



LOOP (70 GLOUCESTER & 89 NEPEAN)

OTTAWA, ON



QUICK FACTS

- + Multi-Unit Residential Development
- + Geothermal
- + 582,000 square feet
- + ASHRAE Technology Award, *First Place – Residential Category* (2023)
- + Smith + Andersen Mechanical and Electrical
- + Sustainability Services (Footprint)



LOOP (70 GLOUCESTER & 89 NEPEAN)

ABOUT THIS PROJECT

- + Residential development consisting of two affordable housing towers at 70 Gloucester and 89 Nepean completed in two phases.
- + 28-storey (plus mechanical penthouse) tower at 89 Nepean.
- + 28-storey (plus mechanical penthouse) tower at 70 Gloucester.
- + Both towers share a podium, which includes amenity spaces, such as ground floor pool and fitness areas.
- + Both towers located atop five levels of underground parking.
- + Mechanical and electrical design contributed to the targeted 50 per cent reduction in energy (compared to the baseline building).
- + 70 Gloucester features a hybrid geothermal and heat pump system for heating and cooling throughout the building.
- + The geothermal system in 70 Gloucester uses a heat pump to extract from the geothermal loop in the winter, and a heat exchanger to reject heat from the building's heat pumps, in the summer.
- + The custom design on the building automation control system (BAS) optimizes the operations of 70 Gloucester.
- + Utilized wastewater heat recovery to save significant energy by extracting heat through a sewer drainage system in order to pre-heat the domestic hot water.
- + Designed a domestic hot water recirculation system utilizing heating exchangers (rather than electric heaters).
- + The energy recovery units at 70 Gloucester feature a heat transfer surface that separates the outdoor and exhaust air streams, as well as provides an energy recovery of more than 50 per cent with minimal cross contamination.
- + Designed the incoming switchboard fed from the Hydro Ottawa vault equipment in order to provide each tower with separate power distribution and metering systems from the same source, accommodating the independent construction timelines of each tower.

LOCATION

Ottawa, ON

SMITH + ANDERSEN SERVICES PROVIDED

Mechanical, Electrical,
Sustainability (Footprint)

SIZE

Total:

582,000 sq. ft. (54,082 sq. m.)

89 Nepean:

226,720 sq. ft. (21,063 sq. m.)

70 Gloucester

210,908 sq. ft. (19,594 sq. m.)

BUDGET

Confidential

COMPLETION YEAR

2021

AWARDS

70 Gloucester Street:
ASHRAE Technology Award,
First Place – Residential Category
(2023)

HOT BUTTONS

MULTI-UNIT

RESIDENTIAL

HIGH-RISE

SUSTAINABLE

MECHANICAL

ELECTRICAL

GEOHERMAL

HEAT RECOVERY