

Case Study: High Rise Assisted Living Complex Retrofits Blazemaster® Fire Sprinkler System For Safety of Residents



Following two major fatal fires in Toronto-area assisted living facilities, the Toronto regional fire marshal recommended that all high rise assisted living facilities be retrofitted with fire sprinkler systems. Considering the safety of their residents, St. Hilda's Towers, an independent, non-profit assisted living residence located in the Dufferin-Eglington district of Metropolitan Toronto, and its Board of Directors decided to provide fire sprinklers in every apartment and all the public areas in the complex.

The first two buildings, Dufferin and Vaughan Towers, were opened in 1977 and 1982, respectively. Dufferin Towers has 15 floors and Vaughan Towers has 17 floors. The 344 units include bachelor apartments and 15 one-bedroom residences for couples.



St. Hilda's faced the challenge of retrofitting a fire sprinkler system without creating an intrusion on the lives of individuals who lived there. Since the "Towers" was designed to give its residents a feeling of independence, management has always sought to respect their residents' privacy.

RETROFIT INVESTIGATION

J. Brian Borrowdale, administrator of the Towers, researched his options for installing a fire sprinkler system in the two-building high rise facility. The retrofit needed to have limited intrusion on the lives of tenants, be completed on deadline, and any related repairs or modifications had to be completed quickly and quietly.



"While safety of our residents was our primary goal, we were concerned that a fire sprinkler system installation would raise our operating costs by thousands of dollars," said Borrowdale. "And, we were afraid that the installation might interfere with the privacy of our residents."

C&H Fire Suppression Systems won the contract and recommended BlazeMaster® CPVC for the retrofit installation.

Michael Heller, manager of C&H Fire Suppression Systems, explained, "We knew from experience that BlazeMaster® CPVC pipe would cause the least intrusion on the lives of the Towers residents because it is much easier to install and requires only a limited evacuation of the inhabitants during the retrofit."



According to Heller, when steel fire sprinkler systems are installed, the inhabitants of an entire floor must be evacuated. Also, messy cutting oil or pipe dope can damage carpeting in the residents' apartments.

C&H Fire Suppression Systems has been using BlazeMaster® CPVC for fire sprinkler system installations since 1986. They believe CPVC installations are easier than steel because CPVC pipe is lightweight and more flexible, it can be installed in places nearly impossible to install steel pipe, no torches or heavy equipment are needed, and it is easy to design into any type of building.



Compared to the design process for steel fire sprinkler systems, engineers for the St. Hilda's retrofit did not have to survey the job in advance because BlazeMaster® CPVC design changes are made on site during the installation. The engineers simply needed to specify the placement of the fire sprinkler heads. By eliminating the typically two week, two man surveying process, BlazeMaster® CPVC pipe provided a 20% cost savings over steel systems in design alone.

FAST, EASY INSTALLATION

IPEX Inc., Toronto, Ontario, supplied C&H Fire Suppression Systems Inc. with the BlazeMaster® - licensed materials required for the Towers installation. As a manufacturer and supplier of BlazeMaster® CPVC pipe, IPEX Inc. has helped facilitate architects and consulting engineers' specification of BlazeMaster® CPVC fire sprinkler systems in light hazard construction and retrofits.

Since design changes were made on site, the installation crew was able to work without difficulty or reengineering to allow a cleaner, quieter retrofit with less disruption of the facility. BlazeMaster® CPVC pipe can be cut on site to exact measurements and fittings could be glued in the tight places where wrenches necessary for making metal pipe adjustments would not fit.

The installation was completed floor-by-floor, and residents didn't have to leave their apartments. A six-man crew completed the retrofit. In total, the Towers installation utilized over 30,000 ft. of BlazeMaster® CPVC pipe and 2,000 sprinklers.

CPVC offers added benefits compared to metal systems including life performance and reduced maintenance. BlazeMaster® Fire Sprinkler Systems offer long-term reliability due to its corrosion resistance, low flame spread, low smoke emission levels and a UL life expectancy of 50 years with a safety factor of 2.

In just three months, the St. Hilda's Towers fire sprinkler system retrofit was complete. According to Borrowdale, the crew was very respectful of the senior residents, and the job was completed as quickly as possible, without much disruption. A third building has since been constructed at St. Hilda's Towers. Plans are underway to retrofit a BlazeMaster® Fire Sprinkler System.

"Our residents count on us for helping keep them healthy and safe," said Borrowdale.

"Knowing that we are all protected by the fire sprinkler system gives us peace of mind."