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Star Market to redevelop Chestnut Hill store as sustainable - Suffolk Construction is GC

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When the Star Market at Chestnut Hill re-opens for business in 2009, it will serve as a pilot for sustainability - the first in the region to combine the use of fuel cell electricity, LED lighting, and glycol/carbon dioxide refrigeration.

The existing building is 27,000 s/f. The upgrade will add a second floor area which will bring the new building to a total of 59,000 s/f with the new supermarket occupying 41,000 s/f.

The supermarket will be powered by an ultraclean fuel cell, which is virtually pollution free. It uses natural gas. Its by-products are water and heat energy. Â

By using the fuel cell, Star Market is guaranteed power at all times for refrigeration, HVAC, elevators, cash registers and lighting.Â The harnessed heat energy will cool refrigeration cases (through absorption chiller technology) year round and heat the store in the winter. By providing virtually all the power for the store, the fuel cell does not tax the public power grid. Â

The lighting in the entire store, both inside and out, will be by LED (light emitting diode). This is one of the first for a supermarket in N.E. The exterior lights, spotlights and case lights, together with lights on the general sales floor and in the back room, will all be LEDs.

The LEDs are expected to last eight to ten years. In contrast, conventional lighting lasts approximately eight to eighteen months.Â LEDs are mercury-free and virtually maintenance free. They will reduce energy usage by 50% to 65%. In addition, LEDs produce substantially less heat, further reducing the need for energy to cool. Perishable products stay fresh longer because LEDs do not produce ultra-violet light.

The heat exchange fluids for the refrigeration systems will be glycol (for cooler cases, such as dairy) and carbon dioxide (for the colder freezer cases).Â The use of glycol and carbon dioxide will translate into a reduction in refrigerant charge of up to 90%.

"LEED certification will be considered in the future. At this point, we are dedicating our time and resources on planning, designing and building this cutting-edge project. Once the building and monitoring process is over, we'll consider it. But at this point, we are completely focused on the needs of this project," said a Shaw's spokesperson.

The project team includes Yarosh Associates as the architect; DW White as the site contractor dealing with the drainage, landscape and parking lots; Sufflok Construction is working as the general contractor; and North American Site Design is the demolition contractor.

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