



Humber River Regional Hospital. Photo Credit: © Kalloon Photography

The addition of a commercial office tower, industrial edifice, institutional facility or healthcare centre often brings with it an ability to enhance the vibrancy of a surrounding business community. We marvel at the splendour of the exterior architecture but seldom do we know about the companies and people who brought the interior of those buildings to life, which serves at the very core of operational tasks and responsibilities.

Plan Group Inc. is recognized as one of the nation's most innovative technical services providers in the areas of electrical, mechanical and Information, Communications and Automation Technologies (ICAT). It is one of those integral behind-the-scenes facilitators that bring buildings to life, providing a dynamic and practical workspace efficiency that enables end users to perform to their maximum potential at all times.

Founded in 1955, Plan Group was originally known as Plan Electric Ltd. Now, 60 years later, the company has grown to a staff of about 350 people in Vancouver, Ottawa, Montreal and its

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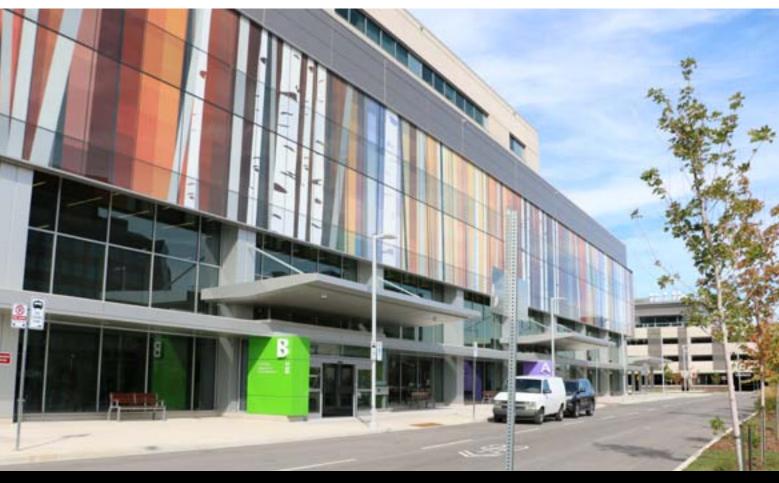


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Humber River Regional Hospital.

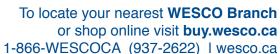
Toronto headquarters with more than 2,000 active field employees and 150 GPS-enabled vehicles in its fleet. As such, it is the largest multidisciplined contractor in Ontario and employs one of the largest groups of technical tradespeople from coast to coast. In 2014, Plan Group was acquired by Bouygues Energies & Services of France and earlier this year Plan Group acquired Quebec electrical and mechanical company Gastier, giving it an excellent foothold into the industrial sector.

The leadership team at Plan Group is spearheaded by Chief Executive Officer Bill Kurtin and President and Chief Operating Officer Paul Sheridan. Kurtin took the reins as CEO in 2004 and has been with the company for more than 30 years. A significant quantum of Plan Group's successful transformative expansion from a large electrical contractor into the country's leading technical services firm can be traced to his outstanding efforts at the helm. Sheridan brings a wealth of on-site knowledge and business smarts, having started his career as a field electrician.

As a preeminent multi-trade contractor,
Plan Group prides itself on employing the very
best people in a wide range of skilled trade
disciplines including electrical, mechanical,
structural cabling, building systems, life safety,
security, technology and proactive maintenance.
Each employee knows their job is an important













facet of the overall process and success of the company, which offers its customers an all-in-one business development solution during the construction and consultation phases.

Many of Plan Group's ventures are impressive in scope, both in physical size and budget, but one very special undertaking that was just recently completed was the high-profile, state-of-the-art \$1.75 billion Humber River Hospital in Toronto – touted as the first all-digital hospital of its kind in North America. The facility is expected to be a blueprint model for how future acutecare centres are designed and constructed.

The Canadian Business Journal recently spoke with Plan Group ICAT Vice-President Glen Landry, Mechanical Construction Vice-President Blair McDonnell and Project Director Dave Lonsdale about the Humber River Hospital construction and several other marquee ventures that the company has been directly involved in.

In fact, we spoke with Lonsdale while he was on location at the next job site, Joseph Brant Hospital in Burlington, where he and his team will be instrumental in a large addition and system upgrades to the existing hospital.

