

Elementary Teachers' Federation of Ontario headquarters for Waterloo Region wins Gold



PHOTO CREDIT ENERMODAL ENGINEERING

The new Elementary Teachers' Federation of Ontario (ETFO) headquarters for Waterloo Region recently received its LEED Gold certification from the Canada Green Building Council (CaGBC), becoming the first LEED certified building in Kitchener.

The ETFO is responsible for protecting and enhancing the careers of its 73,000 elementary school educator members. The 625m² Waterloo Region ETFO facility, which includes office, meeting, and training rooms, is the first branch of this organization to receive LEED certification.

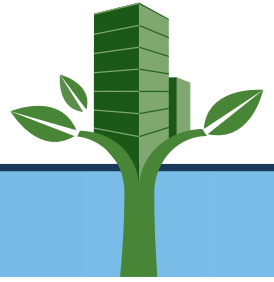
When constructing this regional office, supporting Kitchener-Waterloo's green building design talent pool was important to the ETFO. Therefore, the design was by local architecture firm Robertson Simmons Architects Inc. with LEED and Energy Efficiency consulting by Kitchener's Enermodal Engineering.

No (Irrigation) Water Wanted

The key to water conservation is a reduction in demand. At the ETFO office in Kitchener, the demand for irrigation water was eliminated through the use of drought-resistant landscaping species. To reduce indoor water use, low-flow plumbing fixtures were installed throughout the facility.

Another important aspect of water use reduction is to minimize the amount of treated, municipal water and replace it with rainwater. At the ETFO, an underground cistern store rainwater collected from the building roof. This water is used to flush toilets and urinals. As a result, the predicted indoor potable water use savings for the office are 76%.

For more information or to arrange an interview, contact Caitlin Carpenter at ccarpenter@enermodal.com.



Energy Waste Eliminated

The ETFO recognizes the importance of reducing energy use for the health of the planet which our children will inherit. Consequently, the building is designed to use 49% less energy than a conventional building. These savings are achieved, in part, through a ground source heat pump system. The ground is cooler in the summer and warmer in the winter than the above ground air temperature. Heat transfer fluid rejects or absorbs heat into/from the ground, eliminating the need for a DX coils or boiler.

The meeting room have demand-controlled ventilation. Conventionally, meeting rooms would be ventilated at a constant rate, with a fixed percentage of outdoor air, based on the assumption that the room is occupied by the maximum number of people. This outdoor air is brought in from a rooftop unit, treated (cooled in the summer and warmed in the winter), and delivered to the room through ceiling vents. This strategy is inefficient because the space is often not at maximum occupancy, and thus there is unnecessary heating or cooling demand. Demand-controlled ventilation saves energy because the amount of outdoor air is based on the amount of fresh air required actually required as determined by a sensor that estimates the number of room occupants based on CO2 level.

A Clean, Green Site

The ETFO wanted to serve the community, not only by nurturing teachers, but also through minimizing its impact on the environment around the new office. When construction began in 2007, the construction team installed erosion and sedimentation controls. To minimize the burden on municipal storm systems and filter out phosphorus and other waterborne contaminants, a dry detention pond was also created on site to manage stormwater.

During construction, 89% of waste generated was diverted from the landfill and reused or recycled.

Supporting the Environment and Local Economy

In addition to supporting local teachers, the ETFO in Waterloo Region wanted to support the local economy and environment with the construction of their new facility. The design team selected building materials from local and recycled content. Local resources included drywall and concrete, while recycled materials included steel framing and insulation.

To minimize air pollution released into the local environment as a result of automobile commuting, the ETFO included bike racks and shower facilities in its new office.

Inside, low-emitting adhesives, sealants, paints, and coatings were used to maintain air quality for occupants. The ETFO's facility includes a green housekeeping program using all EcoLogo-certified products.

Enermodal Engineering Canada's largest consulting firm exclusively committed to buildings and communities that are energy and resource efficient. With a professional staff in Kitchener, Calgary, Edmonton, Denver, and Toronto, Enermodal is working on over 190 LEED buildings across North America and has certified more Canadian buildings than any other firm.