

Backgrounder: Algonquin Centre for Construction Excellence

Cost: \$77 million

Size: 180,000 square-feet

New construction trades spaces: 600

Sustainability certification: Leadership in Energy and Environmental Design (LEED) Platinum. Once certified this will be the largest LEED Platinum building in Canada.

Design-build company: [EllisDon Corporation](#)

Architects: [Diamond and Schmitt Architects Incorporated](#), and [Edward J Cuhaci and Associates Architects Inc.](#)

Projected completion: Fall 2011

The Building:

Scheduled to open in the fall of 2011, the 180,000-square-foot building will house 600 additional construction seats and provide space for thousands more students studying in related programs. The uniquely green, designed to be [Leadership in Energy and Environmental Design \(LEED\)](#) Platinum certified building will also be a showcase and teaching laboratory for best practices in sustainable construction.

The new facility will feature a storm water recovery system that will capture rainwater to flush toilets; solar panels to provide some power and hot water; and a "Biowall," a five-storey living, green wall covered with plants, that helps control humidity and clean the air.

The design will have a significantly upgraded building envelope, which will include R30 insulated walls, triple glazed windows and a R50 insulated roof. This upgraded building insulation will considerably exceed building code requirements and conserve energy by reducing heating and air conditioning needs.

Air-conditioning and heating will be provided by heat pump technology, economically using hot water for heat. The new equipment and technology selected for the ACCE will meet a high standard of efficient heating and cooling.

The new facility will connect the relocated bus station and a new below grade transit roadway to the main Campus via a \$4 million pedestrian bridge to be constructed across Woodroffe Avenue. Algonquin will continue to work with the City of Ottawa to integrate Transitway into the facility.

Sustainability features:

- Leadership in Energy and Environmental Design (Leed) Platinum certified
- Storm water recovery system that captures rain water to flush toilets
- Solar panels to provide some power and hot water
- "Biowall," a five-story living, green wall covered with plants, that helps control humidity and clean the air
- R30 insulated walls
- Triple glazed windows
- R50 insulated roof
- Heat-pump climate control
- Use hot water for heat
- Equipment and technology will meet a high standard of efficient heating and cooling
- Several hundred trees in twenty varieties (mostly native) and over twenty varieties of groundcover such as grass and shrubs will be planted increasing biodiversity of the area by 300%
- Park and garden spaces, undulating green roof, and bio-filter wall use natural forces to restore sites

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Construction timeline:

November 2009

- Construction hoarding and site set up complete
- Existing Transit station demolition complete
- Bulk excavation in progress

December 2009

- Bulk excavation complete
- Piles installation complete (Tower)
- Foundations in progress (Tower)
- Piles installation in progress (Low rise Building)

January 2010

- All piles complete
- Foundations in progress (Low rise Building)
- Steel erection in progress (South portion of the Tower)

February 2010

- Steel structure erection complete and slabs on deck near completion (South half of Tower)
- Steel structure in progress (North half of Tower)

March 2010

- Tower steel structure complete
- Slabs on deck near completion (North half of Tower)
- Steel erection near completion (South half of low rise Building – workshop area)

April 2010

- Steel structure near completion (Low rise Building)
- Building envelope has started in the Tower

May 2010

- All steel structure and deck complete
- South half of Tower is enclosed from level 2
- Interior fit up has started in the Tower
- Slab on grade work complete at the Tower and continues at the Low rise building

June 2010

- Tower enclosed
- Slab on grade complete in all areas
- Interior fit up has started in most of the floors

July 2010

- Building fully enclosed
- Interior fit up in progress

August 2010

- Green roof finished in progress
- Exterior site work and building has started
- Interior fit up in progress in all areas
- Permanent power available in low rise and mechanical penthouse

September 2010

- Green roof finishes near completion
- Permanent power available
- Interior finishes in progress
- Pedestrian bridge above Woodroffe Ave. complete

October 2010

- Interior finished near completion in Levels 2 and 3 (Tower)
- Site work and landscaping around buildings complete
- Green roof finishes complete

November 2010

- Interior finishes complete in most of the Tower and low rise Building
- Work in progress in Atrium and Concourse areas

December 2010

- Atrium finishes in progress and Concourse (arrival hall)
- Fire alarm and testing has started

- Commissioning at the initial stage
- January 2011
- Atrium finishes and arrival hall complete
 - Commissioning and testing progress
 - Architectural inspections and corrections in all areas
- February 2011 (Substantial Completion March 31, 2011)
- Commissioning and testing complete
 - Float time of 4 weeks for contingencies (weather, approvals, etc)
 - Operations and Maintenance Training as part of IDP (Integrated Design Process)

Funding Partners:

Support for this project has come from the college community and all levels of government.

- \$35 million from the Government of Ontario
- \$35 million from the Government of Canada
- \$7 million from the Constructing our Future Capital Campaign
- \$2 million from the City of Ottawa in value of land donated

The Need:

Anyone who has recently tried to hire a trades professional has seen first hand the challenge of finding skilled and trained professionals.

An aging workforce, declining birthrates and an outdated perception that the trades represent an undesirable career option are seen as the primary factors contributing to the looming shortage of skilled trades workers across Canada. This is a contrast to the reality that trades are often high-demand, high-wage occupations.

The reality is that a skilled trades shortage not only affects the construction industry but has a direct impact on our economy, dramatically increasing the time required to complete projects and by association its cost.

The [Construction Sector Council](#) estimates that 56,300 new construction workers will be needed to replace those retiring and to sustain the Ontario workforce at its 2006 level. Compounding matters, 17,600 new workers will also be required by 2016 to fill positions related to new construction.

A 2005 Ontario Chamber of Commerce report noted:

- Canada is currently short between 25,000 – 60,000 workers (Canadian Construction Association).
- By 2020, 52% of existing trades workers are expected to retire.
- By 2020, Canada could be short one million workers (Conference Board of Canada, 2000)
- In the next two decades, 40% of new jobs will be in the skilled trades and technologies; in 1998, that number was less than 20% (skillswork.com)

For more information please visit:

www.algonquincollege.com/expansion

About Algonquin College:

Algonquin College of Applied Arts and Technology is located in the nation’s capital and the Ottawa Valley and is the largest college in Eastern Ontario. Algonquin is a leader in the integration of technology into learning. Algonquin College has a diverse population of approximately 18,000 full-time students and more than 33,000 part-time registrations in over 140 programs and is committed to student success. For more information please visit www.algonquincollege.com.

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