In a Public-Private (P3) partnership it is essential that each partner group holds up their end of the agreement. Lonsdale speaks highly of the business model, which continues to gain traction with each passing year.

"The delays that you typically hear about in construction don't usually happen in the P3 world," he says. "Everything is done to ensure we meet deadline dates. If you don't make the dates it affects so many people and planning. It's critical that you get them done on time and on budget."

"If we look at Humber River Hospital, it was designed around a day in the life of patients and staff," further explains Landry. "It was built to meet the digital vision of the hospital today and provide

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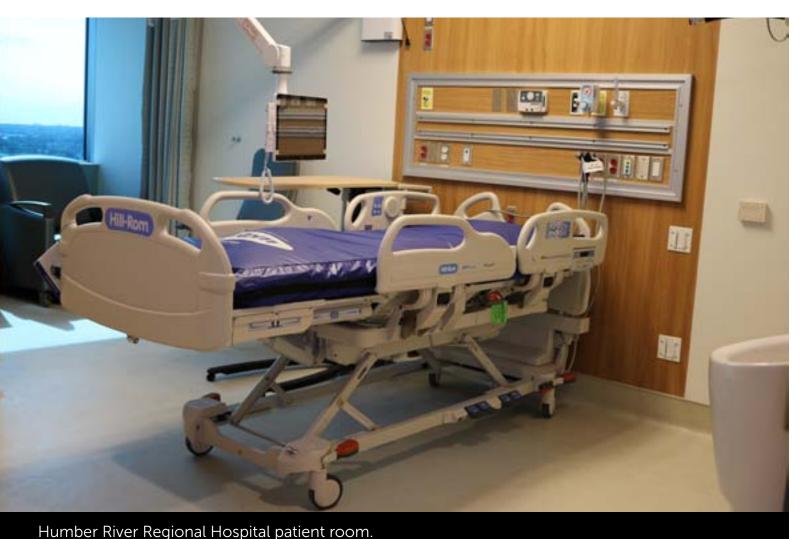
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them with a platform for future innovations."

Even though the doors are now open at Humber River Hospital, Plan Group still has a project manager on-site with a foreman and several electricians and several IT personnel. "They grew with the job and know the place inside out so I felt comfortable having them remain there to help with the last details. The building is basically a prototype. There has never been one built like it before. It's not like we're building a traditional hospital where one is the same as another," Lonsdale says. "We find with most of these projects that you need to stay there with the end-user for a period of time to work out some bugs in the system and train them

how to use it. Some of the products they've never used before in a real-life setting."

Plan Group took full responsibility for all electrical distribution throughout the building including the high and medium-voltage right down to the 120-volt receptacles and power requirements in the walls. The lighting system is digitally-equipped with occupancy sensors and daylight harvesting, which means lights can be automatically dimmed when it's very bright outside, saving money on electrical bills.

Also included are a fire alarm system, access control security system, closed-circuit television, nurses' call, audio visual which includes digital



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Humber River Regional Hospital electrical room.

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signage and Wayfinding, a consolidated network and a real-time tracking system for assets within the hospital. The finished product is a source of tremendous pride for the entire Plan Group team.

"This is the most digitally equipped hospital constructed the most advanced technology in it." Lonsdale continues. "There is self-check-in and all medical records are stored digitally The patient receives an identification (ID) tag, which is scanned and medical records are entered on computers within the examination rooms so everything is right up to date. Imaging for CT scans, x-rays, mammograms and MRIs is sent to a central server for storage and retrieval."

Many pieces of equipment, such as, wheelchairs, have RFID tags on them. It means being able to log on to a workstation and conclusively determine exactly where a specific item is located that may be needed by a doctor or nurse. In some areas, if a patient attempts to wander outside their allowable designated boundaries, doors and elevators automatically lock, and an alert issued, allowing staff members to safely escort the patient back to the area where they are receiving their care. Newborns are tagged and only permitted to leave the infant-care area with the mother or an assigned nurse. If an attempt is made to take a baby out of the designated area, once again the doors



