

Boston's Brownfields

Successful strategies for cities.

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The City of Boston currently owns more than 1,600 surplus and tax-title foreclosure properties, the vast majority of which are brownfield sites. Through the Real Estate Management and Sales division (REMS) of the city's Department of Neighborhood Development (DND), Boston has developed a broad based program using various approaches ranging from conditions assessments to limited clean-up to return these properties to productive use. In January 2007, Boston became the first major city in

the nation to require adherence to the U.S. Green Building Council's LEED certified standard as part of the private development review process. Adherence to this principle has allowed the city to focus on its brownfield development efforts, enabling it to prioritize critically contaminated sites and efficiently focus its limited resources.

Boston Mayor Thomas M. Menino believes that city's greatest strength lies in the vitality of its nearly two-dozen neighborhoods. This is why Boston must consider numerous stakeholders

when promoting the development and reuse of its brownfield properties. The city focuses on achieving cooperation among these neighborhoods, as well as the departments that have a hand in the process, the development community, and the state and federal regulators. By developing a strategic planning process that looks at all properties and all stakeholders, Boston is able to prioritize critically contaminated sites and focus its limited resources more efficiently.

Removing the Mystery



A view of the Boston East parcel from Boston's Inner Harbor. The parcel is 3.5 acres, which will become a condominium development, with a portion remaining for use as a marine facility. Visible in this photograph are the remains of the drydock system, and the marine rail. Portions of these systems will be left in place to retain the nautical feel of the property.

Photo credit: Thomas Barrasso, City of Boston Department of Neighborhood Development

Boston has used funds obtained through the EPA's Brownfields Program to assess contaminated sites and develop public outreach tools to demystify the process of cleaning them. This is particularly important because the uncertainties of a contaminated site can be discouraging for a potential private developer.

East Boston's Border East project, located along the city's east waterfront, will replace a 14.29-acre site that had been vacant since 1960. Once home to dry docks, the site was used for shipbuilding, coal, lumber storage, and other industrial purposes. Records also show that blacksmiths, boiler works, machine shops, and fuel storage facilities were stationed on this and other sites nearby.

While the property commands fantastic views of downtown Boston and is easily accessible by bridge, tunnels, and public transit, its industrial history and potential for contamination prevented its redevelopment. This was the case until 2005 when the city engaged in a community process with the East Boston neighborhood to review potential development approaches. With the help of an environmental consultant, the city assessed the contamination at the Border East site and determined it to have relatively low levels of metals and polycyclic aromatic hydrocarbons contamination, therefore rendering it an attractive urban site and a safe investment for private development. This assessment enabled a private sector developer to confidently move forward without the risk of environmental unknowns. Construction is expected to start on the Boston East 196-unit Border St. condominium building in 2010.

Limited Cleanup

Occasionally DND has conducted assessments of complex brownfield sites and orchestrated cleanups to position a property for development by third parties. The former Lewis Chemical property, located in Boston's Hyde Park neighborhood on the banks of the Neponset River, is a good example. The property has a history of industrial uses, beginning with a leather manufacturing company that called it home from 1940 until the early 1960s. Lewis Chemical then opened in 1963, and remained on the site until it closed in 1983. Today, a vacant mill building is all that remains on the 27,182-sq ft property. The parcel's small size and proximity to active railroad tracks and the river's edge further complicate its redevelopment.

Between 1986 and 1991, the EPA and the Massachusetts Department of Environmental Protection (MADEP) conducted initial investigations at the Lewis Chemical site in an effort to

define its exact conditions. In 2000, Boston acquired the property and began to identify the steps needed to secure the site and mitigate any potential safety hazards.

Since 2002, Boston has worked with the MADEP to conduct additional investigations and risk assessments for the site, gathering valuable data with which to characterize it. This includes historical research of former operating procedures at Lewis Chemical, building surveys for hazardous materials, and a structural survey to determine the integrity of the building. Media sampling has included soil, soil gas, and groundwater. This research has informed the city of the site's groundwater and soil contamination, which includes metals such as lead, chlorinated VOCs, and PCBs. Due to vapor intrusion, the indoor air of the remaining building is also contaminated with chlorinated VOCs.

