



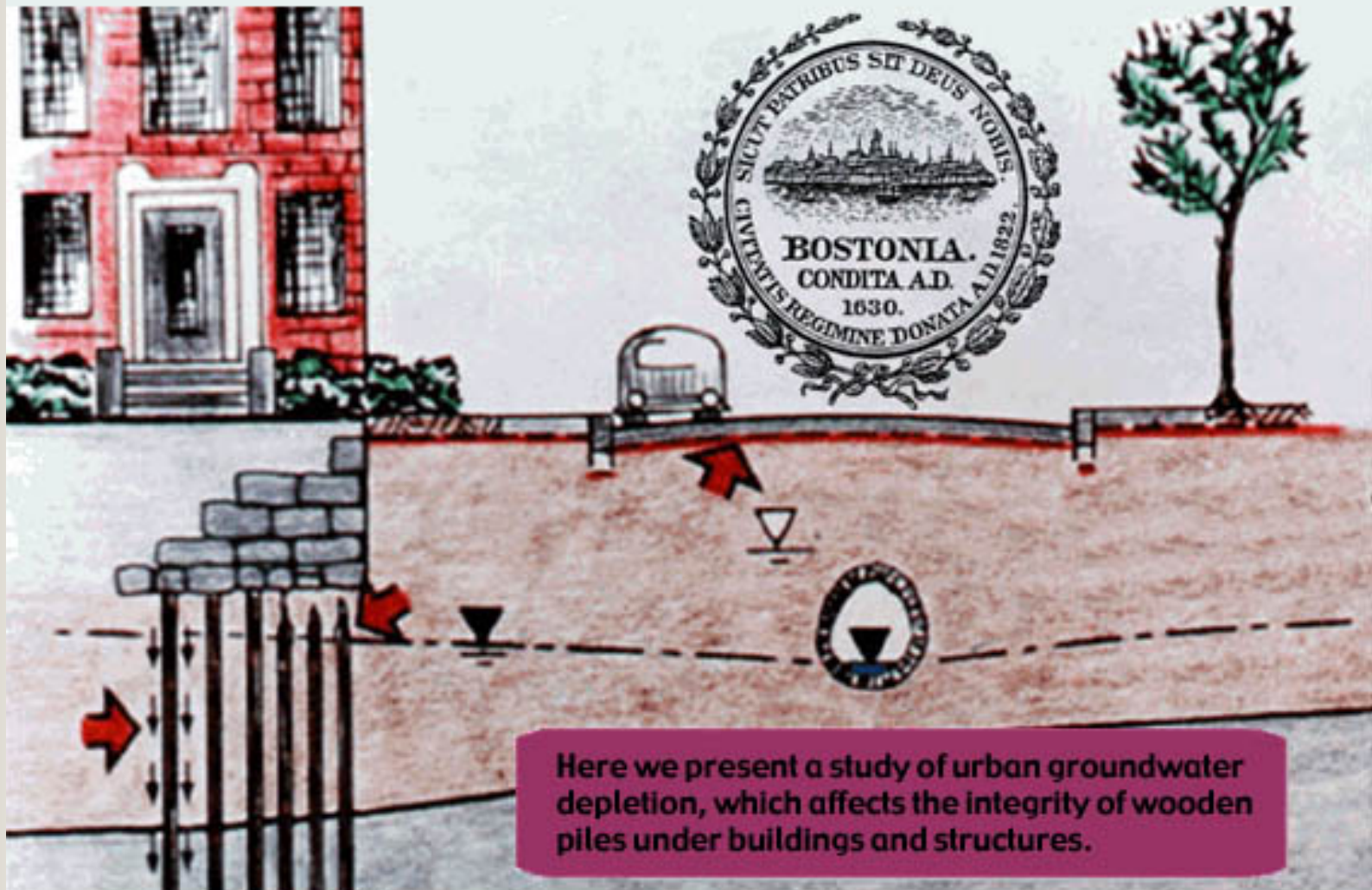
**LOW GROUNDWATER
MEANS LOSING
HOMES**



THE PROBLEM

- More of Boston is built on made land than any other U.S. city
- Before the 1920's, heavy buildings on made land were virtually all supported on wood pilings
- Wood pilings last indefinitely if they stay wet
- Dropping groundwater levels cause pilings to rot and foundations to fail
- Repairing pilings on a row house can cost over \$250,000

Boston Groundwater Trust



Here we present a study of urban groundwater depletion, which affects the integrity of wooden piles under buildings and structures.

Image courtesy Haley & Aldrich



A decorative header at the top of the slide. On the left, there is a vertical strip with a textured, light brown background. To its right, a horizontal banner features a white star on a yellow background, followed by a green field with a brown path leading towards a blue sky with white clouds.

Where Does The Problem Occur?

