

Forum Spells It Out: Climate Change Makes Groundwater Issues Urgent, More Complex

BY ALISON PULTINAS

At the Sept. 20 Boston Groundwater Trust Forum, “How Climate Change May Threaten the Foundations of Boston,” panelists discussed a range of issues related to groundwater. However it’s clear that coordinating comprehensive solutions remains a conundrum.

The city’s footprint expanded in the 19th century with filled land, essentially sand and gravel dumped on top of mud flats. Consequently, for new buildings, a European method of supporting foundations with wood pilings was widely adapted. The pilings must remain submerged in water; otherwise, if exposed to air, the wood deteriorates, and eventually pilings can collapse.

The Boston Groundwater Trust (BGWT, established in 1986) last held a public forum in 2005, according to

executive director Christian Simonelli. At that time, an emergency task force organized by business and community members helped drive several new initiatives. A memorandum of understanding created a City-State Groundwater Working Group that includes all public agencies responsible for underground infrastructure.

Later that year, Mayor Thomas Menino and the Boston Redevelopment Authority drafted the Groundwater Conservation Overlay District (GCOD; Article 32 of the Zoning Code), primarily focused on holding stormwater in the soil with recharge wells. The wells take water run-off from rooftops, paved areas, and roads; filter it; and send it underground to raise the water table.

With increased knowledge of the location of buildings supported on wood pilings and new monitoring wells, GCOD zoning has been updated to cover more

neighborhoods. The zoning requires the Trust to make recommendations to the Zoning Board of Appeal and the BPDA about impacts from construction and new development on the water table.

The forum took place at the Boston Public Library’s Rabb Hall, where Mayor Michelle Wu said that preventing groundwater depletion as Boston experiences extreme weather variations with heat, drought, and intense rain represents an effort to preserve Boston for future generations.

She noted that East Boston will experience both sea-level rise and groundwater depletion, which will affect many buildings that rest on wood pilings—a “double whammy,” as surface flooding doesn’t solve groundwater depletion. Impervious pavement and expected long droughts make absorption much harder.

The prelude to the panel included introductions from multiple speakers, limiting the time allotted for the invited guests. Each panelist had only a few minutes to share their story. They varied in their approach and were both academic and creatively optimistic.

Kate England, head of the City’s new Green Infrastructure office, spoke of porosity in the public right of way; for example, creating bioswales (small vegetated trenches) at street corners when sidewalks are widened. Her goal is making sure we integrate green infrastructure intentionally through policy.

Boston Water and Sewer Commission Chief Engineer John Sullivan explained that the Commission plays a significant role in managing stormwater. Old, cracked pipes are everywhere, he said, and he aims to solve for leaky pipes and redirect stormwater. The harder problem to solve—according to a report released this summer by a UMass Boston group—is that Boston’s sewer system wasn’t designed to handle the intense rainfalls expected with climate change.

Former City Councilor Matt O’Malley now works for Vicinity Energy (formerly Veolia, and before that Trigen), which operates district-energy

systems nationally. He described their plans for turning steam condensate into groundwater recharge. Locally, the power plant on Scotia Street in the Back Bay serves as a backup for the downtown substation on Kneeland Street, but future expansions are likely. O’Malley praised the district-energy concept with electrified boilers heating the steam as a future carbon-reduction strategy for the city.

Dr. Vandana Rao, state director of water policy, was emphatic: “Land use matters!” She said climate change will make Massachusetts’s future weather be like North Carolina’s current weather.

Other speakers included Dr. Jayne Knott, a hydrologist on the City-State working group, and Wilko Koning, a Dutch engineer who participated virtually from Amsterdam.

However, no unified plan for measurable goals and successful strategies was presented, and there was no time for questions.

What exactly is the established State-City working group doing now? Our government is monitoring groundwater much more broadly than decades ago, but organizing a collective effort with multiple agencies is complex.

The forum title was euphemistic: there’s no doubt climate change threatens the foundations of Boston. Because of limited time at the forum, Christian Simonelli asked that follow up questions be sent to him at csimonelli@bgwt.org.

Alison Pultinas lives in Mission Hill.

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DON'T FORGET THE BOOKS!



It’s easy to forget that the new Boston Arts Academy has all the features of a high school—like a library and cafeteria. Both have large windows and are visible from Ipswich Street.

PHOTO: KELSEY BRUUN

Fensfest Tradition Continues



The crowd was a bit thinner, but Garden Society members and friends brought back much of the spirit of FensFest on Sept. 10 at the front of the Victory Gardens. This year’s festival featured music, desserts, drinks, a white elephant table, and a small awards ceremony.

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