



MORRISON HERSHFIELD

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# Canadian Consulting Engineering Awards

ONE60 Elgin LEED V4 Certification  
Special Projects Category



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111 Gordon Baker Road  
Toronto, ON M2H 3R1

Attention: Peter Saunders

**Re: ONE60 Elgin LEED V4 Gold Certification**

This year, Morrison Hershfield is pleased to nominate a project that demonstrates sustainability initiatives that went beyond our clients' expectations. Morrison Hershfield (MH) recognized a client need that was outside of the defined project requirements and scope. Instead of business-as-usual, MH identified an opportunity for the client to seize and make a substantial positive environmental impact. The identified opportunity quickly became the new need.

ONE60 Elgin is a 27-storey building in downtown Ottawa, originally constructed in 1971. The ground floor of this one-million square foot commercial mixed-use building saw a complete transformation in 2016, giving it a modern and sleek look. But over and above its aesthetic appeal, ONE60 Elgin is now rated the largest LEED® V4 EBOM (Existing Buildings Operations & Maintenance) international project certified in Canada.

Morrison Hershfield was the project's LEED consultant, implementing LEED V4 for existing buildings and, ultimately, achieving LEED Gold certification for ONE60 Elgin. At the initial certification, LEED V4 was a newly developed rating system. Morrison Hershfield saw an opportunity to use the framework to develop numerous sustainable measures that would have the greatest impact on building operations for ONE60 Elgin. We worked closely with H&R REIT (building owner and property manager) to implement appropriate measures to optimize the performance of the building and achieve the certification.

Leadership in Energy and Environmental Design (LEED) provides a framework to support building owners in achieving their sustainability goals. As part of the renovation process, the owner of ONE60 Elgin, H&R REIT, decided to pursue LEED certification to optimize the building's energy and operating costs. In November 2017, ONE60 Elgin was successfully certified under the LEED V4 Existing Building rating system, becoming one of the first projects in Canada to champion the new LEED V4 certificate and achieve LEED Gold status. In 2018, the project was nominated for the Ontario Leadership Awards and was recognized as the largest building in Canada to achieve LEED V4 certification. H&R REIT continues their progressive growth as industry leaders in sustainability and is currently undertaking LEED Gold re-certification.

Morrison Hershfield's mechanical and electrical team completed water and energy audits to optimize building performance and improve operations and energy efficiency. All lighting, mechanical systems and plumbing fixtures were upgraded. Existing lighting fixtures were



converted to LED lights in the parking garage, stairwells, exit signs and exterior accent lighting. Office space lighting was upgraded to low wattage T8.

Upgraded mechanical equipment led to energy savings and improved indoor air quality for building occupants. Interior air handling units, originally constant volume reheat systems, were converted to variable air volume with variable speed drives, while the reheat coils were decommissioned. The systems are equipped with economizers and demand control ventilation. The building perimeter is conditioned by induction systems and main supply fans were retrofit with dampers for free cooling. As a trial project, one of the four main fans was retrofit with a variable frequency drive (VFD) to reduce static pressure and save energy. The trial was successful and the remaining fans were also retrofitted.

Several of the building's pumps were converted to variable speed and the domestic cold water booster pump was retrofit with a VFD package. The building is also equipped with a double bundle chiller that recovers waste heat from the building's cooling loop to heat the building's hot water heating loop. Controls are sequenced to maximize heat recovery, which also minimizes carbon emissions by reducing the heat requirement of the gas fired boilers.

There were additional challenges due to the age of the building, including upgrading to electronic actuators for outside air dampers instead of using pneumatic technology to accommodate ASHRAE 62 outdoor air compliance. There were issues with low flow water fixture installation due to long wastewater plumbing runs constructed with minimal slopes, where insufficient flow required additional plumbing restructuring to accommodate new fixtures. Plumbing fixtures in both the base building and tenant spaces were upgraded to faucets with low-flow models. ONE60 Elgin now saves an astonishing 37,500,000 liters of water every year. This is an incredible 45% reduction, confirmed through monthly utility bills.

The building also uses its purchasing power to support the market for environmentally preferable cleaning products, including 85% of green cleaning products, disposable janitorial paper products, and trash bags. All tenants are required to divert renovation waste from landfills, achieving a waste diversion rate of 94% for the building in recent years.

The LEED rating system aims to promote a transformation of the construction industry through strategies designed to achieve seven goals:

1. To reverse contribution to global climate change,
2. To enhance individual human health and well-being,
3. To protect and restore local water resources,
4. To protect and enhance community biodiversity and ecosystems,
5. To promote sustainable material resource use and holistic use cycles,
6. To build a greener economy, and
7. To enhance social quality, environmental justice, community health and quality of life.

Achieving the title of "*Largest V4 project in Canada*" meant the project had a need for clear, repeatable direction for improvements that could be applied consistently throughout the entire building. The project and its attached parking garage tower not only stand among some of the tallest structures in the City of Ottawa, the building footprint occupies an entire city block in Canada's capital downtown core.



Morrison Hershfield confirms that the Owner may use our submitted materials, in whole or in part, for the purposes of promoting the awards program, publicizing winning entries and other participants, promoting and enhancing the image and prestige of the Owner and its members, and the consulting engineering industry as a whole.

It is with great pride that we submit the **ONE60 Elgin LEED V4 Gold Certification** to this year's Canadian Consulting Engineering Awards.

Sincerely,



Chris Yates, CET, LEED AP<sup>BD+C, O+M</sup>  
Principal, Sustainability Specialist

