



Case Study



Vienna House,
Vancouver

“Sapphire Balconies check a lot of boxes of the goals of the Vienna House project charter – they’re durable, support resilience by providing passive shading, and they improve quality of life for residents.”

John Wall, Principal & Co-Founder, Public Architecture





Vienna House, Vancouver

Client: BC Housing, More Than A Roof Housing Society

Contractor: Kindred Construction

Architect: Public Architecture & Communication

Location: Vancouver, British Columbia

Balconies: 70 balconies

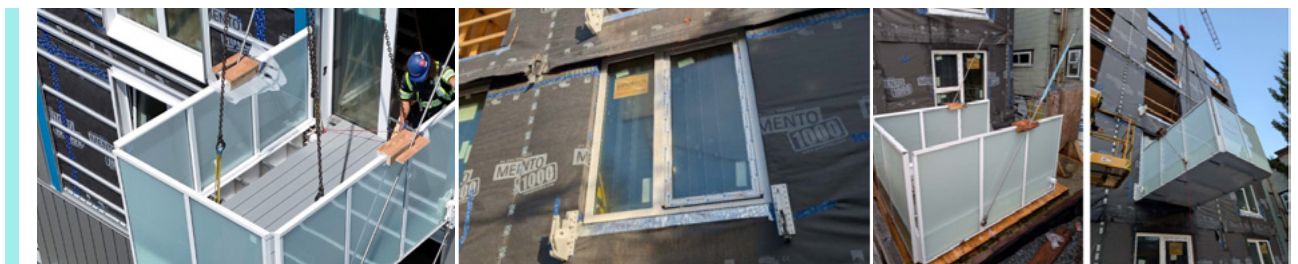


History

In response to the global cost of living crisis and issues with housing affordability across Canada, BC Housing has taken a leap in East Vancouver by developing Vienna House, a brand-new and near-zero-emissions rental apartment community designed with the future in mind. Sapphire are incredibly pleased to be a part of this project and provide our innovative, prefabricated, modular balconies to this incredible next step in sustainable Canadian residential development.

Mayor of Vancouver, Ken Sim, has previously spoken on the project at the ground breaking ceremony, stating:

"I'm thankful to our partners at the Province of British Columbia, BC Housing, More Than A Roof and [our knowledge-sharing partners] the City of Vienna for making this possible. Excited to build 123 more affordable rental units for Vancouver. Through strong Ministry of Housing partnerships and a focus on energy efficiency designs, we're not just building homes, but shaping a future where affordable living is a reality for all Vancouverites."





Executive Summary

- **Collaborating on Sustainability:** BC Housing and Public Architecture partnered early to design Vienna House, aiming to set a new benchmark for sustainable urban development using mass timber, Passive House design, and prefabricated elements to address climate change and housing affordability.
- **Challenging Conventional Balcony Design:** The project faced a key challenge in balancing energy efficiency with traditional concrete balconies, which pose thermal bridging risks that could compromise the building's performance and increase reliance on fossil-fuel heating.
- **Innovative Modular Balcony Solution:** Sapphire was brought in to deliver prefabricated, modular aluminum balconies designed to mitigate heat loss, accelerate construction timelines, and enhance worker safety by allowing interior installation methods.
- **Long-Term Energy Performance Benefits:** The thermally broken design of the new balconies significantly reduces heat transfer, supporting the building's high energy efficiency goals and contributing to its overall sustainability over its lifespan.



Streamlined by Innovation, Delivered by Sapphire

Collaborating on Sustainability

BC Housing and Public Architecture collaborated from an early stage, with a common aspiration of creating a housing community that would set a new standard for sustainable urban development through utilizing mass timber construction, Passive House design principles and prefabricated wall panels to address climate change and housing affordability.

Challenging Conventional Balcony Design

The groups, however, were constrained by a focus on their balconies. Balconies across Canada have typically been constructed using a poured concrete method, but due to the thermal bridging issues that can arise with concrete, the building could have become severely energy inefficient over time as increased use of gas-burning central heating systems would have to compensate for heat lost through concrete balconies.

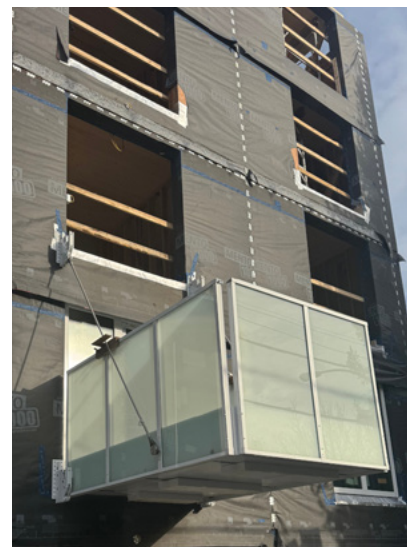
Innovative Modular Balcony Solution

BC Housing and Public Architecture brought Sapphire on board as a response to these concerns to provide Vienna House with a new type of prefabricated aluminum balcony that intends to help the project become streamlined by innovation.

The prefabricated balconies have helped to increase the speed of installation (shaving “a full month” off project timelines on one project in Hamilton, Ontario, according to one developer), increase safety by all-but eliminating fall risk as the balconies can be installed from inside the patio door openings and, perhaps most importantly when compared with traditional concrete pouring methods, the prefabricated balconies will permit just a fraction of heat to escape the building.

Long-Term Energy Performance Benefits

As the balconies at Vienna House are thermally broken by design, attaching to the building via hooks, slide-on brackets and suspension rods, they transfer very little heat to the outdoors and so increase the embodied energy performance of the building throughout its lifespan.



NBS Specification

Vienna House, Vancouver

Manufacturer Sapphire Balconies Inc., Suite 1801, 1 Yonge Street, Toronto, ON, M5E 1W7
0844 88 00 553
support@balconies.global
www.balconies.global

Reference Tie-Rod aluminium balconies with laminated structural glass

Balcony anchor M16 stainless steel tie-rod connections tack welded to stud connector

Arms n/a

Cassette® structure Standard 400mm modular balconies

Soffits Polyester powder-coated aluminium-controlled draining soffits

Deck finish Innova® A2-rated decking fixed with hidden clips

Handrail 70 x 38 mm aluminum extrusion with sloped top, polyester powder-coated

Guarding Laminated structural glass with 6063 grade aluminum posts, toughened 'Arctic White' infill to glass

Base fixing Mechanically fixed to balcony

Fascias PVB laminated, "arctic white" translucent glass



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