

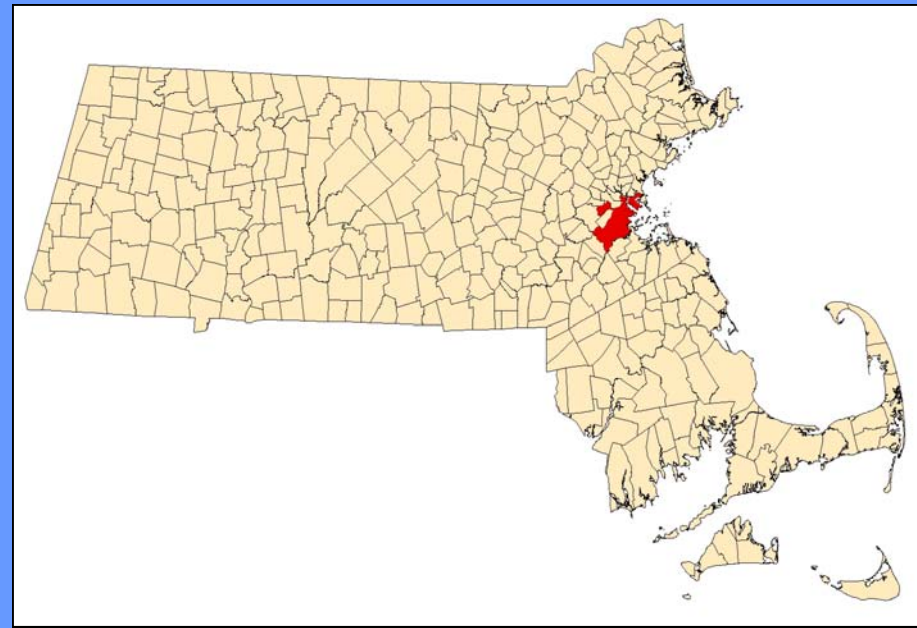
# Using GIS to Advocate and Identify Brownfield to Open Space Conversions

## Overview

This exhibition is intended to show the ways that geographic information systems (GIS) can be used in efforts to re-develop brownfield sites into open space. Particularly, this exhibition will focus on advocacy and identification uses of GIS for these purposes.

## Project Area

The City of Boston in Massachusetts was chosen as the project area to set an example of how GIS can be used in brownfield to open space revitalization efforts. However, GIS and associated processes can be applied



