



Trillium Health Centre – West Toronto

by Don Procter

Tying a new addition into an existing Toronto hospital built in phases over the past 52 years posed a variety of complications for the design and building team. Completing the project on a tight schedule and budget only added to the complexity.

The project is the recently completed 18,510-square-foot addition and 23,575-square-foot renovation to Trillium Health Centre's West Toronto location in Etobicoke. The new space, which includes a dramatic entryway, healing garden and lobby plus a cancer detection and treatment facility, came in on time and within budget. But no one said completing it would be easy.

The existing hospital consists of a series of buildings composed of various building materials from three different eras, dating back to 1956. Marrying the buildings with the addition located in a courtyard posed "a number of unforeseen circumstances and conditions," explains Eric Vandewall, senior vice-president of Trillium Health Centre.

"To work around the existing buildings in a confined space was really tricky," points out Sam Yacoub of Halcrow Yolles, structural engineer for the job. Because possible building movement from weather changes could be up to an inch, a system of sliding expansion joints was devised for connecting the new and old buildings.

Another issue was matching up the floors. Portions of the old buildings had to be removed to pinpoint elevations before construction. "It's a structural steel building so we couldn't be off on our floor elevation measurements, even by millimetres," says Mark Paolini, project manager with EllisDon Corporation, the general contractor.

The expansive addition features a striking 32-foot glass curtain wall. Devising a means of supporting the large glass span was not straightforward. The solution was to "pack" structural steel elements into the main span glass mullions, explains Paolini. The

innovative design was brought to fruition by Zimmcor, architectural glazing subcontractor. "To look at the curtain wall, you wouldn't know the extent of engineering that went into it," says Paolini.

Overall, the Trillium – West Toronto addition and renovation includes: expansion of the ambulatory surgical care facilities and Urgent Care Centre, a new south entrance, and the new Betty and Buster Lockwood Cancer Detection and Treatment Centre. The showpiece is the Trillium Way, a revamped east entrance, interior waiting area and healing garden that features the 32-foot-high curtain wall – an area inside the hospital where patients, families and hospital staff can relax.

The healing garden includes a water feature and walls draped with hanging plants, says Vandewall. The space has a series of four-foot-high partitions made of acoustic panels that snake through the room, providing privacy. The serpentine structures can be winched up towards the ceiling to provide an open space for hospital events, says Susan Black, project architect with Perkins Eastman Black Architects Inc., adding she isn't aware of a similar feature at other hospitals.

While other hospitals have created reasonably similar spaces to Trillium's healing garden, Vandewall says what differentiates Trillium is that its space doesn't contain any retail operations. "From my perspective, that would somewhat compromise the intent of the space and the soothing atmosphere."

Another impressive feature is the promenade leading to the Trillium Way. A wall of glass imprinted with green foliage images on circular columns runs along the sidewalk to the front doors. "The idea is that you know you are in a wellness environment from the time you arrive in the parking lot," says Black.

Renovations to existing buildings posed challenges for the designers and contractors. Planning the sequencing



RENDERINGS COURTESY PERKINS EASTMAN BLACK ARCHITECTS INC.

without interfering with hospital operations was a priority. A key factor in the renovations was asbestos removal. The abatement operation was enclosed behind two-layer fire-rated drywall partitions sealed to the deck. Pressurized chambers and HEPA filter negative air units were required to meet Occupational Health & Safety regulations.

Other issues included the construction of a new watermain around the site. Because the excavation crossed over roads and sidewalks into the hospital, the work was done in stages with pedestrian and vehicular traffic detours designed to minimize disruption, says Paolini. At the same time, the builder constructed a steel platform over an underground service tunnel to allow its heavy construction vehicles on site. The platform consisted of 20-foot steel I-beams covered by six 1 1/4-inch-thick, 12-by-eight-foot steel plates.

Construction setbacks – including a labour strike, record summer rainfall and construction challenges – put the project behind schedule. Still, EllisDon was able to make up the time to bring it in on time and within budget, which included being just under the five per cent contingency allowance. "We stayed on schedule largely by changing the sequence of work so we could gain working space that we weren't expected to have until Phase Two," Paolini explains. "It gave us unrestricted access which increased efficiency."

The addition and renovations advance the process of converting what was once a full-service acute care hospital (Queensway General Hospital before the 1998 merger with The Mississauga Hospital that created Trillium Health Centre) into a leading-edge ambulatory care centre designed to treat out-patients in a welcoming environment. This is a trend in the health care design field for which Trillium is known as a leader, says Black, noting that the design borrows ideas from shopping centre and airport designs,

as well as "wellness and spas to make it really friendly."

Black sees the project as one of the firm's most interesting health care design projects. "That's important to us because while we're working all over the world, I think it is important that we do our best work at home and then transport it to other countries."

Studies show that taking a holistic approach to design helps reduce patient recovery times and improve outcomes. Vandewall says the redevelopment strategy at Trillium's West Toronto and Mississauga locations, funded by Infrastructure Ontario, the Ontario Ministry of Health and Long-Term Care, the Region of Peel and Trillium Health Centre Foundation's capital campaign, is aimed at creating a healthy workplace for hospital staff and a home-like atmosphere for patients while creating an environmentally sensitive design. ■

LOCATION

150 Sherway Drive
Etobicoke, Ontario

OWNER/DEVELOPER/PROJECT MANAGER

Trillium Health Centre

ARCHITECT/INTERIOR DESIGN/LANDSCAPE DESIGN

Perkins Eastman Black Architects Inc.

GENERAL CONTRACTOR

EllisDon Corporation

STRUCTURAL CONSULTANT

Halcrow Yolles

MECHANICAL CONSULTANT

MMM Group (Rybka Division)

ELECTRICAL CONSULTANT

Crossey Engineering Limited

GEOTECHNICAL ENGINEER

MMM Group (Civil Division)

TOTAL AREA

42,085 square feet

TOTAL CONSTRUCTION COST

\$19.4 million