



**COST-EFFECTIVE SOLUTIONS ACHIEVED WITH VORTISAND®  
 FILTERS AT LASSONDE PAVILIONS**



The Lassonde Pavilions was the first LEED-NC Gold project in Montreal. With a total of 46 points, **l'École Polytechnique de Montreal** officially received the USGBC certification in November 2005 and was the first large scale green project in the province of Quebec. Considering that there was no other institutional experience, the resulting environmental performance is impressive. It provides an ongoing example that green buildings are not an unaffordable luxury anymore. The project was designed by SBA/DMA/MSD Architects and the electrical and mechanical design was done by Bouthillette Parizeau & Ass. /Pageau Morel & Ass. Consortium.

The 398 268 ft<sup>2</sup> (37,000 m<sup>2</sup>) building over 8 floors is housing classrooms, library, labs, offices and a student café.

The design occupancy is set for 6 000 people. It was also an opportunity to teach solutions by immersing students in a new space that demonstrates advances in energy efficiency, greenhouse gas reduction and improved environmental performance.

The first goal was to meet budgetary constraints imposed on any University building - no extra money for the environmental goals!

The energy that building are using for heating, cooling and lightning accounts for the majority of total life cycle environmental impacts of a typical Canadian building. The projects employed a broad suite of energy reduction strategies including: reflective and vegetative roofs to reduce solar gain, heat recovery exhausts fan, heat





recovery from chillers to provide needed reheat, CO<sup>2</sup>, control ventilation, occupancy sensors for lighting and cooling, variable speed electric motors. Waste heat is recovered from the boiler flue gases of the existing buildings to heat the Pavilions, and reduces the primary consumption and greenhouse gases production by two third of the total energy savings. Overall, the project uses 53% less energy than ASHRAE 90.1 (or 58% of the national benchmark MNECB).

**STORM WATER PROVIDES A GREY WATER SOLUTION**

A small fraction (3 percent) of treated potable water supplied to buildings is used for human consumption. Water use reduction strategies start with the use of indigenous plants for landscaping. The soil and green roof areas slow the flow and absorb part of the storm water and the remainder is collected in an underground rainwater storage reservoir that stores water for re-use in

the sanitation system, which uses dual-flush toilets, infrared sensors and low flow faucets. The water is filtered with a Vortisand® filter model AWT1-20-SP with 60 gpm water filtration capacity. A simple post chlorination process prevents bacterial growth in the storage reservoirs.



Harvesting rainwater can make a substantial contribution to the management of potable water resource, in regions with sufficient rainfalls. At least 4 credits were allowed for the Water Conservation design (including landscaping, water reuse and in overall low water consumption measures.

**IMPACT ON SUSTAINABILITY AND PERFORMANCE**

There is a 92% reduction in the consumption of potable water for sewage conveyance, 47% less potable water use overall and a 39% decrease in the rate and quantity of storm water runoff.

For more information on the Vortisand® filters contact Sonitec at:  
**1-888-876-9655**  
 or visit the website:  
[www.vortisand.com](http://www.vortisand.com)



Reference: Industry Canada