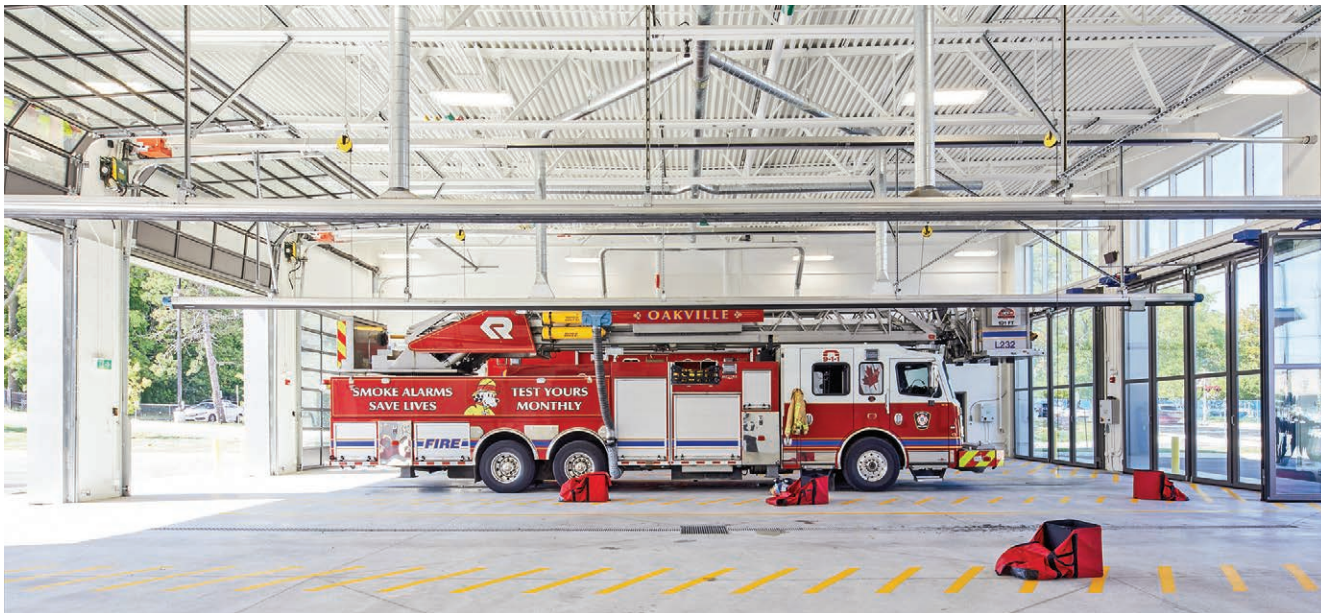


Trafalgar Park Community Centre and Fire Station 3

by ROBIN BRUNET



In theory, had the Integrated Project Delivery (IPD) method not been mentioned during a conference in Denver several years ago, Shelly Switzer, director of faculties and construction management for the Town of Oakville, who was told of the conference, might not have considered it as a way to redevelop the Trafalgar Park Community Centre and Fire Station 3 – and the project may not have enjoyed such a relatively harmonious design and build process.

Michael Brennan, senior manager – recreation and culture for the Town of Oakville, elaborates: “Shelly told us about the address, and we learned that David Dow, who is principal at Diamond Schmitt Architects, and Graham Construction were working under an IPD to develop a 360-bed residence for St. Jerome’s University at the University of Waterloo. So a group of us went out to St. Jerome’s, met the IPD team, and were impressed enough with the process to go home and tell our executive managers that we wanted this for Trafalgar.”

The IPD model emphasizes closer collaboration to optimize efficiency through all phases of design, fabrication,

and construction using LEAN principles, with project changes and other elements debated and decided amongst the owner, architect, engineers, and sub-contractors, exclusively for the benefit of the project. “It’s a wonderfully collaborative delivery method, and Trafalgar became one of Canada’s first municipal IPD projects,” says Dow.

Efficient delivery of design and construction was vital to the Trafalgar Park project, which would include renovations and an addition to the Oakville Arena, a new Fire Hall, and all associated site works. Built in 1950, the Oakville Arena was a single pad facility with parking, community gardens,

outdoor sports fields, and play structures that had acted as a community hub for over six decades.

The structure was a two-storey concrete block building of 41,000 square feet with asphalt shingle roofing – and it was considered an important landmark due to being one of four remaining arenas in Ontario featuring the distinctive wood truss roof system developed by Norman Otto Hipel, an Ontario politician and builder who patented the system in 1928.

After seeking extensive public input, the IPD team of the Town of Oakville, the architects, and Graham Construction developed a revitalization

plan that would convert the arena into a 63,000-square-foot facility with a new steel framed addition and restoration of the existing Hipel truss system. The project would include an NHL-size ice pad, a two bay garage, a senior centre with amenities, public meeting spaces, a high school sized gymnasium, and exterior washroom facilities.

