in the Region's system and was updated in 2009 as part of the Master Planning process.

In preparation for the next Master Plan and to help prioritize capital infrastructure and optimize operations, the Region's Water Planning department began an update and calibration project on their water model. Extensive field testing was completed by the Region to gather pump and station data.

C3 Water Inc. was part of a team retained by the Region of Halton to provide modeling support services and develop Control Narratives for the operation of Region's water system. The following tasks were part of the project;

1. Peer review of the existing model – Project Team members completed a review of the Region's water model. Such items as network connectivity, water-main diameters, PRV settings, pump curves, water demands and peaking factors, run errors, and completeness of asset information was taken into consideration in the review.
2. Model update
  - a. Included site visits to 6 pump stations to gather field verified information for development of model schematics for the pump stations. Of particular interest was the elevation of the pressure transmitters, diameters and length of station piping and connectivity including status of valves.
  - b. Utilizing updated planning data, future demands were revised in the model.
3. Model Calibration – the model was calibrated to both field data and available SCADA data for flow and pressure.
4. Workshops with Operations Staff – Operations comments and concerns are being solicited for input into the Control Narratives.
5. Control Narratives – Max Day operation of the water system is being modeled and a recommended operational strategy put in place to provide an efficient and effective means of operation.
6. Business Protocol for Model Maintenance – A detailed protocol for maintaining the Region's model is being developed. A schedule of suggested activities including a data flow diagram and a communications protocol with other departments such as operations, GIS and D&C is suggested with an expected quality and format of data specified. Detailed step by step instructions are provided to the modeler for model updates.

