

ROBERT LEFEBVRE'S

# GWAL PROJECT ACCOMPLISHMENTS

## 90 ELGIN STREET REDEVELOPMENT



The building is a 65,000 m<sup>2</sup>, 17 storey office tower including three (3) levels of below grade parking and one (1) level of penthouse service space. The building is located in downtown Ottawa. There are three (3) levels of below grade parking with a total of 12,000 m<sup>2</sup> of floor area. The project has achieved LEED NC 2009 Gold certification with an energy efficiency 42% better than the Model National Energy Code for Buildings (MNECB).

Mechanical scope included new state-of-the-art HVAC, plumbing, fire protection, utilities and controls. The HVAC system is a VAV type and consists of compartmental units (two (2) per level for lower floors, one (1) per level for the tower), 100% make-up / exhaust system with heat recovery for ventilation with duct distribution to the compartmental system. The makeup air system is capable of providing 100% outdoor air for free cooling. CO<sub>2</sub> sensors are provided on each floor to monitor indoor air quality and control make up air supply. Cliff Street district steam and chilled water were primary energy sources. The plumbing system included new DCW & DHW piping to low water consumption fixtures. Fire protection included fire pump, wet and dry sprinkler systems and standpipe system.

Sustainable features include site location and proximity to public transportation, low flow faucets, high efficiency motors, energy recovery, commissioning, measurement of all energy devices, construction waste management, high IAQ performance, high controllability and enhanced thermal comfort. Key energy efficiency measures included energy recovery from IT systems, variable speed pumping of all systems, high efficiency glazing, VAV fans, demand control ventilation (CO<sub>2</sub> sensors) and efficient lighting designs.

Electrical scope included new state-of-the-art lighting, fire alarm, power and energy metering systems as well as base infrastructure to support telecommunication and security systems. The lighting systems utilize high efficiency T8 fluorescent and LED fixtures controlled via central low voltage automated controls. Day light harvesting is utilized along the perimeter along with occupancy sensors within enclosed rooms to improve energy efficiency and sustainability. The fire alarm system is a fully addressable, class A system c/w voice paging and fire fighter handsets. Each floor is a separate zone. Power is supplied to the building through a new Hydro Ottawa owned 13.2 kV vault to a 600V, 4000A double-ended switchboard. Back-up power for life safety and critical systems is provided via a diesel engine generator designed to stringent environmental emission controls and noise criteria. Key sustainability and energy efficiency design measures include automatic lighting controls, daylight harvesting, occupancy sensor lighting controls, digital and remotely monitored systems metering and the use of variable speed drives on large motor loads such as pumps and ventilation fans.

**Owner:** PWGSC

**Project Location:** Ottawa, ON

**Construction Completion:** 2014

**Building Type:** Office Building

**Project Type:** Construction Management – New Construction



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Goodkey Weedmark & Associates Ltd.