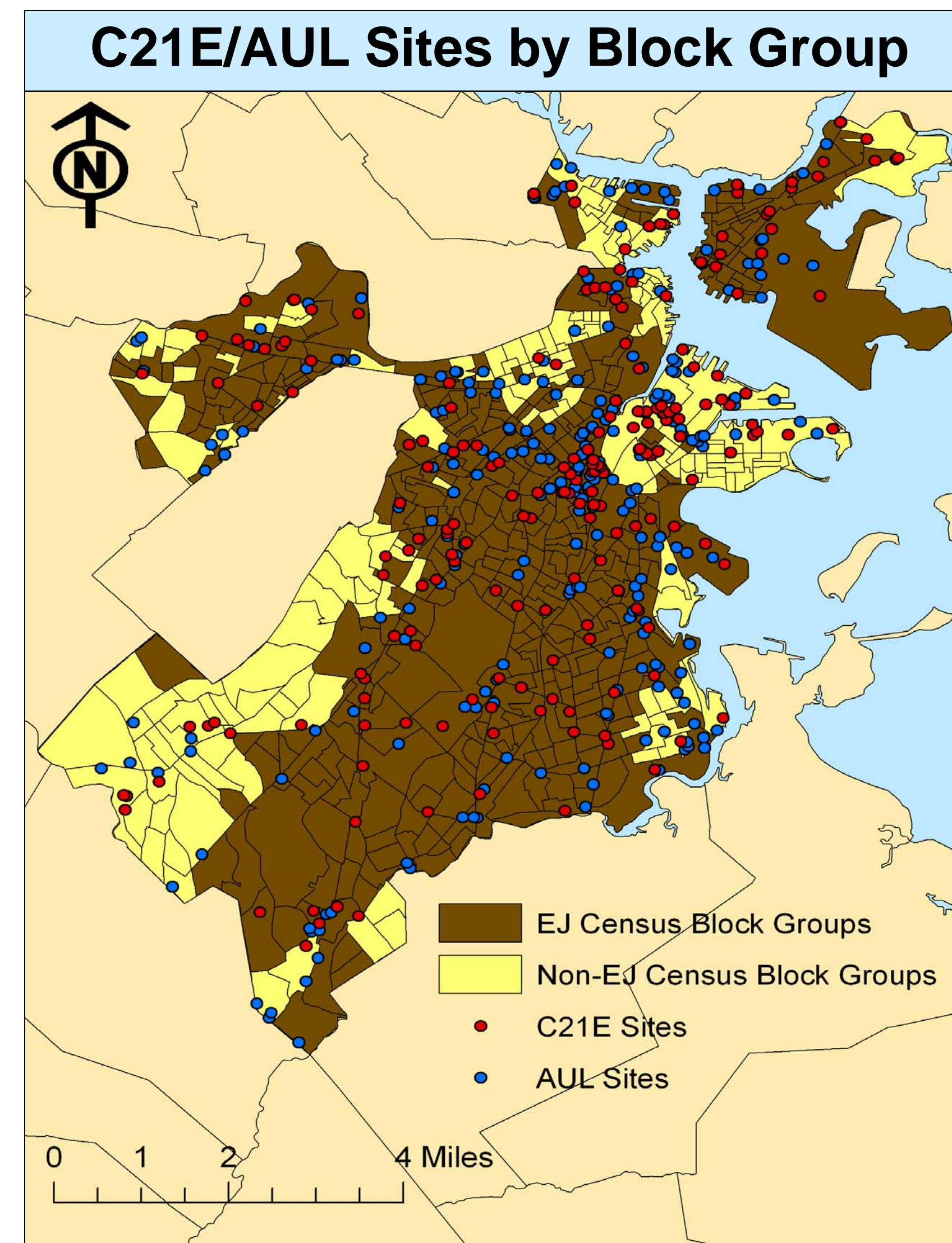
to almost any urban area for these purposes depending on available information.

## Key Terms

**C21E:** oil and/or hazardous material disposal sites that have been reported and tier classified under Massachusetts General Law Chapter 21E.

