



Government

Correctional Facility, Inuvik (NWT)



*Female Young Offenders
Correctional Facility,
Latitude: 68°N - Above the Arctic Circle*

Background

The newly constructed correctional facility in Inuvik was designed as a rehabilitation place for female young offenders. Its extreme northern latitude (above the Arctic Circle), combined with the fact that in the winter there are 24 hours of darkness, provided a challenge to the architects in deciding how to minimize energy costs and consumption. The territorial Department of Justice, who administers the building, was proactive in their desire to use renewable technology on their buildings.

Solution

The result was a hybrid, 800 ft² (75 m²) SolarWall® system that was designed to preheat both ventilation air and water. As it is a residential facility, the water heating requirements are much higher than a normal building because of the continuous need for heated water in the kitchen, bathroom and laundry.

Hybrid systems work very well in the far north; the heat collected by the SolarWall panels is first used to heat ventilation air, with the remaining heat going towards heating the water.

This is designed to make the system very cost effective. In the spring and fall it is very cold outside, but also very

sunny. During this time, the light reflects off the snow onto the wall, enhancing the performance of the SolarWall panels. This more than compensates for the shortened duration during the day.

In the summer when there is 24 hours of daylight and no need for heated ventilation air. This means that all the collected heat is used to heat the water.



SolarWall system installed in a permafrost climate

U.S.A.

Conserval Systems Inc.

4242 Ridge Lea Road, Suite 28, Buffalo, NY 14226

P: 716-835-4903 F: 716-835-4904

E: info@solarwall.com

www.solarwall.com

Canada

Conserval Engineering Inc.

200 Wildcat Road, Toronto, ON M3J 2N5

P: 416-661-7057 F: 416-661-7146

E: info@solarwall.com

www.solarwall.com