



**UNIVERSITY OF
LETHBRIDGE**
EDMONTON, ALBERTA

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ArcelorMittal Dofasco Steel Design, 2009)

**DESIGN AND CONSTRUCTION
TEAM**

CLIENT:
University of Lethbridge

CONSTRUCTION MANAGER:
Graham Construction and
Engineering Ltd.

ARCHITECTURAL:
Cohos Evamy Integratedesign

STRUCTURAL:
Cohos Evamy Integratedesign

MECHANICAL:
Stantec Consulting Ltd.

ELECTRICAL:
Stantec Consulting Ltd.

LANDSCAPE: Urban Systems

CIVIL ENGINEERING:
(Stormwater Pond) Westhoff
Engineering
Resources, Inc.

STEEL CLADDING SUPPLIER:
Agway Metals Inc.

STEEL CLADDING INSTALLER:
Flynn Canada
**LIGHT STEEL FRAMING
MANUFACTURER:**
Bailey Metal Products

LIGHT STEEL FRAMING SUPPLIER:
Winroc Corporation

**LIGHT STEEL FRAMING
INSTALLER:**
Alpine Drywall

University of Lethbridge Water and Environmental Science Building – LEED SILVER



Prepainted galvanized steel cladding used on the two side wings of the building in the 10000 Series paint system coloured QC 2899 Medium Bronze Metallic and QC203 Bone White in four different profiles.

Jim explains, "Availability was a must, because of a fast-track schedule; build-ability in that it could be easily erected by local building trades; and durability because the cladding has to last for a long period of time. Needless to say, it also had to be cost effective to meet budget limitations."

The AWESB will be the administrative hub for the Alberta Ingenuity Centre for Water Research as well as its function under the province's \$30 million investment in water research to ensure the long-term safety, quality, and sustainability of Alberta's water resources. Design objectives included reflecting environmental responsibility, maximizing energy and water use, and compatibility with the university's stated preference for simplicity and geometric conciseness and avoidance of "elaborate forms and fussy detail."

The 5,300m² (57,048 sq.ft.) LEED project comprises three stories with a half basement. The basement contains wet labs, the 1st and 2nd floors offices, graduate study rooms plus wet and dry labs. The penthouse contains the mechanical room and rooftop access to a graduate experimentation area.

LSF was used throughout the project – for exterior wind bearing walls and interior nonload bearing interior walls, with pre-painted galvanized steel cladding used on

the two side wings of the building in the 10000 Series paint system coloured QC 2899 Medium Bronze Metallic and QC203 Bone White in four different profiles.

In terms of its application on the job, a perspective is provided by Neal Thunder Chief of Graham Construction and Engineering Inc., the GC: "The LSF allowed faster installation than conventional framing and also eliminated the need to heat and hoard during colder periods. That also applies to the steel cladding. And pre-paint minimizes time and cost versus the wall installed and painted by two different contractors. As well, the quality of the finish from the manufacturer is superior to that of having it painted on site."

University of Lethbridge Project Manager Brian Sullivan adds, "My only comment is based on the look – and it looks fantastic. We've already had a lot of positive reaction to the building's appearance."



Design objectives for the Water and Environmental Science building included reflecting environmental responsibility, maximizing energy and water use, and compatibility with the university's stated preference for simplicity and geometric conciseness.

Light steel framing was used throughout the project - for exterior wind bearing walls and interior non-load bearing walls.

Steel Wall Cladding
 1,022m² (11,000 sq. ft.) – HF12F profile
 .76mm (.0299") prepainted galvanized coloured QC2899 Medium Bronze Metallic (10000 Series paint system)
 920m² (9,900 sq. ft.) – HF12F profile .76mm (.0299") prepainted galvanized coloured QC 203 Bone White (10000 Series paint system)

LIGHT STEEL FRAMING MATERIAL (LSF)
 Material – Grade33 (MPA230)

Interior Stud Walls:
 .18mm x 92mm – 32mm flange – stud and track – 17,374m (.0179" x 3.625" – 1.25") – 362S125 – 18 – 57,000 feet
 .18mm x 152mm – 32mm flange – stud and track – 8,534m (.0179" x 6" – 1.25") – 600S125 – 18 – 28,000 feet
 .33mm x 92mm – 32mm flange – stud and track – 2,743m (.0179" x 3.625" – 1.25") – 362S125 – 18 – 9,000 feet
 .33mm x 152mm – 32mm flange – stud and

track – 518m (.0179" x 6" – 1.25") – 600S125 – 18 – 1,700 feet
 .43mm x 38.1mm channel – 2,743m (.043" x 1.5") channel – 9,000 feet
 Studs framed at 406mm (16") on centre main and second floor wall heights – 5m (16 ft.)
 Ratings – 45 min, 1 hour and 2 hour fire rated walls
 – STC 45 – 49 sound rated partitions.

Exterior Stud Walls:
 .33mm x 64mm – 41.3mm flange – stud and track – 1,829m (.0179" x 2.5" – 1.625") – 250S162– 18 – 6,000 feet
 .33mm x 152mm – 41.3mm flange – stud and track – 1,950m (.0179" x 6" – 1.625") – 600S162 – 18 – 6,400 feet
 .43mm x 203mm – 41.3mm flange – stud and track – 9,144m (.043" x 8" – 1.625") – 800S162 – 43 – 30,000 feet
 .43mm x 38.1mm channel – 1,067m (.043" x 1.5") channel – 3,500 feet



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