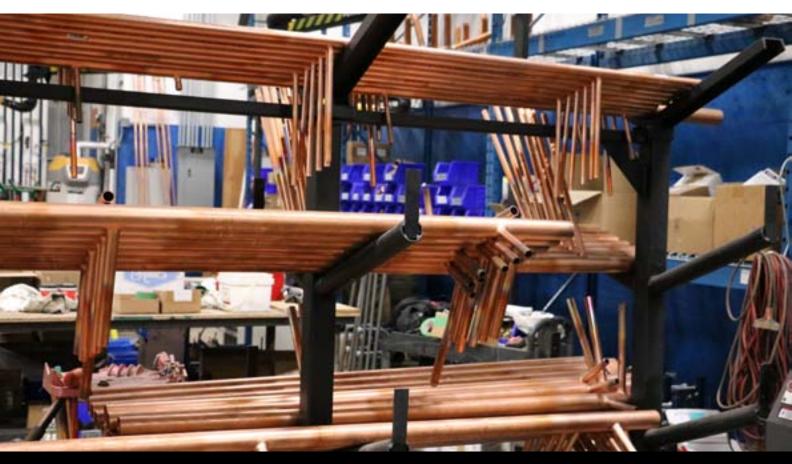
will automatically lock and elevators won't move.

The foundation of the completed building includes clinical, business and building workflows that were all created as a part of the project. "For example, there is the ability for the patient, through the integrated bedside terminal, to use the nurse assist function to connect directly with his/her nurse -- it even allows for a two-way video call," explained Landry. "Again, all of these innovations are geared towards more patient time."

The fully digital hospital comes equipped with robots known as automatic guided vehicles (AGVs) that deliver food, linens, non-narcotic pharmaceuticals and other supplies to each floor. These robots have the ability to call an elevator

themselves, get on the elevator, travel to the floor where the supplies are kept in an off-loading area and then report back to the clinical staff when a task is complete. They also take used food trays back downstairs to be washed.

"Lean processes and automation of tasks through system interoperability were incorporated in the design, with the intended purpose of helping to reduce labour hours," Lonsdale says. "In old traditional hospitals, you'd walk into a room and the washroom would be first and the bed would be over by the window. At Humber River Hospital the washrooms are built closer to the window side. This way, as soon as you walk into the room, you are at the bed. It saves steps for the nurses. Dirty linen goes in a chute that is sent down to the



Plan Group pre-fab shop.

laundry facilities, so there's no need for nurses to carry anything from floor to floor."

A common fear permeating across multiple business sectors is that technology is replacing traditional jobs. But Humber River Hospital is expecting to add upwards of 700 new positions once fully ramped-up. "Automation allows staff and physicians more time spent towards quality of healthcare rather than doing the mundane day-to-day tasks," Lonsdale says.

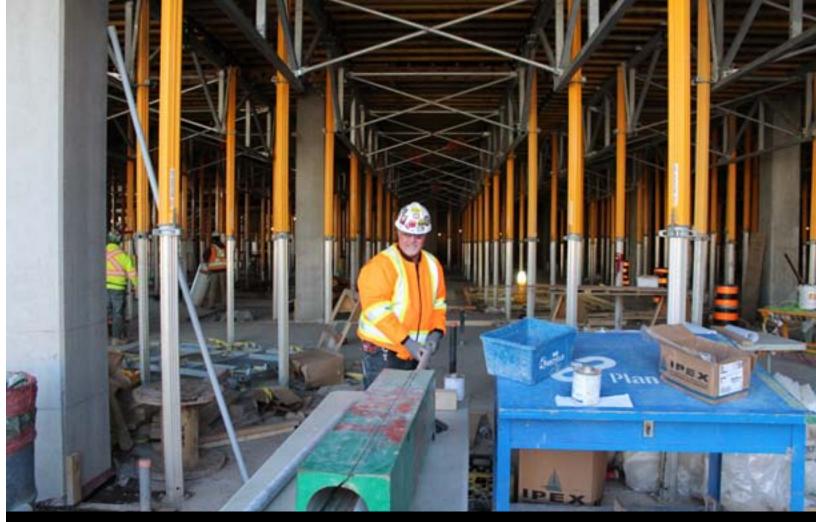
The possibility of an electrical failure has been minimized due to robust two-feed redundancies put in place by Plan Group. This in turn is supported by a back-up diesel generation system. Each technical system has a main server and an offline backup server running in parallel. If the first

computer server happens to fail, the backup automatically springs into action. All the steps have been taken to ensure a safe, reliable system.

In addition to the RFID real-time tracking system, Plan Group was also responsible for the complex installation of the communications cabling, fibre optics cabling, the trunked system to move the data from floor to floor as well as integration between the various systems.

