

Centennial HP Science and Technology Centre

“**W**e asked the architects to give us a signature building on a pauper’s budget and they’ve done it.”¹ said Gary Marr, Director of Facilities and Services for Centennial College at the beginning of this project. Using low cost concrete on a tight budget, while preserving quality workmanship and innovative finishes, the cast-in-place concrete is definitely the key feature within this technological facility.



Completed on March 2004, the Centennial HP Science and Technology Centre in Scarborough is Centennial College’s first new campus facility built in 25 years, accommodating 3500 students. The four level, \$65 million facility is located at the corner of Morningside and Ellesmere Avenue.

The structure is reinforced concrete with mechanical services provided in the underfloor space beneath the access floor. The exterior of the building has a vastness of glass permitting the public to see in as well as bringing natural light into the facility. One of the key features of the facility is the exposed concrete staircase that leads you from the main entrance to the various floors.



The entire floor of the 22,050m² facility has exposed concrete finish. The floors are either retroplated cast-in-place concrete or retroplated access flooring, providing Centennial a resilient, low maintenance surface. The ceilings have exposed concrete beams and columns throughout with acoustical tile infills. With the exposed concrete, it gave it an

Owner: Centennial College
Architect: Kuwabara Payne McKenna Blumberg Architects
Associate Architect: Stone Kohn McGuire Vogt
Engineer: Read Jones Christoffersen Ltd.

Construction Team Members:

General Contractor: Vanbots Construction Corp.
Concrete Supplier: Dufferin Concrete
Mechanical Consultant: Keen Engineering Co. Ltd.
Electrical Consultant: Mulvey & Banani International Ltd.
Formwork Contractor: Canform Structures Ltd.
Retroplate Contractor: Duron Ontario Ltd.
Access Floor Contractor: Produits Architecturaux Raynover Inc.

Additional Participants:

- Aluma Systems Canada Inc.
- Carpenters Local 27
- LIUNA Local 506
- Ironworkers Local 721
- Salit Steel Ltd.

Project Facts:

- \$65 million budget
- Construction started in November 2001
- Completed in March 2004
- Total area of 22,050m²
- 4 storeys
- Resource Centre, 6 computer labs, 47 speciality labs and associated facilities
- Reinforced concrete structure
- Retroplate flooring, exposed concrete access flooring, exposed columns and beam throughout



(Continued from Page 1)

economical finish, while offering a teaching tool for the Engineering students showing the structure of the facility wherever possible.

One of the most distinctive and challenging sections of the building was the construction of the floating lecture hall located in the front atrium above the student gathering area. The lecture hall is a reinforced concrete structure within the main structure. The construction for this part of the building was carried out after the rest of the building was constructed. Not only were the floors tiered and supported by sloping columns, but also the walls were curved and angled. The lecture hall is undeniably a major achievement for everyone involved in the construction.

Faced with building a signature facility on a limited budget, the entire team for this project provided the owner a sustainable building that is also a flexible facility. It was evident during the construction of the facility that there was a great deal of pride in the workmanship of the various trades' people. This outstanding facility is one project that all can be proud of.



2004 Ontario Concrete Award winning project for Architectural Merit

In 2000, the Ontario Cast-In-Place Concrete Development Council (OCCDC) was formed to aid the owner/ developer, architect/engineer and design-build contractor in the decision-making process of choosing the best construction material for the framing system of new cast-in-place structures.

OCCDC promotes the benefits of reinforced concrete as the construction material of choice based upon the following advantages:

- *fast-track construction*
- *costs savings*
- *structural advantages*
- *environmental considerations*
- *local economy benefits*

The Members of the OCCDC include (alphabetical order):

*Aluma Systems Inc.
Carpenters District Council of Ontario
Concrete Forming Association of Ontario
Ironworkers District Council of Ontario
LIUNA—Ontario Provincial District Council
Ontario Formwork Association
PERI Formwork Systems Inc.
Ready Mixed Concrete Association of Ontario
Reinforcing Steel Institute of Ontario*

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