

Carlisle school is flush with green technology

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Our Lady of Mount Carmel Catholic Elementary School is going green, one flush at a time.

Soon, the Centre Road educational facility will boast an innovative rainwater harvesting technology that will allow the rural school to collect and reuse water from the roof runoff to operate its toilets and urinals.

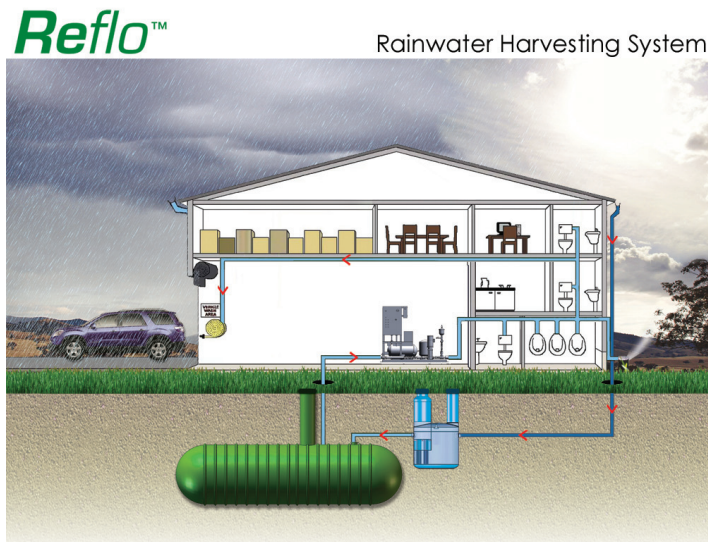
Funded by the Ministry of Education in partnership with the Ministry of Research and Innovation, the Green Schools Pilot Initiative will see the Hamilton-Wentworth Catholic District School Board take the lead in implementing two rainwater harvesting projects, including one at Our Lady of Mount Carmel in Carlisle and another at a Catholic French Board school in Ottawa, which is currently under construction.

To make the project's first formal announcement, Green Turtle Technologies manager, Rob Abernethy, HWCDSB's principal of elementary programs, Morris Hucal, and controller of plant, Dave Morrissey, met recently with members of Our Lady of Mount Carmel's Catholic School Council at the Centre Road facility, where they presented the project's implications and environmental benefits.

Manufactured by Green Turtle Technologies, the Greywater and Rainwater Reuse system will collect stormwater from the building's flat roof. The water, which will travel through a series of pipes to a 10,000-gallon reservoir, will be filtered and treated to nearly drinking water quality. A pump will push the water through another set of pipes, connected to the school's toilets and urinals.

During dry periods, when no water accumulates in the large cistern, a switch will activate the outpour of well water into the rainwater harvesting tank. "In our estimation, the 10,000 gallons gives us coverage for about 90 per cent of the time," said Abernethy. "There is a mechanism within our system to flip back to the well water here to fill up that storage tank and use that well water for the toilets and urinals."

The filtration component of the system, he noted, is a "very high-efficiency filtration system." As part of Ontario's building code requirements, the water at the Our Lady of Mount Carmel site will also be chlorinated.



Currently, potable water is trucked in from Hamilton to the school four times a week at a cost of approximately \$70 per load. Since 90 per cent of the school's water usage is flushed down toilets and urinals, HWCDSB officials chose to further reduce Our Lady of Mount Carmel's carbon footprint by outfitting the school with Green Turtle's rainwater harvesting technology.

The Greywater and Rainwater Reuse system will also save the school from flushing away nearly one billion litres of water annually and will serve as an educational tool for students to learn first-hand the importance of conserving and reusing water.

"We thought this community would be a perfect fit. We want to be green," Hucal said of the Catholic school board's vision.

Already, plans are in place to begin retrofitting the school. According to Morrissey, the board hopes to finalize the project's tendering by the end of April. Non-disruptive work will begin at Our Lady of Mount Carmel prior to the end of the school year, with the bulk of the construction and installation of the system taking place over the summer months.

"The (ministry) funding is conditional on the technology being installed and operational no later than September, 2010," noted Hucal.

Working in conjunction with the French Catholic Board in Ottawa, \$400,000 was provided to the Hamilton Catholic board to implement the technology at both sites. Upon completion of the project, both school boards will be required to provide the Ministry of Education with quarterly updates on the technology's efficiency and performance.

According to the principal of elementary programs, the Ministry's multi-board approach to the two-year pilot program will help assess different factors, including the environmental impacts and operational costs of the technology.

"We are really looking at how this technology will help out the school here and the board, but also the province," said Hucal, adding, "Are they good technologies as we move forward in new building construction or retrofitting existing schools?"

At the Catholic School Council meeting last Wednesday, Hucal stressed to parents and school officials that the rainwater would strictly be used for the facility's toilets and urinals.

The technology, explained Abernethy, does not allow for cross-contamination or cross-piping into the school's drinking water source.

"We need to make sure that we are about safe schools. That's paramount," said Hucal. "The checks and balances are put in place," he said of the rainwater harvesting technology.

Pleased that the HWCDSB was selected to participate in the pilot project, Morrissey hopes students will get excited about the project, too.

"This might be something that makes a difference to one of our children, who maybe one day will come up with an idea that will make a big difference," said the board's controller of plant.

"We have an opportunity to really be pioneers in this technology," noted Hucal.

"We should celebrate this because this is a wonderful opportunity to educate others about it."