

In praise of natural space

By Christopher Guly

Space is sacred at St. Gabriel's Passionist Parish, and their four-year-old, Roman Catholic church in North York, Toronto is a shining example.

Inspired by the eco-theology of the late Thomas Berry, St. Gabriel's is an architectural miracle that brings together the mysteries of the Divine with the wonders of Creation, framed by a host of green and sustainable features.

"The building is oriented to the south to respond to the sun," explains **Roberto Chiotti, MRAIC**, a parishioner and founding partner of Toronto-based Larkin Architect Ltd., which designed the new church to replace one established in 1951. "In the wintertime, we harvest the sun's energy, which is absorbed into the concrete walls and floors and radiates out, to provide heating for the interior."

"During the summer, we shade the sun to keep the building cool."

The latter is achieved with a grade-level roof garden, present in the worship space as a full height curtain wall with an immense canopy, which mediates summer heat gain.



PHOTO: ROBERTO CHIOTTI / ARCHITECT: LARKIN ARCHITECT, LIMITED



PHOTO: STEVEN EVANS

Rainwater is collected from the roof, which in turn supports plant life within a constructed wetland.

Unlike traditional churches and their stained-glass windows, the entire south façade is glazed with clear glass to orient the congregation outwardly to the "sacred space of all of Creation," explains Chiotti.

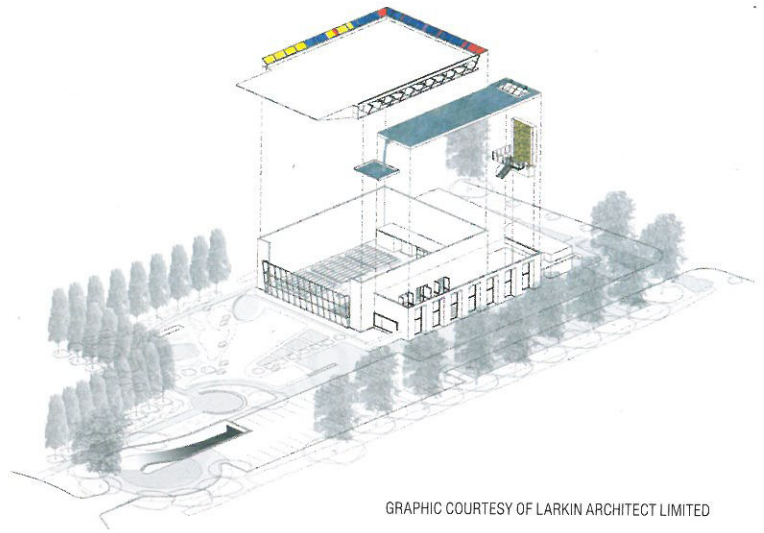
Elsewhere, St. Gabriel's – the first Canadian church to obtain a gold LEED (Leadership in Energy and Environmental Design) rating and 2007 winner of the Green Toronto Award for green design – combines the spiritual with the sustainable.

From the "darkness of the underground" – where most of the parish's parking is located – worshippers and visitors emerge into the "light of the sacred space above," where they are greeted by a sky-lit "living wall" situated in the narthex.

continued on page 26

continued from page 25

Chiotti says the sound of the running water is meant to remind Catholics of their baptismal covenant – and that the “rainforests are the lungs of the earth” – while the actions of the water running over the roots of the wall’s plant material both conditions and purifies the air, and provides natural humidification during the winter and dehumidification during the summer. Meanwhile, the enzymes in the roots of the tropical plants



GRAPHIC COURTESY OF LARKIN ARCHITECT LIMITED

process volatile organic compounds (VOCs) and other atmospheric pollutants – as do the earth’s rainforests.

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Potable water usage is also reduced – by 78 per cent outside and 48 per cent inside – through a high-efficient drip irrigation system, waterless urinals, dual-flush toilets and low-flow fittings on all sinks.

“We built what we believe in,” says Chiotti.

He explains that from design to construction, the entire building process of the \$10.5-million church project reflects the underpinning eco-theology to mitigate the impact of energy overuse, exploitation of wood and water resources, and carbon dioxide emissions on the environment.

Proper insulation and high-efficiency heat-recovery systems are some of the features used to reduce dependency on non-renewable energy resources. Other methods include room occupancy and daylight detectors to control electrical lighting; carbon-dioxide sensors to alert the building’s mechanical systems when fresh air is required; and the use of recycled steel and the substituting of a percentage of the cement with slag, a steel industry waste byproduct.

The use of low or zero VOC-emitting materials and finishes, formaldehyde-free wheat strawboard in all millwork, and carpets with a percentage of their fibres made from beets and corn stalks have also contributed to making the 750-seat church a healthier environment.

Chiotti explains that as Europe’s medieval cathedrals fulfilled the role of catechesis by their design and architecture, St. Gabriel’s is meant to educate people about the importance of our relationship with the rest of the natural world. ■