Using a portion of a brownfield grant from the EPA that was awarded in



The property was used as a gasoline filling station from about 1931 through 1990. The building has since been standing vacant. With this type of land use, the site has a long history of underground petroleum storage. Abandoned gasoline underground storage tanks exist on the site, as well as contamination in the soil and groundwater. The types of contaminants found at this site are generally consistent with those of petroleum contamination from gasoline products and lubrication oils.

Photo credit: Don Scott, Property Manager, City of Boston Department of Neighborhood Development, Real Estate Management and Sales Division.

August 2008, the DND will execute a soil vapor extraction and air sparging cleanup program to reduce the chlorinated VOC source materials at the site in 2009. This procedure will remove the continued source of VOC feeding the groundwater plume, reducing the threat of further vapor intrusion and the contamination of the Neponset River.

Boston is confident that its significant investment in the former Lewis Chemical site is a sound one, and will benefit the Hyde Park community for years to come. Although, some contamination will likely remain at the former Lewis Chemical site, the characterization and remediation undertaken since the property's acquisition notably reduces the associated risks and uncertainty and will finally render the site an attractive development parcel. What's more, remediation at the site will protect and restore the environmentally sensitive Neponset River bank, which is currently undergoing a comprehensive rehabilitation from years of industrialization and neglect.

The surrounding community remains actively engaged about the potential for a rehabilitated Lewis Chemical site, and has expressed interest in a plan for reuse that would include such activities as a community theater, restaurant space, and a canoe facility. Additionally, the DND's REMS division looks forward to issuing a Request for Proposals that will include the potential for accessible open space and new trees, as well as a comprehensive plan for the long-term management and care for this green space.

City-Lead Cleanup and Redevelopment

Perhaps the most ambitious brownfield undertaking by the city is the cleanup and redevelopment of the Modern Electroplating Company, Inc. site in the city's historic Dudley Square neighborhood of Roxbury. Modern Electroplating operated the facility from 1955 until 1994, when the MADEP obtained a court order requiring the facility to cease operations and remove and dispose of all wastes present at the property. Although the owner then removed more than 20,000 gallons of

waste from the site, the property was left abandoned in 1995, leaving behind thousands more gallons of plating and industrial waste. Emergency response actions in 1995 by both the EPA and MADEP helped remove imminent hazards at the facility at a cost of more than \$1 million. But the 2.53-acre property has since sat abandoned and in need of additional significant remediation. The DND acquired the site through tax foreclosure in 1995.

Since the time of foreclosure, Boston has been trying to divest itself of the property and in doing so has entered partnerships with private developers. Over the last 13 years these developers have conducted assessments of the parcel as part of their due diligence process, sharing the data collected with the city. This extensive environmental investigation of the property was made possible by a combination of private, state, and federal funding. This closer look determined the site's soil and groundwater to be contaminated with chlorinated VOCs, metals, and cyanide. Furthermore, the property's indoor air is contaminated with chlorinated VOCs, and the building material is contaminated with metals and chlorinated VOCs. Unfortunately none of the plans from these redevelopment efforts satisfied Boston or the local community needs.

In June 2007, Mayor Menino reaffirmed his commitment to the revitalization of Dudley Square when he announced the redevelopment of the Modern Electroplating site by the city. This effort is part of a larger initiative known as the "Dudley Vision," which includes redevelopment of other areas of the square. This will include a local retail strategy and a transportation action plan. Once complete, this effort will bring about 1,000 municipal employees to the area. This effort



This site was a former electroplating facility. Environmental investigations concluded that activities at the facility impacted the building itself, the soil, and the groundwater. As a prelude to the buildings demolition a cleaning of contaminated building materials, removal of dust, and the removal/disposal of any remaining hazardous waste must occur.

Photo Credit: Weston & Sampson Engineers, Inc.

demonstrates the effectiveness of a municipality in coordinating a larger vision for a neighborhood, done in concert with environmental restoration. The DND is working with other city departments and agencies to complete this process. The first major outcome will be the construction of a new state-of-the-art police station—the city's first LEED certifiable municipal building. Boston has targeted December 2010 for completion of the police station. Other efforts in Dudley Square will proceed following the police station opening.

As these Boston projects illustrate, municipalities have numerous options to promote the development of brownfield sites. By taking steps to reduce the uncertainty and unknowns about contamination at a property, and sometimes even undertaking limited cleanup, an undesirable brownfield can become a gem for redevelopment. GE

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