

ECO BUILD

Green Ice

A new stadium constructed in line with the latest environmental standards

Ready for the 2010 Olympic and Paralympic Winter Games (12-28 February), Vancouver's Richmond Olympic Oval will house all speed skating competitions during the Games and serve the community as a multipurpose athletic facility after the event. The 512,000 sqf arena sits on a waterfront site alongside a 32 acre urban development currently underway.

A comprehensive programme

In addition to housing a 400 m speed-skating track and 8,000 spectator seats, the building will provide supportive amenities such as a sports science and research testing facility, a sport rehabilitation and medicine area, an indoor paddling centre, a fitness room, a rowing and cycling studio, and a community fitness centre. Post Olympics, the oval will offer an indoor track and multi-sport court for badminton, volleyball, basketball, soccer, gymnastics and wheelchair sports. Retail and commercial space will also supplement the programme.

Allotted CDN\$178 mil for the project, Canadian firm Cannon Design was hired to deliver an aesthetically unique and environment-conscious building. Prior to site clearing, a wildlife biologist and arborist surveyed the parcel. The city upheld its commitment to plant two trees for every one removed, and managed to successfully relocate 36 trees to local parks and municipal plots. Hardy vegetation and native marsh plants were also integrated to minimise irrigation requirements and provide natural water purification for the site.

Reduce, re-use, recycle

Designed to achieve LEED Silver certification, the Oval flaunts an attractive internal and external form that also warrants praise for its sustainable makeup. The ceiling, measuring 100 by 200 m, comprises pine-beetle-ravaged wood which has been salvaged from British Columbian forests. Such usage ensures less timber waste from this regional disaster and bestows the interiors with a striking envelope. To optimise indoor air quality, only low-VOC paints, coatings, laminates and sealants were employed. In addition to sheltering the rink, the 20-hectare roof also serves as a rainwater catchment, supplying water for the site's toilet flushing, pond and irrigation purposes. Low-flow fixtures and graywater harvesting also contribute to the building's water-efficiency, reducing needs by 30 percent.

This project is also praise-worthy from an operations standpoint. The facility's use of HCFC-free and halon-free refrigeration and fire-suppression equipment is ozone friendly. In addition, the heat generated from ice production is reused to heat the building. When compared with conventional arenas, this system reduces energy costs by 45 percent, and surpasses the Model National Energy Building Code's guidelines by 42 percent. The City of Richmond is also exploring the option of constructing a thermal utility to provide surrounding residents with low-cost heating by channelling waste heat from this facility to their homes. This beacon of sustainable architecture was recognised by the Royal Architectural Institute of Canada (RAIC), and awarded a 2009 award for its innovative design.

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