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## **Construction Today: Seton Recreation Facility**

After more than two-and-a-half years, about 300 workers on the job each day and 17,000 cubic meters of concrete, the Seton Recreation Facility in Calgary, Alberta, is almost complete.

That's pretty impressive for a property that was undeveloped only a few years ago. "It was a farmer's field for a couple hundred years," describes Senior Project Manager Brenden Vickery of Bird Construction. "It's kind of on the outskirts of Calgary, a kind of new in a up-and-coming community. There's a lot of multifamily housing being built and it's kitty-corner to a brand-new hospital."

Bird Construction, one of largest general contractors in Canada, won the city of Calgary contract to built the \$121 million Seton Recreation Centre. Though it was a standard bidding process, Bird Construction did have an advantage.

Several years ago, the city announced plans to construct four large recreational facilities. Bird Construction was awarded the contract for the Quarry Park Recreation Centre. "We did pre-qualify," Vickery says. "Doing that previous rec center gave us the experience on paper to get this job."

Bird Construction broke ground in March 2016. When completed in early 2019, the 330,000-square-foot facility will be owned by the city of Calgary but run by the YMCA. It will be the largest YMCA-operated facility on the planet, Vickery says.

If people want to compare the two largest YMCA's in the world, they won't have to go far. Calgary also houses the Shane Homes YMCA, which is currently the largest YMCA anywhere.

**Design Highlights** Then there are the materials. Take the Olympic-sized pool, for instance. "It's not just a straight concrete pool with tile," Vickery says. "The competition pool uses Myrtha stainless steel panels brought over from Italy. The pool is built with two-by-three meter panels is said to help competitors achieve the fastest times possible."

For the ceiling of the pool and the main hallways, Bird Construction used Barrisol acoustic panels manufactured in France.

The exterior of the building and main hallway walls are composed of a reinforced concrete panel that is manufactured in Germany.

One of the more challenging components of the facility was installing a large skylight in the center of the building where all the hallways meet. "It is a very complex skylight," Vickery says "Everything was modeled in three dimensions by the glass subcontractor and the steel subcontractor. We'd then put those 3-D drawings on top of one another to make sure everything fit together."

On this complex project, Bird employed the use of virtual design and 3-D computer modeling for the mechanical rooms "to ensure it would all fit perfectly," Vickery says. All the construction information was accessible worker's tablet computers. "They were always working off the most current drawings," Vickery notes. Bird also implemented "lean construction" - reducing labor and wasted materials.

Communication is Key Safety is a priority for Bird Construction. It employs a full time safety officer and a full time paramedic and holds daily meetings where Vickery and others would discuss hazards on the Seton site and the safest way to work.

From this project, Vickery and others learned about 3D modeling. Perhaps the most important tool to successful completion of the project has been communication.

“There was a real emphasis on being highly collaborative with subcontractors and consultants,” Vickery says. He adds that it was vital to have, “communication all the time and ensuring that everyone is on the same page.”

#### SIDEBAR - Lazy River and Olympic Pool

The building is about three stories high and built into the side of a hill. It has a long list of amenities, including:

- Two NHL size hockey arenas on the main floor.
  - Three gyms with a running track on floor above.
  - A surf simulator in a pool that allows surfers to practice inside
  - An Olympic size pool that has a movable bulkhead that allows it be split into two pools.
  - Olympic-sized diving pool, diving towers with platforms at four levels and warm up pool and training area - which features a trampoline. The pool also has a movable bulkhead that allows it to be split into two.
  - Water park with “lazy river” and two waterslides.
  - City of Calgary Public Library of 25,000 square feet
  - 178 seat production theater.
  - Fitness/aerobic studios.
  - Art studio and gallery space.
  - Two dance studios.
  - Daycare facilities for 68 children.
  - LRT station for mass transit.
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