FortWhyte Alive Buffalo Crossing

The 18,000 sf two-story mass timber Visitor Centre will consist of admissions, gift shop, café, lobby, gender neutral washrooms, prep kitchen, learning, pre-function, indigenous, and event spaces.  The new marquee gateway to FortWhyte Alive’s 660 acre nature campus, offering environmental education and recreation programs, Buffalo Crossing will be a living exhibit of climate resilience, reconciliation, and stewardship, facilitating expanded programming and revenue for the non-profit.

Located in Winnipeg’s burgeoning southwest, north of a primary motorway into the city, Buffalo Crossing is situated on Muir Lakes south shore, the largest blank space in the heart of the city’s urban core.

Buffalo Crossing is perched between and over granite gabion walls, concealing the naturalized site beyond, while connecting visitors to the campus.

Set back on the site amidst wispy aspens, Buffalo Crossing is perched between and over granite gabion walls, concealing the naturalized site beyond, while connecting visitors to the campus.

The upper volume shading the lower, steps up at the event space. Rounded corners soften Buffalo Crossing’s presence within the aspen forest. Two ends of the building’s mass timber exterior—carved out to form balconies. Features supporting Indigenous culture were carefully curated including language, interpretive elements, and Star Blanket pattern celebrating Indigenous history and traditional knowledge.

The upper volume is animated by the trees, steps up off the main spaces. Rounded corners soften Buffalo Crossing’s presence within the dense forest. The upper ends of the upper volume are carved out to form balconies. Features supporting Indigenous culture were carefully curated including language, interpretive elements, and Star Blanket pattern celebrating Indigenous history and traditional knowledge.

The building's HVAC system consists of a ground source heat pump, energy recovery ventilation, and re-floor heat processing. Short duct run concealed within the service spine fully unveil the mass timber in all public spaces.

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The building’s modular structure was carefully designed to reduce resource use, embodied carbon, and waste minimizing FortWhyte’s investment. Informed by standard modular sizes, the module establishes a rigorous framework for design and planning, including geometry, structure, mass timber, openings, material selection, veneer plywood, saw cuts, and electrical/mechanical device locations.

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Buffalo Crossing demonstrates how a commitment to climate action through the built environment; promoting awareness and understanding of the natural world, to inspire action toward sustainable living and a better future for all.
FortWhyte Alive Buffalo Crossing

500 WORDS

Located in Winnipeg’s burgeoning southwest, north of a primary motorway into the city, Buffalo Crossing is situated on Muir Lakes south shore, the largest of seven lakes formed in reclaimed clay and gravel pits abandoned by the Canada Cement Company in the 1950’s.

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The new marquee gateway to FortWhyte Alive’s 660 acre nature campus, offering environmental education and recreation programs, Buffalo Crossing will be a living exhibit of climate resilience, reconciliation, and stewardship, facilitating expanded programming and revenue for the non-profit.

Set back on the site amidst wispy aspens, Buffalo Crossing is perched between and over granite gabion walls, concealing the naturalized site beyond, while providing access through paired offset gabion walls. Open, transparent, and welcoming, Buffalo Crossing is designed to draw people in, framing views and connecting visitors to the campus.

Triangular in form with a reduced north façade with limited solar exposure, the northwest façade opens up to picturesque views, while the largely transparent south façade faces the motorway providing a strong physical presence. A service spine bisects the plan separating pre-function along the south from event spaces overlooking the lake.

The upper volume shading the lower, steps up at the event space. Rounded corners soften Buffalo Crossing’s presence within the aspen forest. Two ends of the upper volume are carved out to form balconies. Features supporting Indigenous culture were carefully curated including language, interpretive elements, and Star Blanket pattern celebrating Indigenous history and knowledge. The bison (buffalo) make an appearance in the Donor Wall, foretelling the live heard on site.

Special consideration was given to Winnipeg’s extreme climate with temperatures ranging from -40° C to +40° C and future projected climate data to inform the design. Buffalo Crossing is targeting Passive House Certification and has achieved CaGBC’s Zero Carbon Building Design Standard through rigorous collaboration with energy performance specialists, mechanical and building enclosure engineers.

Large bird-friendly insulating glass units passively harvest solar heat during the heating season, while the overhang and operable screens, theatrically opening and closing in response to the sun, passively shade the interiors during the cooling season. Paired with a high-performance building enclosure, the heating energy demand is lowered by ~90%.

The buildings HVAC system consists of a ground source heat pump, energy recovery ventilator, and in-floor heating/cooling. Short duct runs concealed within the service spine fully unveil the mass timber in all public spaces.

The building module was carefully determined to reduce resource use, embodied carbon, and waste maximizing FortWhyte’s investment. Informed by standard material sizes, the module established a rigorous framework for design and planning, including geometry, structure, mass timber, openings, material selection, veneer plywood, saw cuts, and electrical/mechanical device locations.

Buffalo Crossing demonstrates FortWhyte’s commitment to climate action through the built environment, promoting an awareness and understanding of the natural world, to inspire action toward sustainable living and a better future for all.