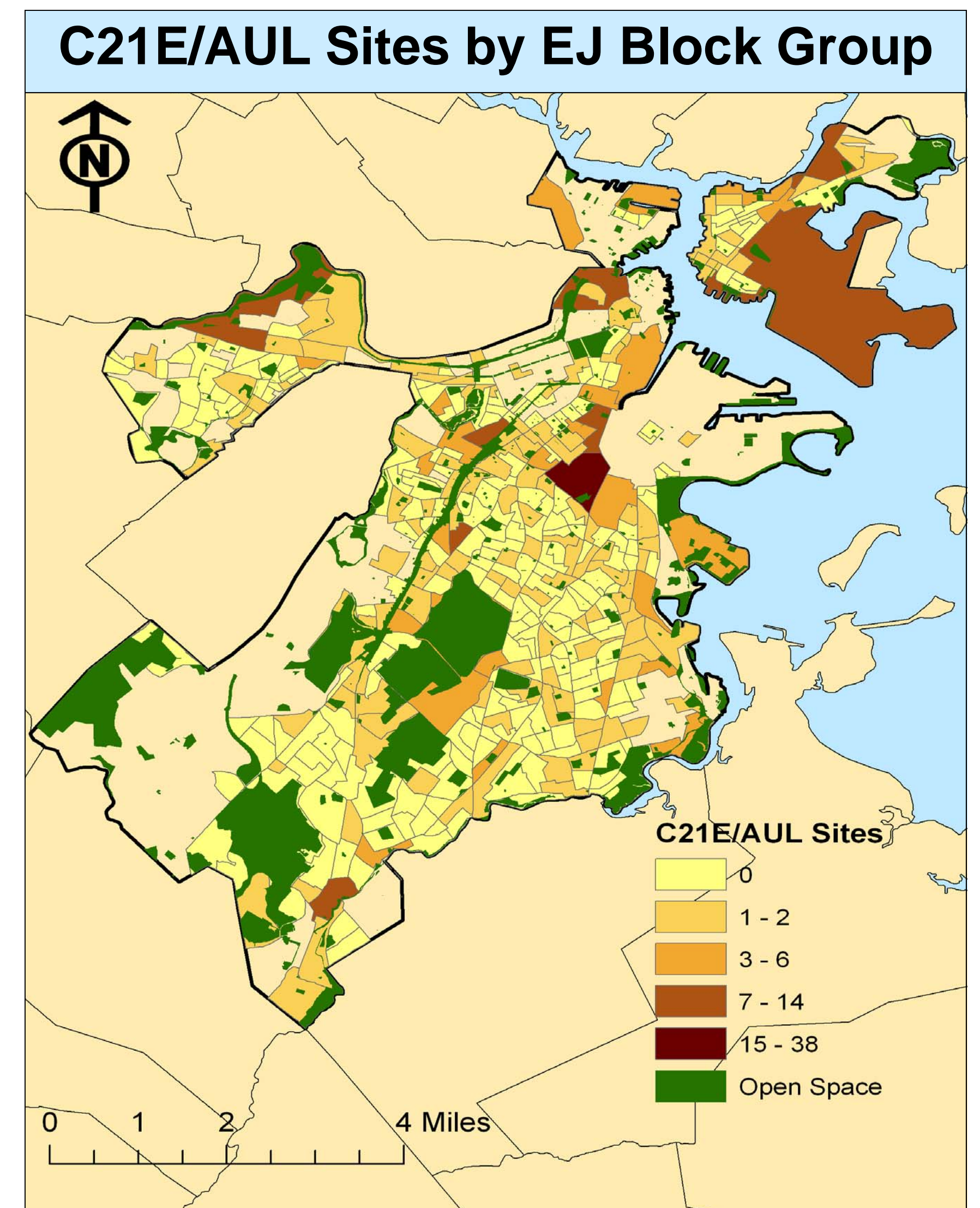
**Activity Use Limitation (AUL):** indicates the presence of oil and/or hazardous materials after cleanup has been conducted pursuant to Massachusetts General Law Chapter 21E.

**Environmental Justice (EJ) Census Block Groups:** census block groups that represent neighborhoods with predominantly high minority, non-English speaking, low-income, and foreign-born populations.



## Advocacy

Garnering attention and resources is the first step in any brownfield to open space project. The problem needs to be presented, so funding and efforts can be allocated to the communities who need it the most. The maps to the left and right were made in GIS by adding available data from MassGIS and layering it on top of each other. Notice how C21E/AUL sites are predominantly located in EJ block groups, and open space is lacking within some of these block groups as well. Planners, policy-makers, and community groups can utilize these types of maps to drum up public support and resources for brownfield to open space projects.

