

786 SOUTHWOOD WAY

Net Zero Energy Affordable Housing



Services Provided

- ❑ Mechanical Engineering
- ❑ Net Zero Energy Consulting
- ❑ Photovoltaic System Engineering
- ❑ Air Tightness Detailing, Training & Testing

Project Details

Location: Woodstock, ON

Status: Completed in February 2021

Client: Splitroc Inc.

Building Area: 1,140 m² (12,300 ft²)

Value of project: \$1,600,000

Project duration: 6-month design phase.

Target Energy Use Intensity (EUI):

96 kWh/m²/year

PV System Size:

115.5 kW DC

Project Personnel

Greg Leskien – Project Principal

Stuart Evans – Lead Mechanical Engineer

Scott Rivard – Plumbing & Drainage Design

Jordan Hoogendam – Photovoltaic Engineer

Cameron Desmarais – Photovoltaic Designer

Project Reference:

Michael Wilson, Architect

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Project Description

786 Southwood Way in Woodstock, ON, is a 24-unit seniors affordable housing development designed to achieve net zero annual energy consumption. The project consists of four buildings, each with six residential units, oriented to maximize solar exposure. The project was partially funded by the CMHC's National Housing Co-investment Fund.

Our team collaborated with the architect and developers early in the project to assess the site's energy production potential and provide an energy budget to achieve net zero. We worked closely with the Architect to shape the buildings' envelope characteristics to achieve this goal, including thorough review of envelope details. Our Energy team provided iterative modeling support to ensure the project was on track as the design developed.

Two key requirements drove the mechanical design: individual metering of tenant utilities and a 100% electric system. We developed two air source heat pump options, reviewing the distribution and thermal comfort implications of each system with the design team. Ultimately, the team elected to service each suite with a dedicated cold climate mini-split system and an in-suite high-efficiency energy recovery ventilator. Zon also designed rooftop solar photovoltaic arrays for the four buildings, totaling 115.5 kW DC.

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