



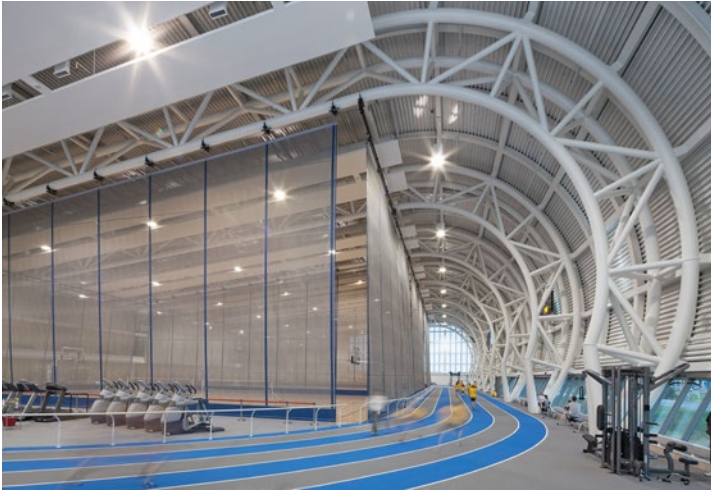
The Whitby Abilities Centre focus is to create an environment of inclusion and opportunity for individuals of all ages and ability to have access to sports, health and fitness, arts and culture, leading-edge research, education and life skills. The barrier-free 122,000 ft² multi-use recreational facility features a field house complete with basketball courts, an oval track, change rooms, a fitness room, office spaces and other ancillary spaces. The \$28 million state-of-the-art centre was designed by B+H Architects. The HIDI Group provided mechanical, electrical, plumbing and lighting, and commissioning was provided by HRCx.

8 DISCIPLINES

- MECHANICAL
- ELECTRICAL
- PLUMBING
- LIGHTING DESIGN
- COMMUNICATIONS & AV
- SECURITY & RISK
- COMMISSIONING
- ENERGY SERVICES

Heating for the centre was provided by a central heating boiler plant which provided heat to the hydronic terminals throughout the facility while ventilation and air conditioning is provided by roof top units (RTUs) with heat recovery and humidification. Cabinet heaters were used to provide heat to the entrance vestibules and other exterior doors. Continuous hot water convectors were used in the lobby and installed in trenches while in the exterior rooms’ convectors were installed with glazing. Radiant floor heating was provided for ground floor lockers and washrooms.

The electrical design covered lighting, power distribution and life safety. The main electrical service is provided from a 44KV incoming high voltage network through a high voltage switchgear and power transformer. 600V electrical distribution is provided throughout the facility. Local 600V-120/208V transformers and power panels are utilized to feed convenience loads with emergency power provided by a standby generator. Fire alarms are on a two stage addressable system with remote LCD/ active graphic annunciation. Lighting design aligns with the latest IES recommendations, ASHRAE 90.1 and accessibility



design guidelines. Programmable low voltage lighting control system come with occupancy sensors, local override switches and a master switching station located at the reception desk, and provide control of the entire indoor and outdoor system. The low voltage lighting system is interfaced with the Building Automation System and integrated for easier operation.

Commissioning of the facility covered all base building mechanical and electrical systems.

Challenges:

One of the major challenges the team faced was in regards to the execution of the HVAC system located in the Field House. The system needed to output specific levels of humidity needed to maintain wood flooring. This was overcome by finely tuning the system until we were able to get the ideal level of humidity that the wood floors needed.

LOCATION: Whitby, Canada
CLIENT: B+H Architects and Abilities Centre
OWNER: Abilities Centre
ARCHITECT: B+H Architects
SIZE: 122,000 ft² / 11,000 m²
CONSTRUCTION VALUE: \$28 Million CAD
PROCUREMENT TYPE: Design Bid Build
COMPLETION YEAR: 2012
AWARDS: Ontario David C. Onley Leadership in Accessibility Award – Champion Award (2016)
International Olympic Committee (IOC) / International Paralympic Committee (IPC) / International Association for Sports and Leisure Facilities (IAKS) Architectural Prizes – Award of Distinction (2013)
CISC Ontario Steel Design Awards (2013)
MARKET SECTOR: Sports & Entertainment
