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Agway Metals Case Study | LUNENBURG COUNTY LIFESTYLE CENTRE

Nova Scotia's south shore is notable for its deeply forested landscape and rolling hills overlooking the many bays along the Atlantic Ocean coastline. Therefore, it was a natural choice for a new lifestyle centre in Lunenburg County, where the locals have a long-standing connection to the timber industry.

The new 9290-m² (100,00-sf) Lunenburg County Lifestyle Centre in Bridgewater boasts multi-faceted programs for visitors with its features including:

- 1200-seat, NHL-size arena;
- an aquatics centre with a 25-m (82-ft) lap pool;
- leisure and therapy pools;
- 743-m² (8000-sf) regional library; and
- various fitness, multi-purpose, and administrative spaces.

Finding a suitable expression and conquering the rigours of the site while creating a sustainable facility was the challenge facing designers Diamond Schmitt Architects and joint-venture partners, Lydon Lynch Architects of Halifax.

One of the tasks was to accommodate a 5-m (16.4-ft) drop in the landscape running diagonally across the site from west to east, with a small creek defining the southern boundary. A decision was made to locate the passive program elements—such as the library—at the southern end, with the more active to the north. Taking advantage of the natural slope, the arena was nestled into the hillside, so the upper concourse seating would be at the facility's entry level.

The facility's ceiling is a combination of tongue-and-groove wood decking and fir glued-laminated timber (glulam) beams. A central galleria runs parallel to the arena and links all the program elements, with the pool on the western side and the library at the southern end. The galleria serves as the project's 'Main Street' and provides the primary reference to the timber industry, as well as an allusion to the region's maritime heritage. The upper levels are lined with maple hardwood slats, providing both natural warmth and, through open spacing, an acoustic dampening function.





PROJECT

Lunenburg County Lifestyle Centre

BUILDER | CONTRACTOR

BIRD Construction

ARCHITECT

Diamond Schmitt Architects
Lydon Lynch Architects Halifax

APPLICATOR

Dowd Cladding & Metals Ltd.

AGWAY PRODUCTS USED

Horiz. Siding, 7/8" Corrugated
Colour: QC18306 Charcoal

The ceiling is a combination of 38-mm (1.3-in.) thick tongue-and-groove wood decking and fir glued-laminated timber (glulam) beams. Tying the beams together are a series of king post trusses that gradually arc along the length of the galleria, alluding to the hull of a vessel—most notably the famed Bluenose II schooner, now berthed in a nearby harbour. This wood-lined galleria provides the physical and visual link to all the activities within the facility, as well as to the forested vistas beyond.

The community expressed a strong commitment to sustainability; Leadership in Energy and Environmental Design (LEED) Gold status is being pursued for the project. Numerous initiatives were implemented will aid both the environmental impact and reduce energy demand. Given the building enclosure's scale, a high-performance building envelope was employed with R-25 walls and an R-30 roof assembly. Recreation facilities are notable for their large roof areas, and while a conventional styrene-butadiene-styrene (SBS) roof is employed, the top layer is a high albedo surface to reflect light and reduce cooling demand. The arena refrigeration plant employs a heat exchange system to preheat pool water. Solar thermal collectors on the library roof augment the preheat system. A geothermal field provides storage and a retrieval source for the waste heat, while recycled grey water collected from the roof is stored in a large cistern and used for plumbing and irrigation.

The galleria itself provides a source of natural ventilation, taking advantage of its height to use the inherent stack affect. Operable windows at both the north and south end provide low-level entry while the upper level clerestory windows allow the hot air to exit. All are linked to the building management system and activate with heat sensors to automatically monitor the requirements. The result is an integrated and sustainable facility, highlighting its spectacular natural location and paying tribute to its industrial and maritime roots.