

# City of Barrie – thinking ‘green’ outside the box

The City of Barrie sits on Lake Simcoe’s Kempenfelt Bay, 80 km north of Toronto, in the heart of the Georgian Lakelands tourist area. The city’s 2004 population is expected to reach 121,000. Barrie has averaged 6.2% annual growth since 1996 and expects to see a 40-60% population increase over the next 10 years. It is also one of Canada’s most ecologically conscious municipalities.

In the early 1990s, as a result of Barrie’s rapid growth, city officials became concerned with their water supply. The city is blessed with quality water from underground aquifers. The problem, at the time, was that this water supply was finite and, eventually, would not be able to support Barrie’s incredible population growth. The cost to supplement the water supply would be huge. Something had to be done to conserve the existing resource.

## The partnership approach

By 1995, the City of Barrie had a water conservation plan in place that was inexpensive

and worked with existing infrastructure, expertise and technology. City officials worked closely with the Ontario Clean Water Agency (OCWA) and the Ministry of the Environment (MOE) towards implementing the plan. It was also important to get the citizenry behind the program.

The goal was to obtain a 50 litre per person per day (L/c/d) reduction in water demands in over half of Barrie’s households (this represented a 5.5% reduction in 1994 average day flows at Barrie’s Water Pollution Control Centre (WPCC). The reduction in wastewater flows from the water conservation program would allow the city to scale back the cost of an upgrade to the WPCC from \$41 million to \$19.2 million, a saving of \$21.8 million.

One of the first initiatives of the water conservation program was to replace high-use plumbing fixtures (showerheads, aerators and toilets) in existing homes with low-use, CSA-approved models. A rebate program offered homeowners a \$145 rebate per ultralow flush (ULF) toilet. Additional sup-



*Barrie offered homeowners a rebate of \$8 per low flow showerhead.*

port came from Ontario Hydro, Consumers Gas, Environmental Action Barrie (EAB), the Public Utilities Commission (PUC) and, of course, property owners. The city also developed a roster of plumbing contractors who agreed to set a price for toilet installations – \$53 for one and \$85 for two.

Barrie advertised the program in local newspapers, at home shows and shopping malls and through inserts delivered to residents with their water bills. The city also sent out information kits to interested homeowners and landlords. The kit included a list of eligible toilets, program guidelines and a list of pre-qualified plumbing contractors. Homeowners had the option to do the installations themselves. Low flow showerheads were also offered at a rebate cost of \$8 per unit. The PUC offered a financing option where homeowners could pay for the cost of installation through interest-free installments on their water bills.

After two years, results of a water consumption analysis showed a reduction in water demand of about 62 litres per person per day in participating households. This was about 20% above the target of 50 L/c/d.

In 1998, the city offered a cash rebate to residents for the purchase of water efficient washing machines. Through 2002, this resulted in over 3,000 rebates being distributed.

By February 1999, over one-third of the households identified in the 1994 housing stock had joined the program, and 14,200

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*Homeowners were given a rebate of \$145 per ULF toilet and offered reasonable installation rates.*

ULF toilets had been installed. Follow-up interviews with householders showed very high approval ratings for both the program's administration (90% satisfied) and the ULF toilets (93% satisfied). Of the households involved, it was estimated that wastewater

flow was reduced by 1,335 cubic metres per day.

### Everyone wins

Homeowners benefited from the program with a reduced water bill. Savings average \$61 per year per household.

The city wins by being able to delay financing a new water and sewer capital works. At the WPCC, a combination of the water conservation program and the current upgrades to the plant mean that no new hydraulic capacity will be needed until 2011. This may also enable the PUC to delay construction of the new lake-based water filtration plant beyond the year 2020. As well, the community wins by being able to delay having to absorb the rate increases that would be needed to pay for the costs of this new infrastructure.

The environment is a clear winner with the conservation of water realized through the program. Reduced demands delayed the need to build a new filtration plant on Kempenfelt Bay. This, in turn, delays the disruption to the aquatic life that such a project would create.

The community, as a whole, realized broader benefits thanks to the water conservation program. These included the creation of 825 more jobs through the program than would have been created through the capital works originally proposed (thanks to the labour-intensive nature of the conservation program).

The other economic benefit stems from the fact that most people will still spend the money they save from lower water and energy bills, and the vast majority of these monies will be spent in the community.



*Over 3,000 rebates were paid out for water efficient washing machines.*

The bottom line is compelling – environmental benefits, job creation, increased disposable incomes from lower water and energy bills, and the deferral of millions of dollars in municipal wastewater treatment expenditures. By initiating one of the largest, most creative, least expensive water conservation projects in Canada, the City of Barrie is showing that water conservation and thinking 'green' can play an integral role in a municipality's wider strategic planning. ●

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