COWICHAN LAKE SPORTS ARENA

Home to the Lake Cowichan and District Minor Hockey Association and the Cowichan Lake Figure Skating Club. The arena has an NHL sized ice surface with six dressing rooms, two meeting rooms and seating for 800. Concession and catering sevices are available. Hosted BC provincial ice hockey championships, officiating schools, figure skating championships, high performance hockey evaluation camps and more.

- 1999 and 2000 - permafrost was excavated from the sand base of the arena and a concrete floor was added. New boards and glass were installed and some new refrigeration equiment was purchased, including a new dehumidifier and chiller.

- 2007 - a number of grants were received to do a heat recovery project. Waste heat from the condenser now heats hot water, dressing rooms and other parts of the facility.

- A 7.6 million dollar renovation was completed in 2011. The project included a roof replacement, the creation of four new arena dressing rooms, a new second floor warm room area, new skate shop, new public washrooms that provide handicap accessibility, modifications to the reception area, upgrading of curling washrooms, conversion of one existing dressing room to a dressing room more suited to curling, a designated child care space, creation of administrative offices on the main floor, the creation of a children's play area, expansion of existing concession and a concrete surface in the curling rink.

- 2012 - As part of the recent renovations to the Cowichan Lake Sports Arena, the parking lot was redesigned to incorporate a state of the art filtration system to clean surface runoff water before it empties into Cowichan Lake, an ecosystem that houses several salmon species and one endangered fish species, and is a major source of water for the Cowichan Valley.

CVRD Director's Tour 2012

Cowichan Lake Sports Arena Renovation:

- Total cost of the renovation was to be 7.6M with $100,000 coming from reserves.
- November 15, 2008 voters approved borrowing $7.5M with repayment over a 20-year period. The cost of borrowing is shared by the property owners in CVRD Area F (Cowichan Lake South / Skutz Falls), CVRD Area I (Youbou / Meades Creek) and the Town of Lake Cowichan. The annual cost would be $35.72 on $100,000 of assessed value.
- In January 2010 the project was awarded $1M in federal economic stimulus from the Recreation Infrastructure Canada Fund. The scope of the project was not increased and taxpayers would only have to borrow $6.5M over a 20 year period - $1M less than expected.
- The Cowichan Lake Recreation Commission made a decision to increase the requisition in 2010 to match the anticipated (after project) 2011 requisition amount. The benefit of doing this included a reduction in the borrowing costs over a 20 year period as well as a reduction in the bump in requisition in 2011 when the full debt servicing costs kicked in.
- $2.5M was borrowed in the fall of 2009 to do preliminary work on the project. The Cowichan Lake Recreation Commission made a decision to borrow the remaining 3.7M in the spring of 2010 instead of the fall of 2010 as this reduced the need for short term borrowing to fund the project and thus reduced short term borrowing costs. The money borrowed in the spring was able to earn interest while the project was being completed and the 20 year amortization started earlier and will end earlier.
- With total borrowing of 6.2M, Principal and Interest for 2013 is $477,957 and works out to $28.77 on $100,000 of assessed value (2012 revised).

Energy efficient aspects of the project include:

- Low flow fixtures used for water conservation
- Economizers on rooftop equipment to utilize free cooling
- New Arena T5 technology lighting will save an estimated 15% consumption annually and have raised the foot candles from 20 to 80
- Occupancy sensors on light switches
- High efficiency T5 or T8 fluorescent bulbs
- LED exit signs
- Incorporated as many environmental design aspects as possible
- Air to water heat pump providing most of the building heat and domestic hot water heat
- Air source heat pumps for heating and cooling of spaces
- Reclaimed heat from ice plant used for preheat of domestic hot water and in-floor heating
- High efficiency condensing boiler used for peak heat, backup and domestic final heat
- Heat recovery ventilators used in washrooms and change rooms captured radiant heat from traditionally hot rooms and used it to warm up colder areas. New heat pumps were installed that transfer ambient heat to a sealed water pipe thus creating heat loops that cool washrooms, change rooms, and the ice plant while preheating hot tap water, contributing to in-floor heating, and providing heat to most of the building.

Demonstration of efficiencies in operation:

- Backup power system to keep building warm and functional
- Approximately 60% reduced energy usage compared to a building built to current design standards and codes.

- Building Automation systems to monitor systems and dynamically adjust to save energy
- Upgrade to the DDC Panel and the IT Server which allowed the CVRD main office in Duncan to communicate with Cowichan Lake Recreation IT equipment. This server upgrade also allowed remote programming, communication and control of building and refrigeration systems.

<u>Ecofriendly Parking lot Project:</u>

- The project supported environmental sustainability and received $367,000 in gas tax funding.
- Total cost of the parking lot was approximately $605,000.
- "Incorporates a state of the art filtration system to clean surface runoff water before it empties into Cowichan Lake, an ecosystem that houses several salmon species and one endangered fish species, and is a major source of water for the Cowichan Valley.
- Riprap (broken stones used as a foundation layer), compost, and vegetation are laid in a swale (a wide and shallow ditch) that surrounds the parking lot, creating a bioswale. Rainwater washes over the parking lot and slowly filters through the bioswale, which is designed to maximize the amount of time it takes the water to pass through. A bio-retention area consisting of a grass buffer strip, a sand bed, a ponding area, an organic or mulch layer, planting soil, and plants will treat storm water. Runoff passes over or through the sand bed, which slows the storm water's velocity and distributes the water evenly along the length of the ponding area. Over a period of several days, the pond water is filtered into the underlying soils. The new parking lot's bio retention area and bioswale trap grit, silt, dust, and automotive pollutants, preventing them from contaminating the environment and groundwater." (CVRD Going Green Newsletter Fall 2011)