



GENERAL SITE & SUSTAINABILITY



Unit Breakdown

	1 Bed	2 Bed	3 Bed	4 Bed	Total
64 BANNERMAN	5	3	3	1	12
59 BANNERMAN	4	2	-	-	6
143 MACHRAY	3	2	1	-	6
Sub-Total	12	7	4	1	24



Parking Breakdown

	CarShare	Standard	Accessible	Total
64 Bannerman	1	4	1	6
59 Bannerman	1	3	1	5
143 Machray	1	3	1	5

The Bannerman Green Housing Co-op is committed to reducing single occupancy vehicle trips, and mitigate the need for individual car ownership. Partnering with a car share will provide residents and neighbours with a carbon-friendly travel option.



General Site Concepts

The scattered co-op concept is responsible and respectful, responding to the existing neighbourhood fabric and its natural beauty. Green space, site water management, wildlife habitat, climatic responsive design, and individual and community wellness are incorporated into the design of all three sites.

Front Yards & Boulevards, Street Tree Protection



All three properties maintain south facing greenspace for precious daylight in intended for resident use; at 64 Bannerman this space is the backyard, whereas the satellite sites are maintaining their existing front yards. Community gardens, indigenous plantings, and fruit trees be integrated throughout the landscape design. Where possible, trees will be saved with the highest standards of protection during construction.

Climatic Responsive Design



Climatically responsive design responds to the location, offering outdoor comfort and a celebration of the seasons. Generous boulevards with proposed traffic calming extensions provide multi-functional pedestrian-friendly local infrastructure that can be used for stormwater management, urban agriculture, community building, and unstructured play.

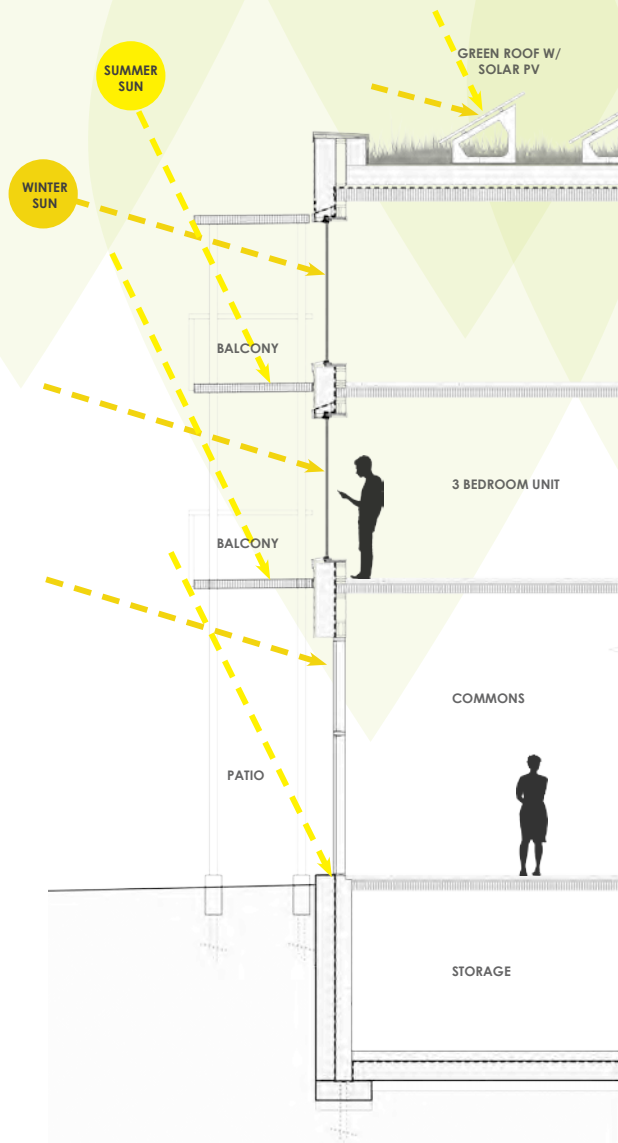
Rooftop & Garden Features

Green roofs provide an opportunity for stormwater management, biodiversity and habitat restoration, and can even moderate urban heat island effect. At 64 Bannerman, the green roof is designed to be integrated with a ballasted photo-voltaic solar panel array to capture energy for the building operation.

Onsite Storm Water Management



Managing water on site is a key consideration of the Living Building Challenge, and integrated into the design with a green roof, a permeable pavers and landscaping, on-site water storage, and grey water reuse for irrigation. Using these techniques, all three projects aim to mitigate stormwater run off into the neighbourhood combined sewer system.



This partial section of 64 Bannerman demonstrates the careful design related to solar angles in winter and summer months. During the winter months balconies and overhangs are designed to maximize interior solar gain and ensure natural heating from solar radiation. In summer, however, the balconies prevent substantial solar gain, which means that less energy will be required for cooling.



Solar PV & Green Roof

Combining a green roof with solar photovoltaic panels enhances energy efficiency, supports stormwater retention, reduces energy consumption through increased insulation, and promotes biodiversity. Solar PV converts sunlight into electricity, offering a clean and renewable energy source that can power homes.



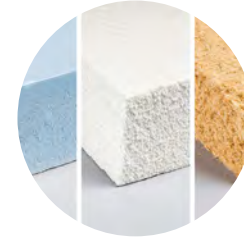
Wood-based Assemblies

All buildings primarily use a wood-based structural strategy (outside of the foundation), by using dimensional wood framing. In addition, nail-laminated timber (NLT) will be used for the floor assemblies of the new construction at 64 Bannerman. NLT is both functional and beautiful, and does not require a drywall ceiling finish to achieve acoustic and fire ratings. Materials like NLT can help to reduce the embodied carbon footprint of buildings, as it uses renewable materials that sequester carbon.



High Quality Windows

All windows and doors used on all buildings will be high quality to ensure airtightness and durability. Windows throughout will be triple pane with careful attention paid to thermal bridging for maximal occupant comfort. Passive house windows, with their high thermal performance and airtight seals, significantly enhance a building's energy efficiency by minimizing heat loss and reducing heating and cooling costs. These windows also contribute to superior indoor comfort, offering occupants a quiet, draft-free environment with consistent temperatures throughout the year.



Maximize Insulation

Each project will be very highly insulated in order to reduce energy requirements associated with heating and cooling. Insulation will be combined with careful fenestration strategies to maximize solar heat gain in winter, and maximize shading in summer. Highly insulated buildings are designed to maintain consistent and comfortable indoor temperatures while drastically reducing energy consumption, making them environmentally sustainable and cost-effective structures.



Integrated Geothermal

64 Bannerman is designed with a pile-integrated geothermal system. Helical steel piles will be used for the foundation, with geothermal tubing inserted into the hollow piles. Heat pumps will extract heat in the winter, and pump heat into the ground in summer months. Geothermal heating harnesses the consistent, renewable energy stored in the Earth's crust to efficiently heat buildings during the winter. By tapping into the Earth's natural heat reservoir, it provides a sustainable and eco-friendly alternative to traditional heating systems, reducing both energy costs and greenhouse gas emissions. The co-op is investigating the potential for a geothermal utility for the surrounding neighbourhood.