"It's been talked about for a long time – having systems integrated together – and we achieved this through integration, interoperability and automation within ICAT design and architecture," Lonsdale proudly says.

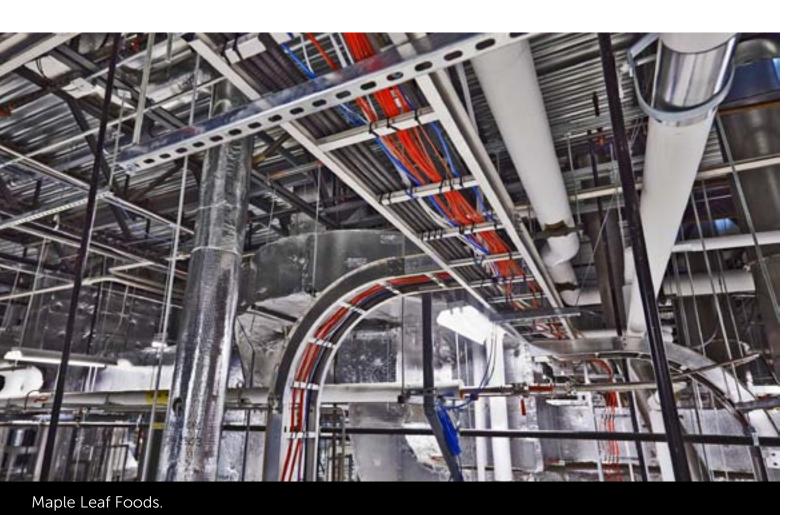
Other major projects on the go and at different phases of construction include the Joseph Brant



Milton Hospital - pictured: Mark Patrick.



Milton Hospital - pictured: Fedele Gisonna



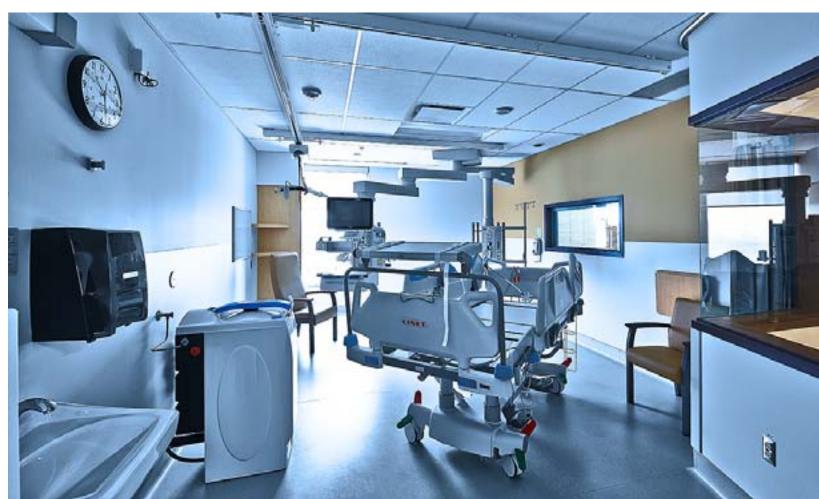
Hospital in Burlington, the Peel District Hospital in Brampton and the Milton District Hospital. Plan Group is also part of the construction of the new 33,000-seat Mosaic Stadium in Regina that will be home to the CFL's Saskatchewan Roughriders as of the 2017 season.

Among other major recently completed ventures in which Plan Group was instrumental in are the massive Niagara Health System's St. Catharines site and the adjoining Walker Family Cancer Centre and also the Runnymede Healthcare Centre, which is an extended-care facility in Toronto. Beyond healthcare, Plan Group has an extremely varied portfolio in numerous business sectors and is growing its mechanical division.

"We've got three office towers going on right now in downtown Toronto, we just completed a facility in Hamilton for Maple Leaf Foods and we are gaining more experience working on data centres. There is also continual maintenance and renovation work in the Toronto area, of which there is too much to mention," Lonsdale mentions. "We are a full service and maintenance group to handle all our customers' needs."

Additionally, Plan Group has already spread its wings on an international level, having done several projects in the Caribbean and Bahamas.

