# Vermont Food Bank

*at a glance.*

### *Application*

14,000 square feet of combined walk-in cooler and freezer.

### *Customer*

Vermont Food Bank, helps those in need by acquiring and distributing over 12 million pounds of food annually through 215 network partners around the state — food shelves, pantries, senior meal programs and other community meal sites. In the past most of the donated food they received was in the form of trailer loads of "salvage" dry goods from the grocery industry. More recently, new players have entered the market that includes factory outlets, off-price and discount stores, dollar stores, and even flea markets and online auction houses.

### *Challenge*

The Vermont Foodbank, which opened its doors in 1986, has as its mission "to gather and share quality food and nurture partnerships so that no one in Vermont will go hungry." Nicole Whalen, director of communications and public affairs for VF, puts the dimensions of the need they serve in these terms:

- 1 in every 4 Vermonters, or an estimated 153,000 residents, have a hunger problem requiring them to turn to food shelves and meal service programs
- 33,900 children and 26,010 seniors are among the needy

The Vermont Foodbank helps those in need by acquiring and distributing over 12 million pounds of food annually through 215 network partners around the state — food shelves, pantries, senior meal programs and other community meal sites. In the past most of the donated food they received was in the form of trailer loads of "salvage" dry goods from the grocery industry. More recently, new players have entered the market that includes factory outlets, off-price and discount stores, dollar stores, and even flea markets and online auction houses. These alternative channels provide traditional food retailers with more options for disposing of surplus and opening additional revenue streams. The consequences of these trends for the Vermont Foodbank and other providers to the needy have not only been disruptive but have required them to take new approaches and acquire new capabilities.

Foremost among the shifts in their operation that have occurred since the changes over recent years in the retail food industry has been for VF to focus on sources for more perishable types of food. These include farms, individual

food retail stores, and small processors. The warehouse-type facility they had operated out of was no longer adequate for the larger quantities of fresh perishable foods that they were now handling. VF needed to change how they operate and to do so they needed new capability.

## *Solution*


ReArch designed an outdoor walk-in cooler and freezer for VF that would accommodate the change in operations necessitated by the shift in foodbank donations to more perishable items. The decision to build a walk-in outdoors was driven by the space constraints of the existing building. KPS manufactured the insulated panels for the walk-in and engineered the roof and steel of the building.

Jason Maring, VF's COO, knew from his prior experience with a local, prominent, community-owned food cooperative, that $CO_2$ was a proven technology. A $CO_2$ booster system from Hillphoenix handled all refrigeration of the co-op. He had no doubt it would work at VF just as well. "I had knowledge of some refrigeration companies from my time at the local food co-op. Hillphoenix was the popular brand with the solid performance track record, so I encouraged the architect and builder to reach out to them," Marning recalls.

Although the cost for any operation is a key factor, for a non-profit like VF it's critical. From a financial standpoint, the first cost difference between traditional HFC synthetic refrigerant systems and $CO_2$ can be a significant challenge to overcome. However, this cost difference is mitigated quite effectively by the robust ROI, owing to a variety of factors, that $CO_2$ offers beyond the system installation. After analysis of all the incentives and energy savings on utilities they would receive, the foodbank estimated the payback would be approximately 3 years while the net result would be a reduction of an estimated 170 tons of $CO_2$ emissions annually.

"Our goal was to be as environmentally sustainable as possible while still meeting all the functional and budgetary requirements we had. $CO_2$ offered us reduced system energy cost, invaluable environmental sustainability and responsibility, along with a refrigerant that was non-volatile, inexpensive and devoid of any harmful effects to our planet," said Marning.

## *Result*

The ReArch-designed and constructed walk-in, built with KPS panels and refrigerated with a state-of-the-art Advansor $CO_2$ booster system, has in the words of Whalen, the foodbank's communications director, "revolutionized our operation and positioned us well to tackle our future needs. It didn't take us long to realize that we cannot do our important work without it!" She went on to say that it "drastically improved our ability to provide Vermonters in need with more fresh food, more efficiently."

Vermont Foodbank, with its $CO_2$ system in place, has the peace of mind to look forward toward an ever-greater ability to provide for Vermonters in need while knowing that they are also helping the environment and not contributing to climate change. They also know that with $CO_2$, their refrigeration system is "future-proofed" given that as $CO_2$ is a natural refrigerant, they will not be subject to the same kinds of regulation operators of HFC systems face. As Whalen put it, "the addition of our new KPS Global walk-in cooler and freezer facility, powered by the Hillphoenix $CO_2$ refrigeration system has been invaluable!"