

Representative Projects



Canada Life Breathing Wall



Bell Mobility



Canary Wharf



Enwave District Energy Ltd.



World Financial Center



French River Provincial Park Visitor Centre

Projects with Sustainable Design Features

Canada Life Breathing Wall, Toronto.....TMP engineered the mechanical systems associated with maintaining suitable environments for both people and natural biofilter plants, together improving indoor air quality.

Bell Mobility Centre, Mississauga.....High tech campus-type building featuring gas fired 8 MW generator plant with waste heat recovery for building and domestic water heating, demand ventilation control using CO₂ monitoring, on-site stormwater retention pond with settling basin to treat surface runoff.

Canary Wharf, London, UK.....A 45 storey office development totaling 150,000 m². It features recovered heat for humidification and ventilation air preheating, staged variable volume pumping and displacement ventilation for the auditorium.

Enwave District Energy Ltd.....TMP designed Enwave's first district cooling plant in Toronto with a present capacity of 52,000 TRs. The plant utilizes deep lakewater cooling supplemented with mechanical refrigeration, to realize an 80% reduction in non-renewable energy needed for cooling.

Metro Toronto Convention Centre.....The Convention Centre underwent a below-grade expansion plus 3-storey above grade link to the existing 78,000 m² centre. It features district heating and cooling, demand ventilation control in exhibition halls and meeting rooms, sub-grade construction has a green roof and reduces cooling loads and enhances mass thermal storage.

Trent University, Peterborough.....The Environmental Sciences Building is a 7,500 m² teaching and research laboratory featuring a green roof for stormwater management and lower cooling/heating energy consumption.

World Financial Center, New York City.....Comprehensive energy utilization studies including cogeneration, waste incineration, dual fuel utilization. Four tower (52, 45, 39 and 34 storeys), 716,000 sq. m (7,700,000 sf) office and retail office complex, plus wintergarden, compartment variable air volume HVAC, central chilled water plant with river direct cooling and thermal storage. TMP led the conceptual design and design development.

Air Canada Centre, Toronto.....85,000 m² facility featuring a 20,000 seat stadium for basketball and hockey. Included in this facility are smoke control, bowl/concourse, demand based ventilation control using CO₂ monitoring and district steam and chilled water utilization (no on-site chillers, cooling towers or boilers).

French River Provincial Park Visitor Centre.....8000 sq. ft. visitor and interpretive centre cantilevered on a rock face and occupied year around. Sustainable design features include geothermal heat pump and water conservation.



Microsoft Canada Head Office



Niagara Fallsview Casino Resort



Niagara Falls Butterfly Conservatory



Canadian War Museum



Shanghai Securities Exchange

Microsoft Canada Head Office, Mississauga.....A 15,000 m², four storey high tech office building featuring computer labs, cafeteria, meeting rooms and a 550 seat auditorium. Underfloor air HVAC provides energy efficiency from both thermal storage in the structure and internal heat stratification above the occupied zone for higher mean temperature in the total floor volume and a wider window of economizer operation due to an elevated supply air temperature. The ventilation effectiveness of this system is among the highest relying on the displacement and convection effect of air supplied at low level and collecting heat and pollutants above the occupied zone, which are drawn away by the exhaust system. Perimeter heating is provided by fan-powered terminals and heating coils. The HVAC system chosen represents the probable future trend offering not only Lower Future Cost “churn” for renovation/cable management but more efficient energy and ventilation effectiveness characteristics.

Niagara Fallsview Casino Resort, Niagara Falls.....The casino features a total of 230,000 m² with a 12,000 m² gaming area, a 22,000 m² retail and entertainment complex with latent and sensible ventilation heat recovery, ultraviolet hoods and ecology units. CBIP analysis demonstrated a 34.8% energy saving over code practice.

Niagara Falls Butterfly Conservatory, Niagara Falls.....The 4,800 m² Niagara Falls Butterfly Conservatory features a 9-metre waterfall, a 200 seat auditorium, a gift shop, presentation rooms, a 1,700 m² butterfly greenhouse and a service building containing laboratories and teaching facilities. Displacement ventilation enabled by operative window modulation for temperature control. It has a misting-type system for evaporative cooling and humidification and optimized envelope for energy conservation.

Canadian War Museum, Ottawa, Ontario.....A new Canadian landmark facility, demonstrating sustainable design features, including:

- River water heat pump and refrigerant condensing
- Green roof for storm water management, energy load reduction and to counteract urban heat island effect
- River water utilization for non-potable water system

Queen’s Quay Harbourfront, Toronto, Ontario.....This project exemplified responsible preservation and re-use of a 1926 terminal building. It features lake water direct cooling.

Shanghai Securities Exchange, Shanghai, PRC.....70,000 m² high rise twin tower complex featuring thermal storage to shift demand peak, energy efficient HVAC systems and dual-fuel direct fired absorption cooling.

Thousand Islands Charity Casino, Gananoque, Ontario.....5,800 m² gaming facility featuring latent and sensible ventilation heat recovery.

Scotia Plaza, Toronto, Ontario.....185,800 m², 68-storey office complex with central heat pump, thermal storage integrated with electrical utility needs resulting in a beneficial negotiated rate structure and variable air volume compartment air handling unit.

Kingston LVEC, Kingston, Ontario.....5,000 seat multi-purpose arena under design to achieve LEED Silver.