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Innovative Insulation Solutions

Client: Betchar Holdings

Building Details

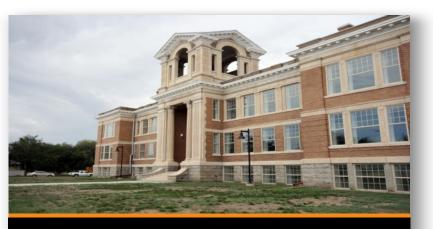
3 Storey, 100 year old heritage masonry building with concrete floors.

- Floor Area: 36 000 ft² (12 000 ft² / floor)
- 13 ft high walls
- Total Heated Volume: ~400 000 ft³

Mechanical

Building is constantly maintained at 20 °C inside using two (2) 2 000 000 BTU boilers.

Weatherization Package Installed:



Ross School – Moose Jaw, Saskatchewan

Renovations by: ADA Architecture, Catterall & Wright (civil engineering); Robb Kullman Engineering Ltd. (structural engineer); MacPherson Engineering Ltd. (mechanical engineer); and Willms Engineering Ltd. (electrical engineer).

- 4" Quik-Therm Multi Purpose Insulation (MPI) installed on the inside of the exterior masonry walls followed by 2-1/2" steels studs and drywall (empty stud cavity).
- 8000 ft2 lower basement floor insulated using 11/16" Quik-Therm Sub-Grade Insulation (SGI). Insulation installed between the concrete and the gravel base.
- Ceiling/Attic R-50 blow in fiber.
- New windows and doors throughout.

Energy Consumption:

Sept 2013 to Jan 2014 (120 days)

- Natural Gas Consumption: 10 462 m³
- Energy Consumption/hr: 134 416 BTU/hr

Operating Cost:

Sept 2013 to Jan 2014 (120 days)

- Operating cost over 4 month period was \$2570
- Average Daily cost: \$21.40

Observations / Comments: by Glen Heck, Project Superintendent. Contact: Ph.1-306-631-1022 / g.heck@sasktel.net

- Only one boiler has been required to heat the building and is set at its lowest possible output, on a very short cycle. Based on actual energy consumption, the building requires a 1,000,000 BTU boiler. 1,000,000 BTU's will allow for air handling requirements and being occupied by people.
- Superior effective thermal resistance of the building envelope aids in the downsizing of the HVAC equipment. Downsizing the boiler more than pays for the insulation package as well the insulation package provides long term energy savings and comfort.
- In Moose Jaw, this is the second Heritage building insulated in this manner. The installation method and
 insulation technology are virtually identical; consequently so are the results.

Read the Moose Jaw Times Herald article online <u>http://www.mjtimes.sk.ca/News/Local/2013-09-21/article-3402077/History-</u> <u>Restored%3A-Ross-School/1</u>