



DEERFIELD HALL

2014 ONTARIO CONCRETE AWARD WINNING PROJECT FOR ARCHITECTURAL MERIT

PROJECT OVERVIEW



Deerfield Hall is the newest addition to the University of Toronto's Mississauga campus. This 110,000 SF mixed use academic building creates new state of the art facilities for the faculties of drama, mathematics and psychology as well providing dining facilities, student study space and a range of learning environments for the campus at large. The building is conceived as the first phase in a three phase project that will structure one of the last and most significant development parcels on the campus – the North edge of the campus

green. This highly prominent location required a signature architectural expression that could be interpreted successfully over the three phases and that would complement the award winning architecture and beautiful natural setting that characterize the campus.

To achieve these ends, the design team developed a strong architectural palette of board formed architectural concrete and terracotta cladding tiles of varying coloration for the building exterior. On the interior a range of wood products were selected to complement the warm coloration of the terracotta cladding and to strike an aesthetic dialogue with the architectural concrete which is used throughout. Aesthetic considerations were necessarily balanced against the project's rigorous schedule requirements – Deerfield Hall was designed and built under a Design Build Contract in just 22 months.

THE LEGACY OF CANADIAN MODERNISM

The design team drew inspiration from a heroic era of Canadian campus architecture which saw the birth of the Mississauga Campus and in particular the works of Ron Tom, John Andrews and Arthur Ericson.

In the late sixties and early seventies, these architects developed a bold new language for the spaces of higher learning. Their works were characterized by material simplicity and honesty, bold formal solutions and a strong attachment to the Canadian landscape. The design for Deerfield Hall structures its main public spaces around a boldly articulated concrete framework where the presence of wood and the nearby forests is echoed in the board forming of the architectural concrete. This concrete structure is in-filled with warm cherry wood wall panels and slatted red cedar ceilings to create a stark

OWNER

University of Toronto, Mississauga

ARCHITECT OF RECORD

Perkins + Will

ENGINEER OF RECORD

exp Services Inc.

GENERAL CONTRACTOR

Eastern Construction Company Limited

FORMING CONTRACTOR

Alliance Forming Ltd.

MATERIAL SUPPLIERS

- Canadian Precast Limited
- Dufferin Concrete, A division of Holcim (Canada) Inc.

ADDITIONAL PARTICIPANTS

- Alliance Site Construction Ltd.
- BASF Canada Inc.
- Carpenters Local 27
- Fleisher Ridout Partnership Inc.
- Gilbert Steel Limited
- Ironworkers Local 721
- LIUNA Local 506
- National Concrete Accessories

PROJECT FACTS

LOCATION Mississauga, Ontario

COMPLETION August 2014

PROJECT SIZE

110,000 square foot, four-storey, concrete framed building

QUICK PROJECT FACTS

Academic Institutional Building incorporating faculties of Math and Computer Science, Dramatic Arts and Psychology as well as student lounges, study areas, classrooms and food service.



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material contrast. The dialogue between dark and light, warm and cool, mass and plane, wood and the memory of wood in the concrete surfaces characterizes the entire interior treatment giving Deerfield Hall a sense of permanence and warmth that has been enthusiastically received by the student body.

ENDURING LANGUAGE

The use of architectural concrete creates a spirit of consistency with some of UTM's original structures while the variety of finishes in the building and landscapes and the contrasting of the concrete with a variety of material creates a fresh contemporary feel. The Universities administration were enthusiastic about the aesthetic possibilities while taking comfort in the knowledge that concrete would over a low maintenance finish be able to withstand decades of abuse from thousands of students.

FRAMEWORK FOR INTERACTION

The architectural concrete within the building is most pronounced in the central atrium where a bold concrete structure and feature walls frame views between program elements and out into the landscape. To create a strong vertical emphasis, architectural board form concrete is used on the columns and multi-story sheer walls, while beams feature a smooth architectural finish that is set in a receding plane. The columns are vertically emphasized and textured and soar five levels to the top of an architectural clerestory from which natural light rakes across the concrete surfaces further emphasizing colour and texture.

SPEED, CONSISTENCY AND EFFECT

Given the project's aggressive schedule and budget, the design and construction team had to look for expedient and cost effective ways to achieve the design objectives. Scheduling the sequence of tenders and trades on site and harsh winter conditions were also primary considerations in developing the methods and materials for the architec-



tural concrete. To achieve a consistent aesthetic for the signature board form concrete, latex form liners were used for both poured in place and pre-cast architectural concrete inside and outside the building, including landscape elements. Different concrete components delivered by different sub trades at different time all achieved a striking consistency through the use of a consistent form liner and special attention to the colour and consistency of the concrete mix. To create a more authentic language, special attention was paid to the placement of the form liner. The team paid attention to the nailing of the form liner that it was nailed at logical locations, top and base of board profiles – creating an aesthetic consistent with ream board forming. The design uses horizontal reveals and scoring to define the breaks in pouring and control the inevitable spillage and discoloration that can occur between pours. Minimal restoration was required as the aesthetic celebrates the raw and expressive aspects of concrete.

INSIDE AND OUT

This celebration of texture continued on the building exterior and into the landscape. Cantilevered canopies with precast board form finish signify form benches. These benches create a base for the building inviting students to sit on either side of the cafeteria window. This seating element is echoed in a series of board form concrete seating walls that occupy the building forecourt.

SUSTAINABILITY

Deerfield Hall is targeting LEED Silver certification and concrete applications contributed in the categories of resources and materials – Recycled content and Construction Waste Management. Fly ash, provide recycled concrete in the exterior or landscape concrete and interior structural elements. Reusable Latex formworks led to reduced construction waste.

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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