



Raymond Barker Water Filtration Plant - Collingwood

'Steady state' scenario simulations indicated that there were no areas of concern with respect to pressure or available fire flow for the existing and proposed service areas.

Project Facts

Client: Town of Collingwood

Scope of Work:

- Evaluate existing and proposed water supply system
- Prepare a working computer model of the water supply system
- Report conclusions.

Project Cost: \$12,500 (2005)

Water Distribution System Computer Model Analysis - Phase I, Phase II and Ultimate Build Out Town of Collingwood

In the fall of 2004, the Town of Collingwood retained the Ainley Group to complete a review of Phase I (P1), Phase II (P2) and Ultimate Build Out (UB) population growth for the Town's water distribution system. Based on the population estimates contained in the south-west (SW) Secondary Plan area; the analysis included a review of pressures under steady-state average day demand (ADD), maximum day demand (MDD), peak hour (PKH) conditions, available fire flow under maximum day demand (MDD plus FF) and the extended period simulation (EPS) for each of the development period populations (P1, P2, Ultimate – 12,500 in SW and Ultimate – 16,400 in SW).

In constructing the model for this assignment, certain assumptions were made, including the following:

- The supply from the Raymond Barker WFP is not a limiting factor, i.e. the facility will be expanded as required to provide the Maximum Day Demand required by the proposed growth
- A limitless supply from the WFP is available for the dedicated watermain to the proposed Poplar Sideroad Reservoir
- The demands for the existing system were based on the updated (2003) WaterCAD model for the Collingwood water distribution system

- Phase I: includes the areas of development for Phase I and provision of 1,000m³/day to the Town of The Blue Mountains (ToTBM) as per current condition
- Phase II: includes the areas of development for Phase I and provision of 4000m³/day to the ToTBM
- Both Ultimate Build Out scenarios: includes the areas of development for Ultimate Build Out and provision of 8,000m³/day to the ToTBM.

The results of the 'steady-state' scenario simulations indicated that there were no areas of concern with respect to pressure or available fire flow for the existing service areas. Given the existing and proposed water distribution system, the EPS suggests that, with expansion of the Raymond Barker WFP and the establishment of a second pressure zone to the west and south of the existing distribution system, it is feasible to provide the necessary supply and storage to accommodate proposed growth. The doubling of the available storage capacity at the Carmichael reservoir or alternative upgrades may be required in the future, depending on the extent of growth in the SW area.