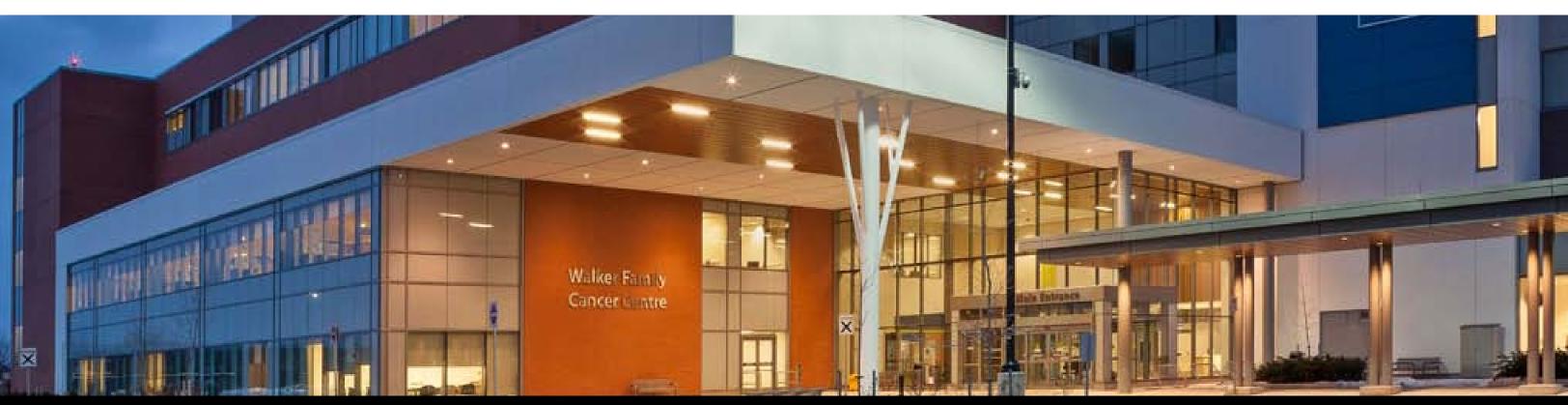
"We built the last addition to the Atlantis Hotel and did the upgrade at the Nassau Airport about a year and a half ago," Lonsdale adds.





Niagara Health System facilities.

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Niagara Health System's adjoining Walker Family Cancer Centre.

**CONSTRUCTION** » Plan Group

Plan Group has established an impressive track record of completing projects on time and on budget, which is a main factor that Lonsdale immediately points towards regarding their success and outstanding reputation in the business world. The fact Plan Group does everything from start to finish puts clients' minds at ease and importantly it means dealing with one entity as opposed to multiple contractors.

"Customers want someone who's done it before and can perform. We provide that one inhouse solution for everything. Our group works directly with the design consultants and the constructors. We bring it all together telling each side what works," he says.

Plan Group has maintained a flawless record with the Ontario Ministry of Labour, incurring

no charges for violations of The Occupational Health and Safety Act and Construction Regulations as well as no environmental charges. Plan Group continues to reduce its Lost Time Injury Frequency Rate and it has significantly decreased its days lost per year. That clean record is another critical component that separates the company from many competitors.

As Plan Group continues to expand its horizons there are many opportunities to pursue. Aiding in those expansion aspirations came about when, a little over a year ago, the head office moved into its current location which included a piping and electrical prefabrication shop.

"Having this state-of-the-art prefabrication shop enables us to build huge mechanical piping systems with all automated CNC and welding machines off-site, which helps us to complete projects on time, on budget and with the highest standards of quality," explains Blair McDonnell, who further explained that over the past three years Plan Group has worked to expand the mechanical side of its business from the commercial tenant fit-up market, HVAC and plumbing service to also include new large and retrofit construction. "In addition to the prefab shop, we have brought in the right people to help with this growth; senior estimators, site superintendents and foremen with large construction experience, and we've expanded our engineering and CAD service to include full building information modelling (BIM) capabilities."

Beyond branching out into other business sectors and industries, Lonsdale says

advancements in technologies and systems have been so meteoric in the past five or six years that it is vital to keep abreast of all new information that is coming online. There is a need to be constantly observant of what's going on and keep up to date with relevant trade shows and magazines in order to know what is transpiring.

"I was at a seminar on wireless lighting control; it's been around for a while but the system has grown by leaps and bounds in terms of advancement. The Star Trek and Jetson's stuff we used to dream about is really happening," Lonsdale laughs. **CBJ** 

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