

# CASE STUDY

## Polar Beverages Auburn, Massachusetts

<b>Storage Provided:</b>	21,946 cu. ft.
<b>Area:</b>	112,500 SF
<b>Models:</b>	Recharger® V8HD™
<b>Number of Units:</b>	240
<b>Installed:</b>	November 2010
<b>Project Engineer:</b>	Land Planning, Inc. North Grafton, MA
<b>Contractor:</b>	Patriot Environmental Corp. Worcester, MA



Polar Beverages, the country's largest independent soft-drink bottler that mainly distributes its products in New England and upstate New York, has a manufacturing facility in Auburn, Mass., as well as several warehouses in the area. As the company faced the need for increased storage space, Polar leased a large warehouse in Auburn with an eye toward not only expanding its storage capacity but also consolidating most of its warehouses in this new location.

The engineers at Land Planning, Inc. designed a 112,500-square-foot addition to the existing 168,550-square-foot building, increasing the amount of impervious surfaces onsite. They also had to design a stormwater system that would infiltrate clean rooftop runoff back into the ground, recharging the groundwater. The amount of post-development runoff recharged back into the ground needed to be equal to or greater than the pre-development amount, as required by the local regulations.

While the engineers had enough space for capturing stormwater runoff from the parking lot and other ground-level surfaces in an above-ground detention system, the site had no area for an infiltration system. Land Planning specialists decided to use an underground infiltration chamber system provided by CULTEC, a company whose systems they had specified in the past.

"We needed a chamber that would have enough capacity to handle the runoff from a large rooftop area," said Norman G. Hill, project engineer and president of Land Planning, Inc. "We could not use perforated pipes in this case because the pipes that could fit in the available space did not have enough storage capacity."

*(continued on back)*



## Polar Beverages

Auburn, Massachusetts *(continued)*

For the project, the engineers selected CULTEC's Recharger® V8HD™, the company's largest capacity plastic chamber able to hold a minimum of about 100 cubic feet of water when installed according to CULTEC's instructions. It is 32 inches high and 60 inches wide, with a bare chamber capacity of 8.68 cubic feet per linear foot. Located under the parking lot, the system captures rooftop runoff and slowly infiltrates it into the ground, replenishing the surrounding soil and aquifer.

The stormwater runoff from the parking lot follows to a Stormceptor® unit for filtration and then the excess stormwater is sent into an extended detention wetland located beyond the parking lot. CULTEC's system occupies 9,000 square feet of the 19.2-acre warehouse site, offering approximately 21,946 cubic feet of storage capacity. The installation began with excavating a bed, laying filter fabric along the sides and the bottom and adding a layer of crushed stone. After the V8 chambers were in place they were backfilled with stone, covered with a layer of fabric designed to reinforce the system to better bear traffic loads, and prepared for asphalt.

"The installation process took less than one week, which was very reasonable for such a large system," said Jeffrey Murray with Patriot Environmental Corp., the project contractor. "I was happy with the ease of installation as well as with the fact that CULTEC's representative provided all the necessary site-specific sketches and field assistance during the installation."



### CULTEC, Inc.

878 Federal Road • P.O. Box 280 • Brookfield, CT 06804

Phone: 203-775-4416 • Toll Free: 800-4-CULTEC • Fax: 203-775-1462 • Web: [www.cultec.com](http://www.cultec.com)