The design would also relocate the fire hall as well as all associated parking and outdoor amenities. “During previous consultations, the community made it very clear that Oakville Arena should be revitalized in a way that maintains its historical features,” said Nina de Vaal, director of the town’s Recreation and Culture department, in 2016 when the proposal was approved. “We’re very excited to share a design proposal that respects the site’s rich heritage, while addressing the future needs of the community it serves.”

In their design, the team pulled the facility closer to the street for “a better urban condition” according to Dow, “and this helped preserve a lot of the interior site for the benefit of a revitalized park. We also, thanks to working so efficiently together, were able to upgrade the walking circuit into a running track, something that had not been specified originally.”

Dow adds that the relocated fire hall (which would include a Fire Education and Heritage Room with interactive displays, public education materials, and historical artifacts) and the expanded arena “were designed to have a modern esthetic; and since the arena had to withstand continuous vigorous use, the main construction material used was exposed concrete block.” A colour palette of whites and dark greys was shared between the arena and fire hall, with dark accents predominating for the latter and light accents predominating for the former. Interior arena colours were muted, offset by accent colours in strategic areas and a bright wall for the senior centre.

When it came to the doors for the new facility, Richard-Wilcox (RW) Canada alongside Graham Construction provided a one-stop solution for a multiple doors request.

Easy Lift took just two weeks to install the doors, which included four RW Slideitite 2.0 Series of Four Fold Doors, four RW Alumatite Doors for the Fire Hall, and two Raynor Doors (DuraCoil and Fire Coil) for the Community Centre.

Kumbo Mwanang’onze, associate, RJC Engineers, says of the Hipel trusses: “They were constructed from dimension lumber and nailed together in staggered layers to form larger members, which allowed them to be built by non-specialist labourers without heavy lifting equipment. They

were used for barns and hockey rinks throughout Ontario, but unfortunately several that were built were found to be unsafe, and most of them were ultimately torn down.”

Mwanang'onze goes on to say that at Oakville, rather than tearing down the trusses, an engineer was hired in the 1970s to reinforce them. “Gusset plates on various nodes were installed, altering the original appearance somewhat. We spent considerable time analyzing the original structure and then the remedial work, and we concluded that tightening the two tension ties at the bottom of each of the 15 trusses would be enough to bring the entire system up to code.

“It wouldn't have been feasible to install extra bolts and plates, because the additional drilling into the trusses would remove material at connections where stresses are critical.”

Graham Construction used structural steel for the new portions of the arena and load bearing masonry for the dressing rooms. Arthur Winslow, director lean and IPD for Graham Construction, says, “We experienced a 50-year record rainfall early in the spring, at a time when we were putting in foundations. Despite the rain, our team kept working the schedule and



created good flows of work that led to better productivity, taking full advantage of the times when we could work.”

Isaac Fehr, construction manager for Graham Construction, says, “Essentially, we demolished the complete arena except for the self supporting trusses and foundations. We then replaced the old asphalt roof shingles with a new

metal roof, and then we got to work on the interior elements. This work was augmented by the construction of a completely new community centre adjacent to the arena.”

While Diamond Schmitt is now busy undertaking its third IPD for the Southeast Community Centre in Oakville, Oakville mayor Rob Burton

LOCATION
133 Rebecca Street, Oakville, Ontario

OWNER/DEVELOPER
Town of Oakville

ARCHITECT
Diamond Schmitt Architects

GENERAL CONTRACTOR
Graham Construction

STRUCTURAL CONSULTANT
RJC Engineers

**MECHANICAL/
ELECTRICAL CONSULTANT**
Smith + Andersen

SUSTAINABILITY CONSULTANT
Footprint

TOTAL SIZE
63,000 square feet

TOTAL COST
\$36.5 million

earlier expressed the importance of the redeveloped Trafalgar Park Community Centre and Fire Station 3 by stating, “Providing the facilities to help residents lead more healthy, engaged, and active lives is a key part of our livable Oakville vision. I'm proud to say the new Oakville Arena and Trafalgar Park will do all that, and more.” **A**

PHOTOGRAPHY COURTESY TOWN OF OAKVILLE



WITH CAREFUL WEIGHT DISTRIBUTION,
LONG STRUCTURES CAN REMAIN
BEAUTIFULLY BALANCED.



GLOTMAN · SIMPSON
CONSULTING ENGINEERS

GLOTMANSIMPSON.COM



**EDMONTON STEEL FABRICATION,
CONSTRUCTION, AND ERECTION**

WWW.CERTAINDUSTRIES.COM

We are proud to be part
of the **Thelma Chalifoux
Hall – University of
Alberta** project.

December 2018
ANNUAL INDUSTRY FEATURE:
Architectural Woodwork



Book your ad space now: | **Dan Chapman** 604.473.0316
| **Alexander Sugden** 604.473.0358

Manufacturers of Custom Architectural Millwork



Proud to provide Millwork Services for the Thelma
Chalifoux Hall - University of Alberta project.

Learn more about us at: www.WesternMillcraft.com

780.482.2966 • 12506 - 128 Street • Edmonton, AB • T5L 1C8

