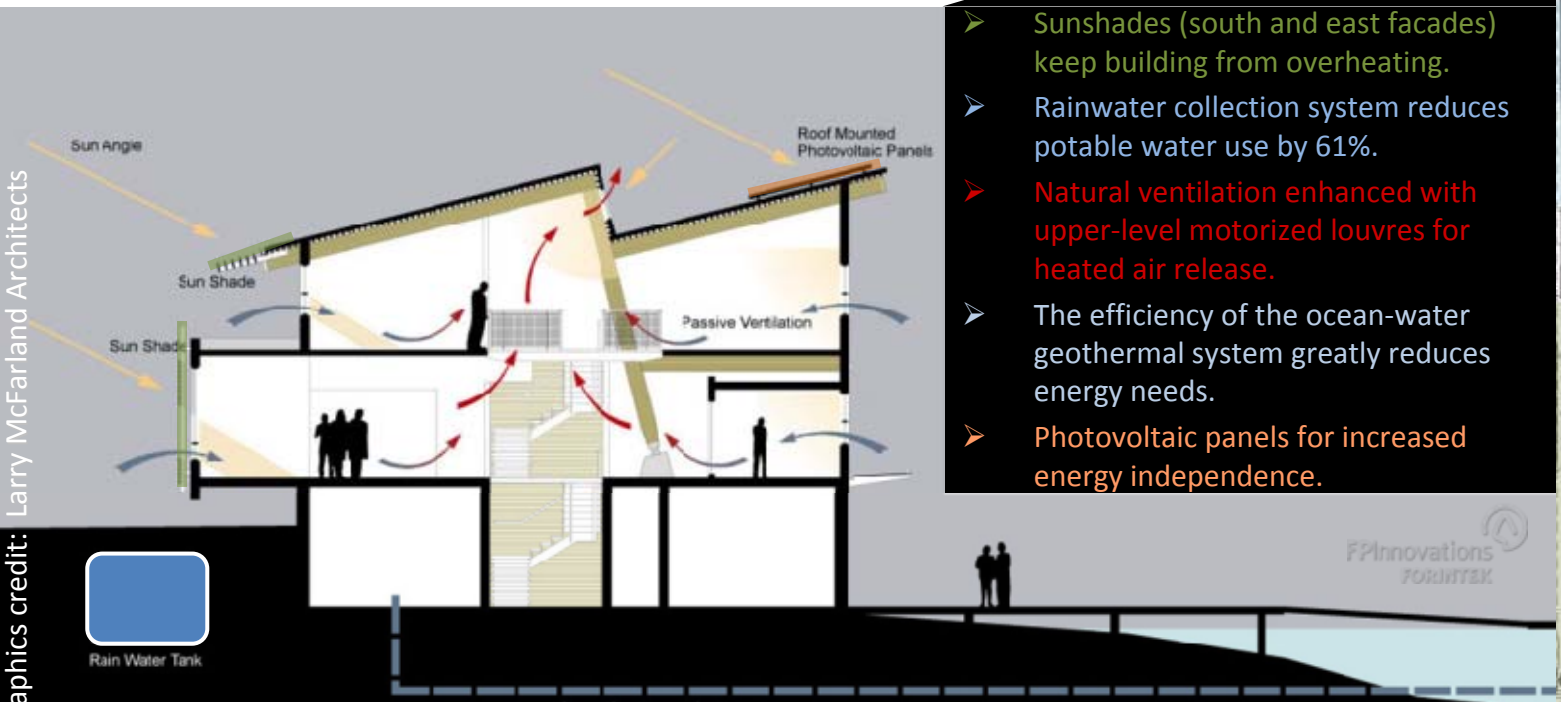
Gulf Islands National Park Reserve Operations Centre

The Gulf Islands National Park Reserve is located off the southern coast of B.C. adjacent to the Strait of Georgia. It was a priority for McFarland Architects that the Operations Centre be the least invasive on the unique ecosystem found in the Park's islands and islets. Building siting, choice of materials and interaction with the site's natural resources helped them achieve that goal.

- Park operations and administration hub, with interpretive area and public meeting space
- Project Budget: $4.5 M
- Area: 1,050 m^2
- Materials: wood, steel, concrete
- Greenhouse gas reductions: 32.3 tonnes/year
- RAIC 2007 Award of Excellence in Green Building Design
- Canadian entry: Sustainable Building Challenge 2008
- LEED Platinum

- The desire to minimize the building footprint, both environmentally and structurally, resulted in a compact energy-efficient structure.
- Wood use in this hybrid building was extensive and included the exposed Douglas-fir glulam columns and beams of the roof and main atrium area and open floor areas, exterior wall framing and sheathing, structural decking of walkway bridges, including the wharf, and western red cedar exterior cladding and sun screens.
- Dimensional lumber and wall finishes used throughout the project came from local species and were manufactured locally.
- Millwork panel products were manufactured from recycled materials with low VOC content.
- Composite wood chosen for low VOC content and durability.
- Interior finishes are minimized by allowing structural elements to be exposed wherever possible.