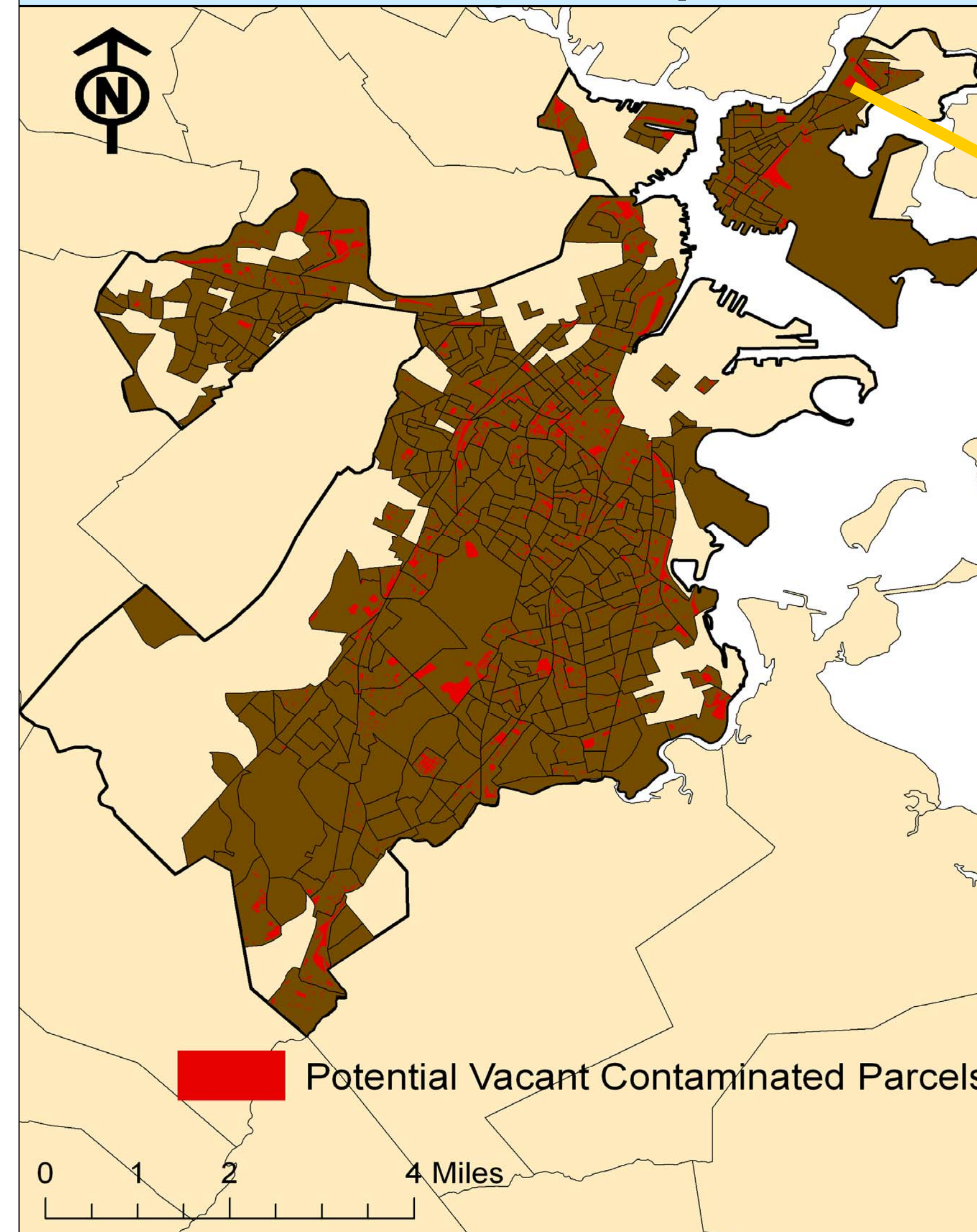


## Identification

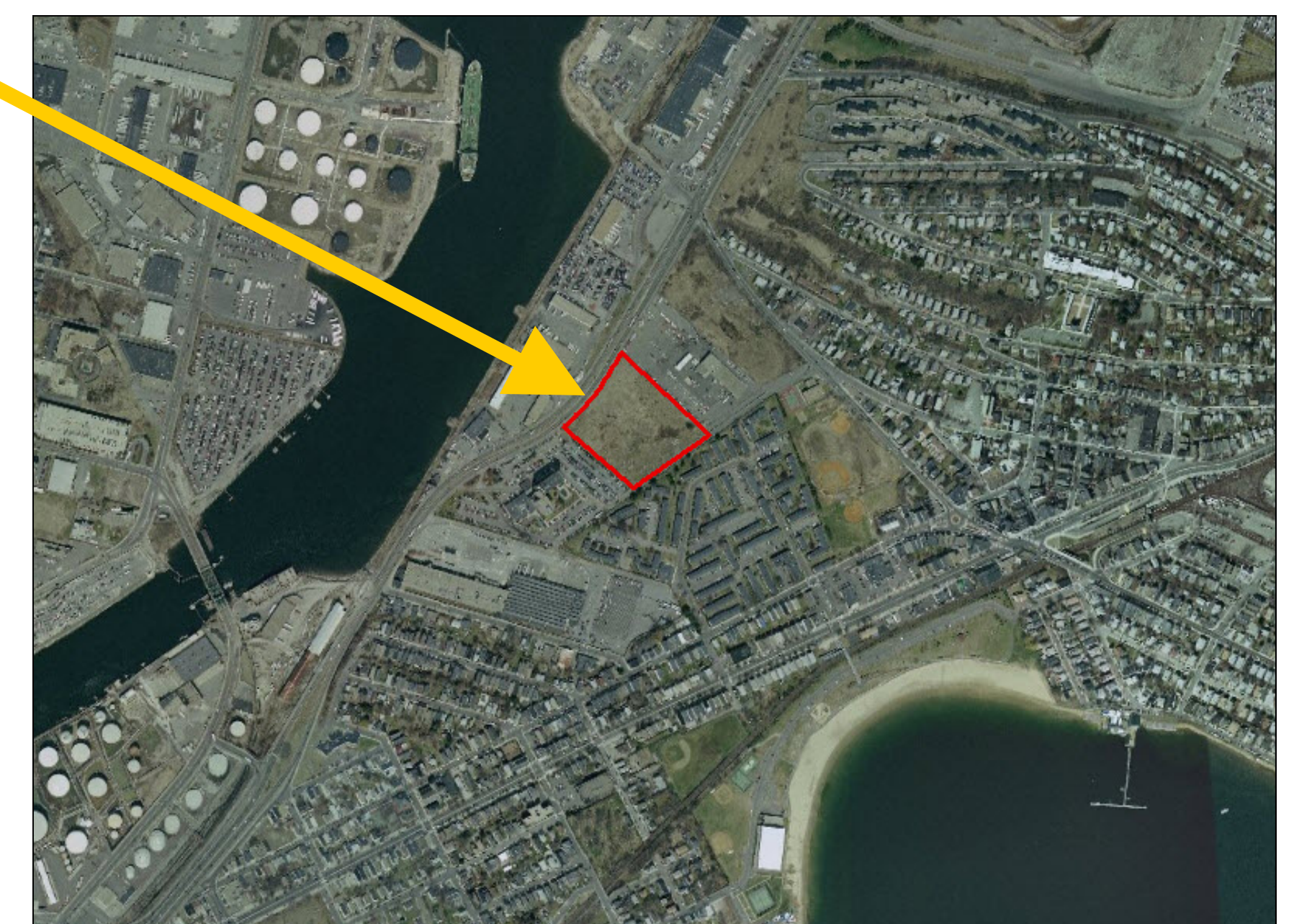
Determining a proper site for a brownfield to open space conversion is another important step for a successful project. By identifying a site, details can be given about the property and surrounding area. This available information takes the many unknowns out of these projects and can attract prospective parties. The map on the right was made in GIS by selecting out potential vacant, contaminated parcels within EJ block groups using data from the Boston Assessing Department, Massachusetts Department of Environmental Protection, and MassGIS.

Using aerial photography, each selected parcel was analyzed for its conversion possibility, and parcels were seen as having high potential if they were still vacant with no building, larger in size, and close to other vacant parcels that could also be redeveloped.

## Vacant Contaminated Parcels by EJ Block Group



The parcel outlined in red below was identified as having the highest potential for redevelopment into open space.



Status: vacant with no buildings  
Size: 261,459 sq ft  
Other Parcels: 2 vacant to the northeast  
Tier Class: 2 (no MassDEP oversight)

Cartographer: Mark Genua 12/16/09  
Course/Term: UEP 232 Fall 2009  
Source: MassGIS (2000, 2009)  
Projection: MA State Plane Mainland NAD 1983 Feet