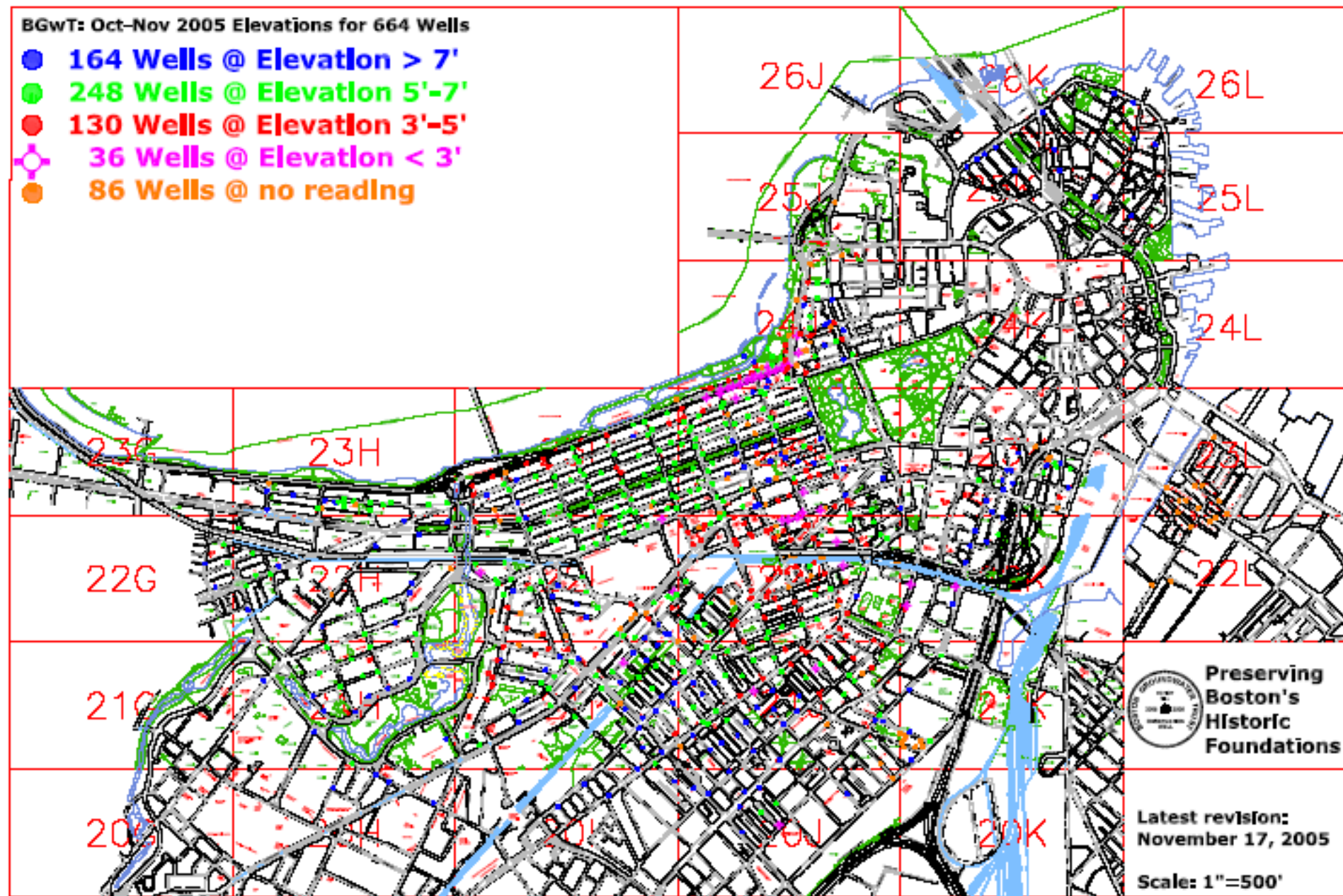


In Historic Neighborhoods Across The City

- Fenway
- Back Bay
- Beacon Hill
- South End
- Bay Village
- Chinatown
- North End
- Downtown Waterfront
- South Boston
- East Boston

BGWT: Oct-Nov 2005 Elevations for 664 Wells

- **164 Wells @ Elevation > 7'**
- **248 Wells @ Elevation 5'-7'**
- **130 Wells @ Elevation 3'-5'**
- **36 Wells @ Elevation < 3'**
- **86 Wells @ no reading**



 **Preserving
Boston's
Historic
Foundations**

**Latest revision:
November 17, 2005**

Scale: 1"=500'



Why Have Groundwater Levels Dropped?

- Underground infrastructure blocks natural flow
- Water leaking into underground structures is pumped into sewer system
- Buildings and pavement make ground impervious to precipitation which is drained away in sewers



What Has Been Done To Solve Problem?

- Establish Boston Groundwater Trust
- State funding of observation well network
- US EPA grant to add observation wells
- Found Citywide Groundwater Emergency Taskforce
- Signing of Memorandum of Understanding
- Addition of groundwater impact to BRA review process
- Develop Groundwater Conservation Overlay District Zoning



What Can You Do?

- If you live in an area of groundwater concern, make sure you're not pumping leaking groundwater into a sewer or storm drain
- Install a drywell to capture the rainfall from your roof and recharge it into the ground
- Monitor local groundwater levels on www.bostongroundwater.org to see what is happening in your neighborhood