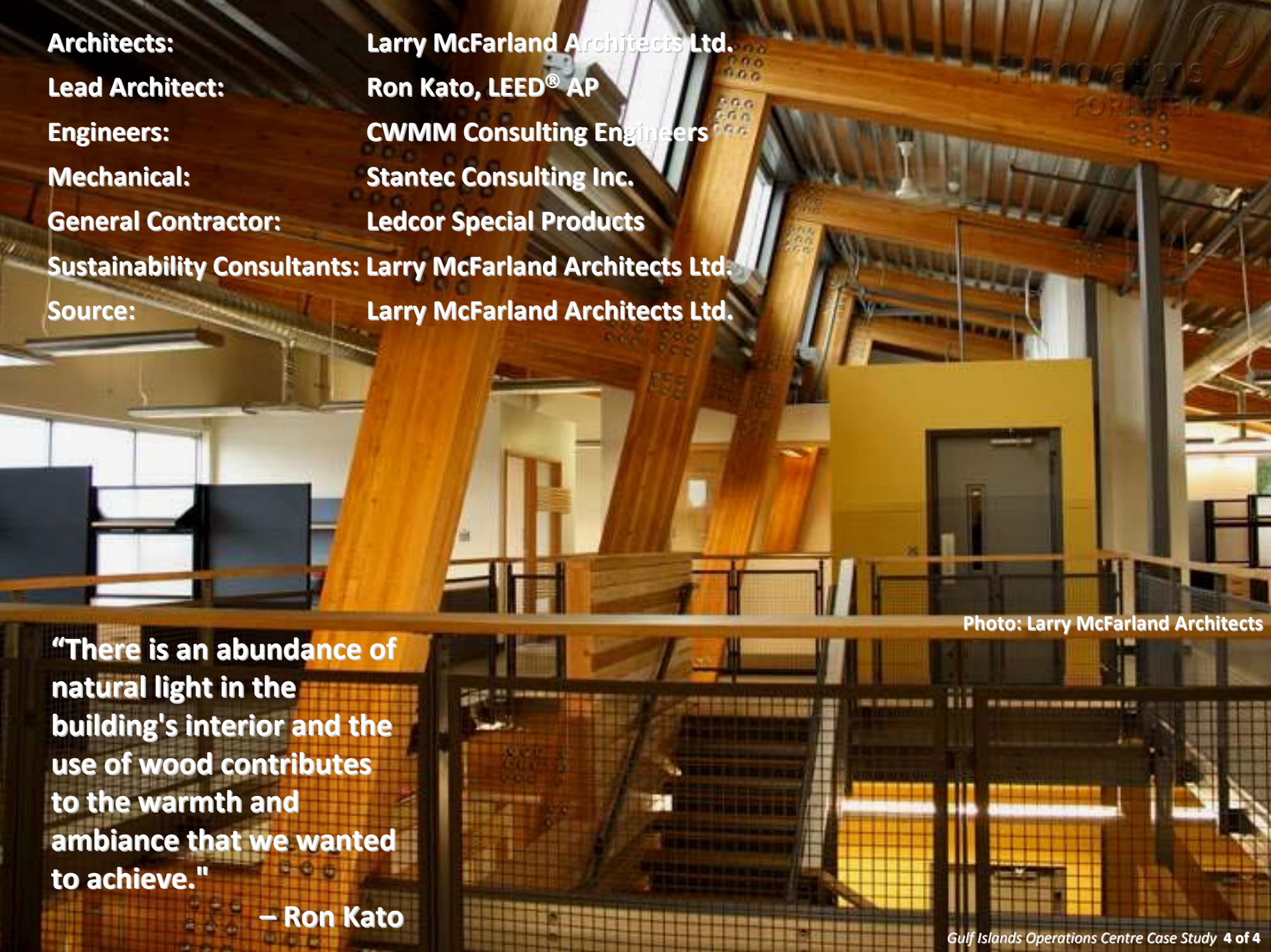
- Parks Canada strove to create a facility that was friendly to its environment, one that would depend very little on outside energy sources. The building is 75% more energy-efficient than similar buildings designed to meet the Model National Energy Code.
- Exterior wall assembly was engineered to minimize air leakage and heat losses, and to withstand the salt air environment.
- Ocean water is used as the sole heat source, for both indoor air and domestic hot water.
- Photovoltaic system provides 20% of the building's energy needs. At current climatic conditions, no mechanical cooling is required.
- Rainwater storage capacity is 30,000 litres.
- Drought-resistant plants were used in landscaping to reduce irrigation needs.
- Site development included removal of contaminated soils.
- Over 88% of construction waste was diverted from landfill.



- Sunshades (south and east facades) keep building from overheating.
- Rainwater collection system reduces potable water use by 61%.
- Natural ventilation enhanced with upper-level motorized louvres for heated air release.
- The efficiency of the ocean-water geothermal system greatly reduces energy needs.
- Photovoltaic panels for increased energy independence.

SITE PLAN

Graphics credit: Larry McFarland Architects



Architects:	**Larry McFarland Architects Ltd.**
Lead Architect:	**Ron Kato, LEED® AP**
Engineers:	**CWMM Consulting Engineers**
Mechanical:	**Stantec Consulting Inc.**
General Contractor:	**Ledcor Special Products**
Sustainability Consultants:	**Larry McFarland Architects Ltd.**
Source:	**Larry McFarland Architects Ltd.**

Photo: Larry McFarland Architects

"There is an abundance of natural light in the building's interior and the use of wood contributes to the warmth and ambiance that we wanted to achieve."

– Ron Kato