University Hall is a three-storey office building that underwent a phased major renovation from 2007 to 2015. The project stripped the inside of the building back to the exterior walls, removed all asbestos, re-insulated, added new energy-efficient windows, replaced the defective steam heating system, modernized the interior and repurposed all spaces.

**Conservation**
- **16%** Down
  - ENERGY USE (Modeled)
- **75%**
  - OF ORIGINAL BUILDING ENVELOPE RETAINED
- EAST-WEST AXIS
  - LIMITS SUN EXPOSURE IN SUMMER AND BOOSTS EXPOSURE IN WINTER

**Green Features**
- ORIGINAL GLASS DOORS
- BLINDS FOR SOLAR SHADING
- ENERGY-EFFICIENT LIGHTING

**Certifications & Awards**
- **3 Green Globes (65%)**
  - Date certified: February 2016

See next pages for details
ENERGY

- Energy-efficient lighting.
- Blinds for solar shading.
- East-west building axis allows for minimal summer sun impact and maximum winter heat gains.
- Achieved 16 per cent energy savings.  
  Model based on the MNECB 1997 energy budget

ENVELOPE

- Low thermal emissivity glass reduces heating and cooling needs.  
  Window glazing: U-value 1.06
- Over 75 per cent of the original building envelope was retained during the renovation.
- 50 per cent of the existing major structures (other than the shell) were reused.
- Building assemblies and materials were selected for their durability and low maintenance requirements.

CONSTRUCTION & DEMOLITION MATERIALS

- Paint, finishes, and carpet are low-VOC emitting.  
  Volatile Organic Compounds can cause health problems when inhaled or consumed.
- All building materials, including drywall, steel studs, carpet, resilient sheet flooring and ceiling tiles, are minimum 20 per cent recycled content.
- Formaldehyde-free insulation.
- Marmoleum sheet flooring is made of rapidly renewable materials.
- EcoScreen roller shades were used.
LOW-IMPACT DEVELOPMENT

- Glass doors were maintained and reused.
- Non-ozone-depleting refrigerant is used for air conditioning.
- Created a dedicated recycling space as part of the renovation.
- Created a waste diversion plan.

WATER

- Water is conserved with low-flow faucets and toilets.

CAMPUS-WIDE PROGRAMS AND POLICIES

- District Energy System efficiently delivers heating, cooling and electricity. Connected buildings do not require chillers or boilers.
- The Building Automation System adjusts temperature depending on weather and occupant schedules.
- Buildings are cleaned using high efficiency machines to save resources and ozonated water to avoid harsh chemicals in the indoor environment.
- All cleaning products used on campus are third party green certified.
- Grounds are landscaped with native and drought tolerant plants in mulch beds to minimize irrigation in Alberta’s hot, dry summers.
- Water from annual fire pump testing is stored and used for irrigation.

UNIVERSITY HALL

Architects:
Phase 1 & 2: Group 2 Architecture Engineering Ltd.
Phase 3 & 4: The Workun Garrick Partnership

Mechanical Engineering:
Phase 1 & 2: Arrow Engineering Inc.
Phase 3: Martin Thompson (Arpis North)
Phase 4: Smith and Andersen Engineering

Electrical Engineering:
Phase 1 & 2: Williams Engineering Canada Inc.
Phase 3: Chris Marks (University of Alberta)
Phase 4: SMP Engineering

Sustainability: EcoAmmo

Office of Sustainability: sustainability@ualberta.ca