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## Water Supply & Distribution System Optimization

### District Metering Area (DMA) Implementation and Water Loss Reductions

Analysis completed through the SWI project reinforced the City's decision to implement a City-Wide DMA program. Six (6) of twenty-six (26) planned DMA's were implemented through the SWI project with the following highlights:

- A standard approach to implementing DMA's and associated instrumentation was established and documented.

- Flow meter installations made use of wireless technology to transmit data to a central facility where it is integrated with SCADA and then pushed with other real-time SCADA data into the City's hydraulic model for calibration and the establishment of boundary conditions for real-time modeling in IW Live.



FIGURE A.7  
 Available Fire Flows in DMA 10 (Three Flow Meters)

- Economic justification of the use of development funding to build out the DMA program has been made through the deferral of capital costs associated with the development of new water supplies realized by reducing water loss. The internal rate of return on the investment made is projected to be between fourteen (14) and twenty-seven (27) per cent, with projected potential water loss savings of between three (3) and four (4) per cent.

*We acknowledge the industry partners on this project, City of Guelph and Eramosa Engineering.*

