



Ray Friel Recreation Complex

Project Overview

The Ray Friel Recreation Complex is the result of a successful Public Private Partnership between the City of Ottawa and Serco, with the Complex being owned by the City, and managed by Serco. Residents of Ottawa's eastern communities will benefit from the expanded recreational and community programming while taxpayers will benefit from significant long-term savings. The Complex now boasts 3 NHL size arenas to accommodate competitive and shinny hockey, figure skating, public skating, and skating lessons.

Energy efficiency and Canada's commitment to the Kyoto protocol mandated that an energy-efficient, natural refrigerant system be used. This facility utilizes an ammonia-based system for the refrigeration of the ice rinks with all of the rejected heat recycled back into the building environment.

All the compressor heat is rejected through a plate and frame condenser into a glycol loop incorporating a thermal storage tank from which warm glycol is circulated to heat pump systems, make-up air units, domestic hot water pre-heaters, under-pad frost protection system and snow-melt pit heating system.

At the Ray Friel Complex, the annual reduction of 700 metric tons of greenhouse gas emissions is equivalent to taking 160 cars driving 20,000 km each per year off the road.

Ray Friel Complex

Orleans, Ontario

GENERAL INFORMATION

- Owner: Serco Management
- Project Type: New addition to existing building
- Year of Construction: 2005
- Rink Area: 2 X17,000 sq. ft.
- Number of pads: 2
- Building Area: 100,000 sq. ft.
- Number of Seats: 400
- Months of Operation (per year): 12 months
- Playing Area Temperature: 55° F

REFRIGERATION SYSTEM INFORMATION

- Compressors: Bitzer (3)
- Horsepower: 75 each
- Plant Style: CIMCO Factory Skid
- Total System Tonnage: 150 TR
- Refrigerant: R-717
- Evaporator Style: Flooded Plate/Frame
- Condenser: Fluid cooler with Plate/Frame
- Secondary Fluid: Ethylene Glycol @ 40% mixture

MECHANICAL HEATING SYSTEM INFORMATION

- Space Heating: Yes
- Makeup Air Preheating: Yes
- Service Water Heating/Preheat: Yes
- Underpad Frost Protection: Yes
- Snow-melt Pit Heating System: Yes

INTEGRATED CONTROLS SYSTEM DESIGN

- Cimco 4000E connected to BAS system

HEAT RECOVERY INTEGRATION

- Glycol source heat pumps

THERMAL STORAGE

- Yes, closed tank

OPERATING MEASURES

- Floating Head Pressure: Yes
- Load Shedding: Yes
- Floating Ice Temperature Control: Yes
- Setback Temperature Control: Yes
- Occupied/Unoccupied Settings: Yes
- INFRA Red Camera Control: Yes

SERVICE PROVIDERS

- Refrigeration Contractor: CIMCO Refrigeration
- Refrigeration Design: CIMCO Refrigeration
- Architect: GRIFFITHS, RANKIN & COOK
- Mechanical Designer: GENIVAR
- BMS Designer: KN LARMEX
- Building Management System Provider: SERCO
- Refrigeration Controls Designer: CIMCO Refrigeration

