

Facts & Figures

Owner/Developer: Walkers Brook Crossing LLC (a joint venture between Dickinson Development Corp., Quincy, MA and Pinnacle Partners, Braintree, MA)

Type of Project: A new retail development on a former landfill site

Architect/Engineer: Carter & Burgess, Charlestown, MA

General Contractors: Suffolk Construction Company, Inc., Boston, MA (Phase I); Pinncon LLC, Braintree, MA (Phase II)

Geotechnical & Environmental Engineer: Haley & Aldrich, Inc., Boston, MA

Size: 450,000 square feet

Cost: \$81 million (total)

Construction Time: April 2003 - October 2004 (Phase I); October 2004 - June 2005 (Phase II)

The Need: To close and cap a landfill site in keeping with a federal mandate

The Challenge: Performing extensive remediation to make the site viable for development while meeting the capping and closure requirements

Supportive Team Members

Automation Solutions, Inc.
Toilet Partitions & Accessories

Brand Scaffold Rental & Erection, Inc.
Scaffolding & Equipment Rental

CEI Boston LLC
Demolition/Concrete Construction

Flooring Solutions
Concrete Restoration,
Underlayments & Epoxy Floors

Jay Steel
Structural & Miscellaneous Steel

Marathon Equipment Company
Waste-handling Equipment

Mousseau Contract Flooring, Inc.
Carpet & Tile Contractors

Professional Electrical Contractors of CT, Inc.
Electrical Contractors

SUFFOLK

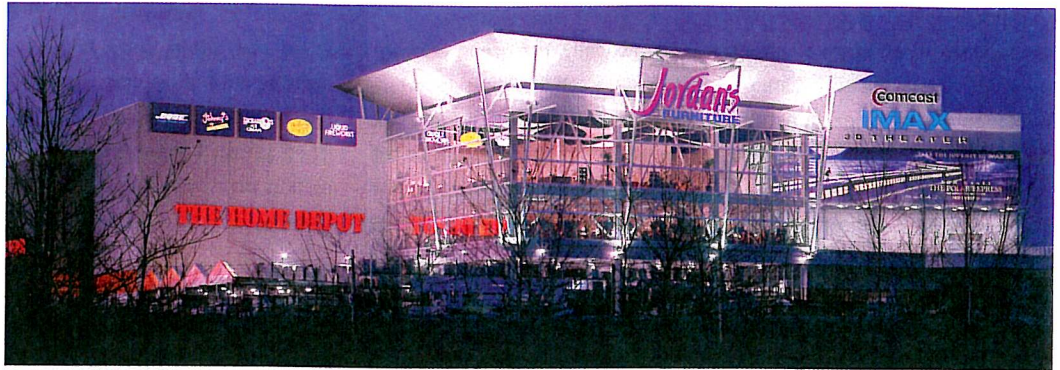


Photo courtesy of MarkFlannery.com

Reading, Massachusetts

The Crossing at Walkers Brook

For years the residents of Reading, Mass., had a useful but unsightly landfill at the edge of town. Having been given a regulatory mandate to cap it and close it, they soon found themselves faced with a \$5 million cost to close it — after which they would have a useless and still unsightly landfill.

After 15 years of searching for solutions, the town finally selected a proposal that was submitted by Dickinson Development Corp. (DDC), the project's owner/developer in a joint venture with Pinnacle Partners. DDC proposed to buy the 33.5-acre site for \$3 million, then cap it and build a new retail facility on top. The new development would create jobs and shopping opportunities while also providing more than \$600,000 a year in new revenue to the town by way of taxes. "Trash to cash" was our battle cry," said Ed Shaw, vice president of construction and engineering for DDC.

The two major site tenants were stacked to optimize the site. Jordan's Furniture's facilities, which include a 500-seat IMAX® theater, were built on top of the Home Depot, creating the needed independent retail spaces while providing sufficient area for separate entrances and parking, said Steven R. Kraemer, PE, senior vice president

of Haley & Aldrich, Inc., the project's geotechnical and environmental engineer.

The logistics of building over a capped landfill were staggering. According to Suffolk Construction Company, Inc., the general contractor for Phase I of the project, the team had to lay more than 15,000 feet of piping for the new underground gas collection system and install more than two miles of duct bank, all without compromising the cap seal, which in some places is less than two feet deep.

"There were major challenges involving site geometry, topography and the fact that the landfill contained up to 50 feet of municipal solid waste overlying soft swamp deposits, nearly surrounded by wetlands," said Kraemer. "Designs had to meet the economic and other needs of the developer and the town, while achieving numerous regulatory criteria including MADEP [Massachusetts Department of Environmental Protection] landfill-capping requirements."

According to Kraemer, more than 150,000 cubic yards of existing solid waste had to be relocated on the site, resulting in a reduction of the landfill footprint. Other environmental remediation measures included creation of storm water retention systems for storm water

management, and restoration of wetlands and wetland buffer zones near Walkers Brook. Mitigation of, and designs to accommodate, post-construction site settlement were also major challenges.

In addition, more than 100,000 square feet of site retaining walls, up to 45 feet high, were needed to achieve required grade changes on the site. Using conventional wall types and backfilling would have been cost prohibitive and would also have resulted in the inability to keep landfill waste on site, which would violate an MADEP closure criterion. A pioneering solution was using grid-reinforced solid waste from the site to construct the walls, saving millions of dollars. The walls also serve as actual elements of the landfill cap and gas management system. "Creating grid-reinforced walls to this height using municipal solid waste materials as fill is believed to be an engineering first," said Kraemer.

Once a liability, this property is now a valuable asset. In addition to the annual tax revenues the town receives and the jobs that were created, the town also saved the \$5 million capping cost while it gained \$3 million for the sale of the land. The old saying that one man's trash is another man's treasure has never been more true. ■

— Mike Cook