

City and state team on groundwater

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Last Wednesday evening's groundwater forum drew a sizable audience, even as the final innings of the do-or-die sixth game between the Sox and Yankees played out. The turnout underlines the mounting public concern over dissipating levels of groundwater in the South End, Back Bay, Beacon Hill, the Fenway, and Chinatown.

Officials from Mayor Thomas Menino's office, the Boston Redevelopment Authority (BRA), the Massachusetts Executive Office of Environmental Affairs (EOEA), the state Office for Commonwealth Development (OCD), the Boston Environment Department, and the Boston Groundwater Trust were in attendance, marking a government commitment to meet the issue bilaterally, with the combined resources of city and state agencies.

City Councilor Mike Ross and state Rep. Paul Demakis, whose districts include affected areas, attended.

The depletion of groundwater in Boston is not a new issue, but the topic has been subject to increased scrutiny of late by government officials. The attention is due, in part, to the grassroots efforts of citizens in affected areas who have pressured city and state agencies to take swift action.

"We've come a very long way in a very short time, largely thanks to

the actions of the residents of the South End, the Back Bay, and Beacon Hill," said Councilor Ross. "We've gone from three or four or five people concerned about this issue to the mayor taking an active role and the state taking an extremely active role."

Some city structures, built on 19th century landfill, are supported by 25-to-30-foot wood pilings driven far into the ground, below the water table. When soaked by water, the pilings remain sturdy. As groundwater levels fall and pilings are exposed to air and bacteria, the wood begins to rot, compromising a structure's foundation. Experts estimate the cost of repair per house at \$250,000 or more.

The Works Progress Administration began to survey Boston water levels in 1940, via 966 wells placed throughout the city. Since then, groundwater has remained an on-again-off-again priority. Until recently, not much had been done to explore causes, let alone devise a long-term remediation strategy.

The exact cause for dwindling levels of groundwater is as yet unknown, and likely varies from site to site.

The Groundwater Emergency Taskforce (GET) was formed in July by residents of the Ellis neighborhood in the South End, where critically low levels of groundwater have earned the blocks of St. Charles and Cazenove streets a "hot spot" designation.

The fledgling group has pressured local politicians to take notice of the issue and spur the government to respond.

"GET will remain active and noisy until this citywide problem is solved," said Carter Jefferson, Cazenove Street resident and GET member who attended the Oct. 15 meeting. "Nobody knows who is responsible for this problem, or how extensive it is. Our own hot spot may have been caused by the MBTA in connection with the construction of the Back Bay train shed. It may be caused by private property owners draining groundwater out of their basements into the sewers. It may have something to do with the Turnpike. It may be something else entirely. Nobody knows. Nor does anybody know where other hot spots may be."

Tim Mitchell and Gary Saunders, co-chairmen of the Boston Groundwater Trust, a city and state funded organization charged with monitoring groundwater levels and installing new observation wells, reported at the forum that 45 new wells had been added in August and September, bringing its network to 200. With an additional 100 wells planned for the fall and 40 for the spring, the trust stands to double its observation network within the year.

At a cost of \$2,300 to \$2,400 per well, the work is proceeding

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as quickly as possible given their current operating budget, Saunders said.

In 2002, the trust received \$1.6 million from the state's Executive Office of Environmental Affairs as part of the landmark Environmental Bond Bill. The funding will be parceled out over three years: \$500,000 this year, \$500,000 in 2004, and \$600,000 in 2005. The city halved its 2003 funding for the trust to \$25,000. According to Saunders, trust representatives met with Mayor Menino to lobby for additional funds and are currently awaiting the city's determination.

At the Oct. 15 forum, Gina McCarthy of the Office for Commonwealth Development, which oversees the MBTA, the Massachusetts Turnpike Authority, and the state's environmental departments, spoke on behalf of the MBTA, the agency some believe has, in part,

caused groundwater levels to recede in the South End.

McCarthy said the MBTA, in conjunction with city and state agencies, recently pumped dye into targeted monitoring wells, including those in the St. Charles Street area, to investigate groundwater flow and determine the factors impacting it.

"We expected the dye might find its way to the Herald Street [MBTA] pump station or along the tracks themselves and head out to Four Point Channel. Three weeks after the dye testing, we still didn't know where it was going. Finally, we found some of the dye way down on the Orange Line. We still don't know where the vast amount of it is going," said McCarthy.

Currently, MBTA workers are walking the train lines in the vicinity of the Orange Line, mending small leaks in the walls.

"We need to know a lot more than we know now to address this issue across the city, instead of indi-

vidual hot spot by individual hot spot," admitted McCarthy, adding that further dye tests will commence to track groundwater flow in the St. Charles Street area.

While the OCD continues to coordinate efforts with city agencies to explore causes, the city's Environment Department has begun implementing a short term solution, focused on the Ellis hot spot, that could temporarily stave off further damage to pilings under area row houses.

In early October, the Boston Water and Sewer Commission, teaming with the Environment Department and funded by the city, dug two wells in the vicinity of St. Charles Street and began pumping them full of water, aiming to raise groundwater levels. Dye was added to the water to establish where it's going.

"The recharging has had great results, but pumping water into the system is not, hopefully, going to be the ultimate answer," said Antonia Pollak, Commissioner of the Envi-

ronment Department. "Obviously, it's not a good use of natural resources, but it gives us time to find a solution."

Recently, Pollak approached federal agencies, including the Environmental Protection Agency and the U.S. Department of Housing and Urban Development, in search of additional groundwater funding. As yet, she has not secured federal backing, but is working with U.S. Congressman Michael Capuano's office and they're looking to find any funding that might help us.

Meanwhile, as the city's Environment Department employs its short-term fix, replenishing groundwater levels with quality water (which is costly), the state's Executive Office of Environmental Affairs will devise community outreach programs aimed at "keeping water local."

The EOE is drafting a manual outlining techniques property owners can use to recharge groundwater levels. "In Massa-

chusetts we receive over 45 inches of rainfall per year, which should be an ample supply not only for drinking water, but maintaining groundwater levels," said Ka Honkonen, EOE's director of water policy. "Unfortunately we've re-engineered the city over hundreds of years and now it's difficult to figure out where it goes. There are ways that residents can assist us in getting water off the streets, off the roofs, and back into the ground," he said.

Of the myriad agencies tearing on groundwater, only the BFW has the regulatory clout to prevent further damage to the watertable. The agency works close with developers to address the impact of new construction on existing groundwater levels before, during, and after construction. In some cases, developers are required to install monitoring wells to assess water levels throughout the construction process. "Basically, we're the li-

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