

SAB Awards Winner: Triffo Hall



Jury comments - *A fine example of a design that preserves the historic fabric of a heritage building while maximizing its flexibility of use. It incorporates rainwater capture and re-use, and high performance heating and cooling. Interesting interior spaces maintain the elegance of the building and make delightful use of natural light.*

Triffo Hall represents the rebirth of South Lab, one of the oldest buildings at the University of Alberta, originally constructed in 1915. The historic two-storey structure is composed of two bays with a saw-tooth roof configuration including clerestory windows.

The new program provides offices, conference facilities and a laboratory for the Faculty of Graduate Studies and Research and The Graduate Students' Association, accommodated in spaces that range from airy lofts to enclosed offices. The design is structured around a two-storey, top lit interior street which runs the length of the building.

Sustainable design strategies include the reuse of an existing historic structure (98% of the existing building fabric was retained), maximal use of daylighting, minimal application of additional materials, capture and re-use of rainwater, and high performance heating & cooling systems. Triffo Hall is both the first project and first major renovation at the





University to be registered with LEED® and is targeting LEED® Gold.

The approach to renovation was one of revealing the existing structure while improving building performance. In keeping with this strategy, all existing mechanical and electrical systems were stripped out and layers of applied materials removed, taking the building back to the original masonry, steel and concrete structure.

The primary energy conservation strategy was to improve the existing envelope as much as possible, maximize use of passive systems, and provide highly efficient mechanical and electrical systems. The existing envelope consisted of an uninsulated brick wall, single-pane wood windows, single-pane

clerestory windows and an uninsulated roof.

Envelope improvements included:

- Replacement of existing windows with double-glazed, argon-filled, metal-clad, wood windows,

- Replacement of clerestories with aluminum-framed multi-walled polycarbonate panels with an R value of 4.2, and

- Insulation of the roof and installation of new reflective membrane.

Due to considerations of vapour transmission and structural movement the walls were not insulated, however, the upgrading of the other components results in significant improvements in performance.

The overall reduction in potable water is achieved by three means: installation of native and adapted species; utilization of harvested rainwater; and specification of ultra low-flow and waterless fixtures. Harvested rainwater from the building roof is collected in cisterns and is available for landscape use via a hose-bib, but primarily utilized for the flushing of toilets.

The narrow floor plate connected by a central corridor lends itself to a variety of configurations, due to the ready access to natural light. In the past the structure accommodated a number of uses: a civil engineering lab; drafting studios; offices; a home economic lab; dance studio; art shows; and even a cow barn. It is expected that this inherent flexibility will continue to be a benefit to the University and its occupants.

Client University of Alberta

Architect Group 2 Architecture Engineering Ltd. [with predecessor firm Barry Johns (Architecture) Ltd.]

Photographer Lemermeyer Photography Inc.