

CASE STUDY

OAKVILLE TRAFALGAR COMMUNITY CENTRE



GRAHAM

INTEGRATED PROJECT DELIVERY:

PUTTING THE “COMMUNITY” IN COMMUNITY CENTRE



Construction projects and the key parties who carry them out are usually focused on the central challenges of budget and schedule, as well as crucial elements like safety, financing and risk management. But what about the people who will actually live with the result? The end users: customers, residents, visitors and workers. How are their interests safeguarded during the process, so that their needs are met when the dust settles and the architects, construction managers and building trades have left the scene?

Should unforeseen costs arise or construction delays occur in traditional contracting, the useful or enjoyable features planned for the project – what the industry calls “program” – are often the first to go. That is because the things needed for the building to stand up and function – the structure, the engineering, the physical systems – are baked-in at the beginning. One contracting and execution

model does, however, lend itself to maximizing program during project planning and preserving program when challenges arise: Integrated Project Delivery (IPD).

IPD was selected to guide the Town of Oakville, Ontario’s, 53,000-square-foot Trafalgar Community Centre. “The big picture was to create a facility that encompassed what the Town of Oakville was about, the diversity, the inclusion, and to give back to the community,” says Nick Valerio, the Town of Oakville’s Manager, Capital Projects, Facilities and Construction Management. “We’re most proud of how it shows the collaboration that occurred. All parts of the building are connected, and the flow is so beautiful, it’s just seamless.”

“It has come out great, people love it,” agrees Rob Piti, Graham’s Project Manager on the Trafalgar Community Centre. “It’s all beautiful and brand-new, with custom-made steel joists providing a huge span without any columns, and advanced acoustics. IPD helped deliver all of these aspects successfully.” In particular, adds Piti, IPD helped Oakville not only achieve but exceed its program goals.

Oakville had high hopes and stringent requirements for the Trafalgar Community Centre. It had to be rebuilt on the footprint of the small Oakville Trafalgar Memorial Hospital, which was being demolished. The adjoining

and severely aged four-storey parking garage was to be refurbished (not replaced). The Community Centre would need to meet LEED Silver standards, including state-of-the-art energy systems with rooftop solar panels and geothermal heat. The 14-acre site's green space was to be improved and integrated with the facility. And the budget was a strict \$35 million (with \$4 million in value adds).

Most of all, the Town needed program. A great deal of it, executed to maximize access for diverse users. Inside, the new centre would have a 25-metre six-lane swimming pool, a warm-water therapy pool, a 10,000-square-foot double gymnasium with an NBA-sized basketball court, a fitness centre, an elevated (mezzanine-style) walking/running track ringing the gymnasium, multipurpose meeting rooms and inter-generational programming space, plus museum and art exhibits. Outside was to include a beautifully designed park with exercise facilities, a playground with splash pad, and an outdoor covered concert pavilion.

IPD proved well-suited to guiding the project participants and staying focused on Oakville's primary goals: delivering an on-budget facility that met its promises to its future users. IPD is more than a mere "contract type"

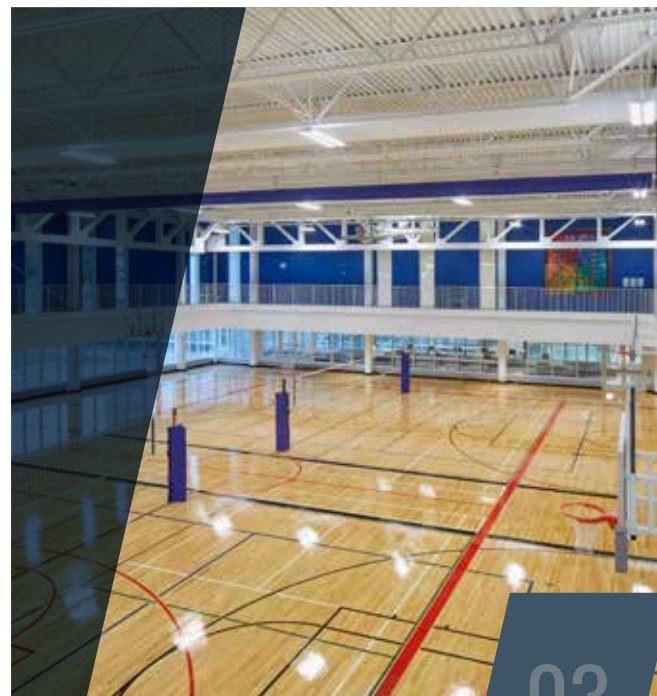
such as bid-build or construction management. As the name implies, it integrates participants into an end-to-end process. "What I like about IPD is that it's an open book," says Piti. "We know going in what our expectations are, what the trade partners' expectations are, and it's in everyone's best interests to bring this project in on-budget and on-schedule, so that we all walk home at the end of the project having realized our goals."

