



SAGKEENG FIRST NATION COMMUNITY SCHOOL FORT ALEXANDER, MANITOBA

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ArcelorMittal Dofasco Steel Design, 2008)

Design and Construction Team

Architecture:

A collaboration of Stantec Architecture, 204-489-5900 (previously GBR Architecture) and AGB Architecture Inc. 204-940-3800

Structural, Mechanical & Electrical Engineering:

KGS Group, 204-896-1209

Civil Engineering:

J.R. Cousin Consultants
204-489-0474

Landscape Architecture:

K. Rech Landscape Architecture
204-489-6616

Interior Design:

AGB Architecture Inc.
204-940-3800

General Contractor:

Bird Construction, 204-775-7141

Wall Cladding and Roofing:

Flynn Canada, 204-786-6951

Steel Roof Deck:

Tri-Clad Design, 204-878-3480

Steel Roof Deck Supplier:

Vicwest, 1-800-387-7135

Light Steel Framing Supplier:

Bailey Metal Products
1-800-668-2154

Photography:

Gerry Kopelow

Prepainted Steel and Light Steel Framing (LSF) for Design Flexibility and Durability



The Sagkeeng First Nation Community School in Fort Alexander, Manitoba, impressively demonstrates how attractive, versatile and resilient steel can be in commercial construction. The striking, one-storey building features steel as the structural system in the framing, as well as part of the exterior finish of the wall system.

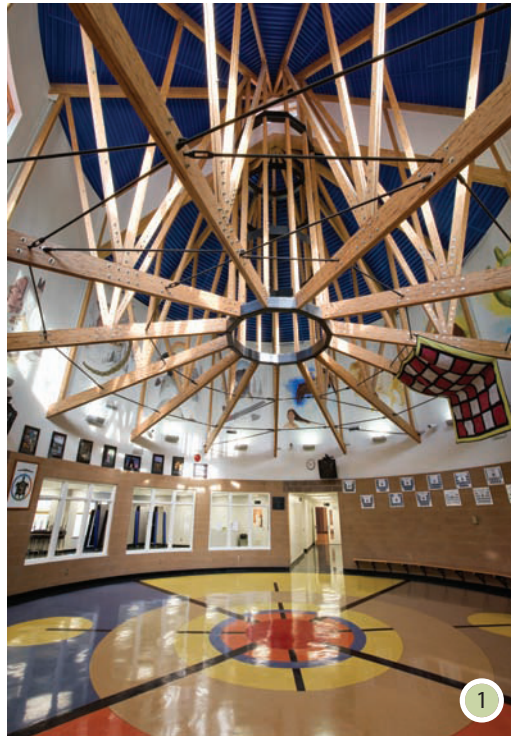
The 4,155m² (44,725 sq. ft.) building is very unique. Stantec Architecture Ltd. and AGB Architecture Inc. of Winnipeg collaborated on the design and the overall layout of the school was developed through community-based, integrated design workshops that involved the First Nation Chief and Council representatives, teachers, community members and the construction project team. The goal was to create separate, but connected, smaller school communities within the building to house the early and middle year students, to have efficient and clear sightlines for control, and a central gathering place for the Sagkeeng community. "The symbolism of the plan refers to the shape of an eagle with wings outstretched and culminating at the heart of the school – the rotunda or central gathering place. The exterior roof design of the rotunda is intended to reflect the soaring interior space that includes a complex paralam wood structure that supports the roof. The roof shape alludes to the iconic First Nation symbol of the tepee," explains Art Martin, Principal,

Stantec Architecture, the 13 trusses signify the thirteen tepee tent poles. Dave Thusberg, Bird Construction, the General Contractors on the project, comments, "It was an interesting way to frame a part of the building. It allowed the owners to express themselves in a way that they could feel good about." Noting the aesthetic value of the steel roofing, Dave says, "A lot of people like the look of a steel roof. It's very colourful and lasts a long time."

A steel structural system was selected to provide flexibility to the design team in shaping the internal spaces. The prepainted galvanized steel cladding for the building exterior was chosen as a durable, long-term solution that integrated well with the masonry veneer for the base of the building. The exterior walls were in filled using steel studs. The envelope components included a face brick exterior on the lower walls, air space, 76.2mm (3") rigid board insulation, air barrier, 12.7mm (1/2") OSB sheathing, 92mm (3-5/8") steel studs, and 15.9mm (5/8") type X gypsum board required for fire rating of construction assemblies. Flynn Canada installed the .76mm (.0299") prepainted galvanized steel P300R wall panels, in a combination of QC8259 Tile Red and QC815 Tan colours. They also supplied the Flynn Accu Steel standing seam roof .76mm (.0299") prepainted galvanized coloured QC8259 Tile Red, in the 8000 Series paint system.

Photos:

1. Interior view of the central Gathering Place/Lobby. The paralam beams lend support to the upper post painted galvanized steel roof that articulates the upper section of the Lobby. The perimeter wall was designed to facilitate artwork and murals by local artists that depict the story of the Sagkeeng people.
2. The north-east corner of the gymnasium clearly shows the various prepainted galvanized standing seam roof surfaces, as well as the rotunda in QC8259 Red and the wall cladding coloured QC815 Tan.
3. Prepainted galvanized steel is used for all trim items, with unpainted Z275 (G90) galvanized corrugated panels for the walkway canopy.

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The roof assembly is comprised of metal standing seam roof panels, thermal spacer, sheathing paper, 152.4mm (6") deep sub girts, two layers of 76.2mm (3") rigid board insulation with a total thickness of 152.4mm (6"), air barrier, 12.7mm (1/3") exterior GB sheathing, steel roof deck, OWSJ and ceiling finish. Prepainted galvanized steel was chosen for the roof to provide a durable, low maintenance, long-term roofing solution, as well as provide the design team flexibility in the shape of the roof form.

"We enjoy working with steel. It's very predictable from a scheduling standpoint and a good product overall," emphasizes Thusberg.

For more information on ArcelorMittal Dofasco prepainted steels and paint Systems contact: Ken de Souza at 1-800-363-2726 Ext: 3997 or ken.desouza@arcelormittal.com