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## Case Study – LCO Building

EDUCATION / HEALTH CARE / LODGING / MANUFACTURING / OFFICE BUILDING / RETAIL / SPECIAL



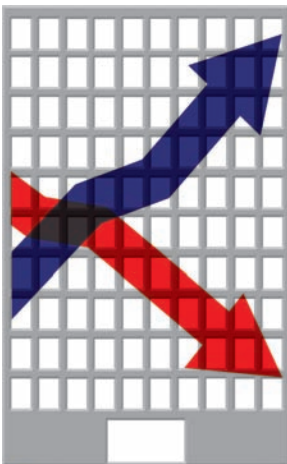
### Revolutionary Evergreen® 23XRV Chiller Exceeds Performance Goals

#### Project Objectives

When CityView Properties of Buffalo, New York, bought the old Larkin Company Building (known as the LCO Building) in downtown Buffalo, they were committed to renovating the building's cooling system in two phases as the building filled with tenants. As building occupancy exceeded 60% in rapid fashion, CityView quickly required a second chiller to meet demand. CityView and its consulting engineer, C. Gary Jones, P.E., of Jones Engineering, worked with Carrier to install one of the first groundbreaking Evergreen® 23XRV chillers to come off the assembly line to meet the increased load and save energy.

#### Solution

One Carrier Evergreen 23XRV variable speed water-cooled screw chiller was selected to augment an existing Carrier centrifugal chiller. The 23XRV's efficiency, use of HFC-134a environmentally sound refrigerant and variable load capacity were deciding factors in selecting Carrier.



■ Non-Ozone Depleting  
■ Energy Costs

*The Carrier Evergreen® 23XRV chiller delivers decreased energy costs while providing a more environmentally sound solution.*



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### Project Synopsis



*“We installed the Evergreen® 23XRV and started it up with the intention of running it for an afternoon as a test and to look at the data. It ran so smoothly that we just kept it running.”*

Gary Jones  
Jones Engineering

The Larkin Company Building (known as the LCO Building) in downtown Buffalo, New York, was home to the Larkin Company, a one-time leading household products manufacturer and mail-order marketing firm. But after years of disuse, the building was purchased by CityView Properties in 2002 with the intention of renovating the building into a multi-tenant, mixed-use office setting.

During the first step of the building’s modernization program, all of the existing HVAC equipment was removed and a new Carrier centrifugal chiller was installed. The chiller was sized for approximately 60% occupancy of the available space and was an effective short-term solution for the building. When occupancy approached 60%, it was time to address the HVAC system’s need for additional capacity.

For the second phase of the HVAC system, C. Gary Jones, P.E. of Jones Engineering presented CityView with an intriguing solution – use the new high-efficiency water-cooled Carrier chiller, the Evergreen® 23XRV.

“Our building was quickly filling with a variety of tenants occupying anywhere from 800 to 120,000 square feet that required individual cooling control to meet their unique needs,” said Bill Jones, vice president of CityView. “When Gary came to us with the new 23XRV chiller, he presented a solution that met the load and flexibility requirements but was also a forward-thinking, future-proof system.”

Gary Jones worked closely with Carrier to review the 23XRV’s product specifications and performance data to develop the new system. “I was drawn to its outstanding performance at low loads. And under real-life load conditions, the 23XRV is proving to perform as promised,” said Gary Jones.

Speed was critical in getting the 23XRV chiller in place to meet the LCO Building’s growing tenant list. “I had faith in the people at Carrier that the 23XRV we were receiving would be up and running quickly. We installed the 23XRV and started it up with the intention of running it for an afternoon as a test and to look at the data. It ran so smoothly that we just kept it running,” said Gary Jones.

The system’s flexibility to meet the individual needs of a variety of tenants – including office space, conference center, day care center and a full-service restaurant – has proven successful. “One of our tenants’ biggest concerns is the cooling of computer server rooms. With the new system, they don’t have to employ any special, costly cooling systems,” said Bill Jones. “We’re finding it easier and cheaper to exceed their expectations thanks to the new chiller.”

Currently, the 23XRV serves as the main chiller for the building with the centrifugal chiller acting as a back-up. While the system is still fairly new, CityView is pleased with the energy efficiency of the 23XRV. “Thus far, we are clearly using less energy,” said Bill Jones.

### Project Summary

Location: Buffalo, New York

Project Type: Renovation

Building Age: 1912

Project Cost: \$235,000

Project Contact: Bill Jones,  
CityView Properties

Building Type/Size: Multi-story  
office building/600,000 square feet

Building Usage: Office space, day  
care, restaurant, fitness center,  
conference center

Objectives: Add load capacity to  
rapidly filling multi-use building

Main Decision Drivers: Energy  
efficiency, flexibility to meet the  
needs of diverse tenants, cost

Installation Date: August 2005

Design Considerations: Quick  
installation and operation of system  
to meet rapidly growing load  
capacity

HVAC Equipment: One Evergreen  
23XRV Chiller

Total Cooling: 500 tons

Consulting Engineer: Jones  
Engineering, Buffalo, New York