Unlike in a traditional lump-sum contract, design is evaluated for constructability early on, allowing contractor and trades input, enabling cost-saving improvements before commitments are made. When things cost more than anticipated in lump-sum contracting, the owner usually has no choice but to cut features or reduce the quality of the finishes. "IPD forces you to think outside the box while remaining in the box," is how Valerio puts it. "Everyone has skin in the game, a piece of the cheque book, so it's up to everyone to ensure we get the program requirements, we meet the budget, and we have the finishes and materials we want. IPD allows you to innovate in one area and then move the savings to an area that needs more."

Once an IPD project gets underway, weekly "Big Room" meetings bring together owner, designer, builder and

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key trades. Issues are discussed, nascent problems are identified and solutions are generated. Every aspect of the building is evaluated not just for up-front price but full lifecycle costs, so that things can be built robustly for the long-term rather than requiring costly replacement sooner than necessary. When money is tight, everyone works to find less costly functional alternatives. When savings are generated, the participants are rewarded and the owner can apply the surplus back into the project.

“IPD changes everything from the design consultants side, because the contractor and more uniquely, the trades are involved from day one,” says Dale McDowell, an Associate with Diamond Schmitt Architects in Toronto, the project’s architect. “Working with the contractor and the trades from the very beginning means we have their expertise and input to draw on while developing the building details. The IPD process is a hands-on, deep dive into the project development for both the design and construction team.” And in the other direction, says McDowell, “The construction team contributes to the projects core values and vision through their participation in the design development. Not just the owner and design team.” This was Diamond Schmitt’s second recent project for Oakville and its second IPD project on which Graham was the contractor.

Construction started on the Oakville Trafalgar Community Centre in September 2018 and IPD soon began to shine.

Piti notes that IPD also uses LEAN principles. This means “the project’s ‘certain amount of money’ can be applied to making it the best project possible, eliminating waste and saving money without reducing program.” IPD and LEAN target unnecessary components first or look for better ways of building. The team applied sophisticated building information modelling (BIM) to the facility’s complex system designs, allowing the structure and certain rooms to be made smaller without impairing functionality. The combination of IPD, LEAN and BIM saved a total of \$10 million, and generated so much surplus the Town was able to upgrade some of the finishes and exercise equipment. IPD also helped the participants figure out ways to work smoothly amidst new and necessary COVID-19 safety protocols.

Perhaps the most glittering example of IPD in action was the decision-making regarding the swimming pool. It was to be constructed using traditional concrete tank with tile. But the Town discovered that a new approach using a stainless steel tank with PVC liner on the bottom could greatly reduce long-term maintenance costs. “We commenced value engineering and price exercises,” recalls Piti. “While the stainless steel pool tank would cost more up-front, it has much lower maintenance costs, therefore reducing lost revenue due to future downtime.” As a result, a Natare pool system was installed. “I’m a swimmer myself,” notes Piti, “so I appreciate a good pool, and this one is gorgeous.”

McDowell especially recalls two other areas where IPD stood out. One was in the redesign of the cantilevered canopy on the building's north face. "The canopy edge along the north cantilevered roof edge was a great example of IPD. The architectural intent was to have a crisp, clean and minimal sharp edge," she says. "But the detail the design team was after did not meet the project realities of budget and schedule. So the whole team worked through numerous ways this detail could be achieved. In the end, the canopy edge was flatter and thicker than the original design intent, but our solution didn't compromise the cost, schedule or architectural big picture." The other example was the design of the huge steel trusses that span the double-sized gym plus the suspended walking track, unsupported by columns, at a time of rising steel prices plus U.S. tariffs. Everyone dug in to supply ideas that would be cost-effective, structurally sound and good-looking. Such a result, notes McDowell, would just not have occurred in traditional contracting.

This was Graham's fourth IPD project (and its second with Oakville), making the company among Canada's most experienced IPD providers. "Graham showed a very good way of leading the project in times when there was no clear leader," says Valerio. "They fostered collaboration and kept the project on the rails, really forcing us to look at the numbers, the schedule, and stick to the plan." McDowell agrees. "We worked very well with the Graham team," she says. "Graham's design

coordinator was invaluable to the design development process with intimate knowledge of the design process from the contractor's perspective. The IPD facilitator kept the team focused on the project objectives and moving forward together while building a strong sense of team. The estimator provided regular costing updates that enabled the team to make informed design decisions quickly that helped the project stay on budget."

Oakville's Trafalgar Community Centre was completed on-schedule and on-budget. What would have been a glorious opening ceremony in October 2020 could not be held, due to COVID-19 restrictions. Since then, the facility has been open on a limited basis. "Oh, our users just love it," says Valerio. "There's a real sense of community belonging and capturing what the community wanted. They love the pool and especially the walking track, with its incredible views. [More] people are itching to get in." Oakville is planning a one-year anniversary celebration in September.

In February, Graham won an award from the Toronto Construction Association for the project. From its well-managed execution to its impressive results inside and out, the Oakville Trafalgar Community Centre is a facility worth celebrating – most of all by the people who use it. 