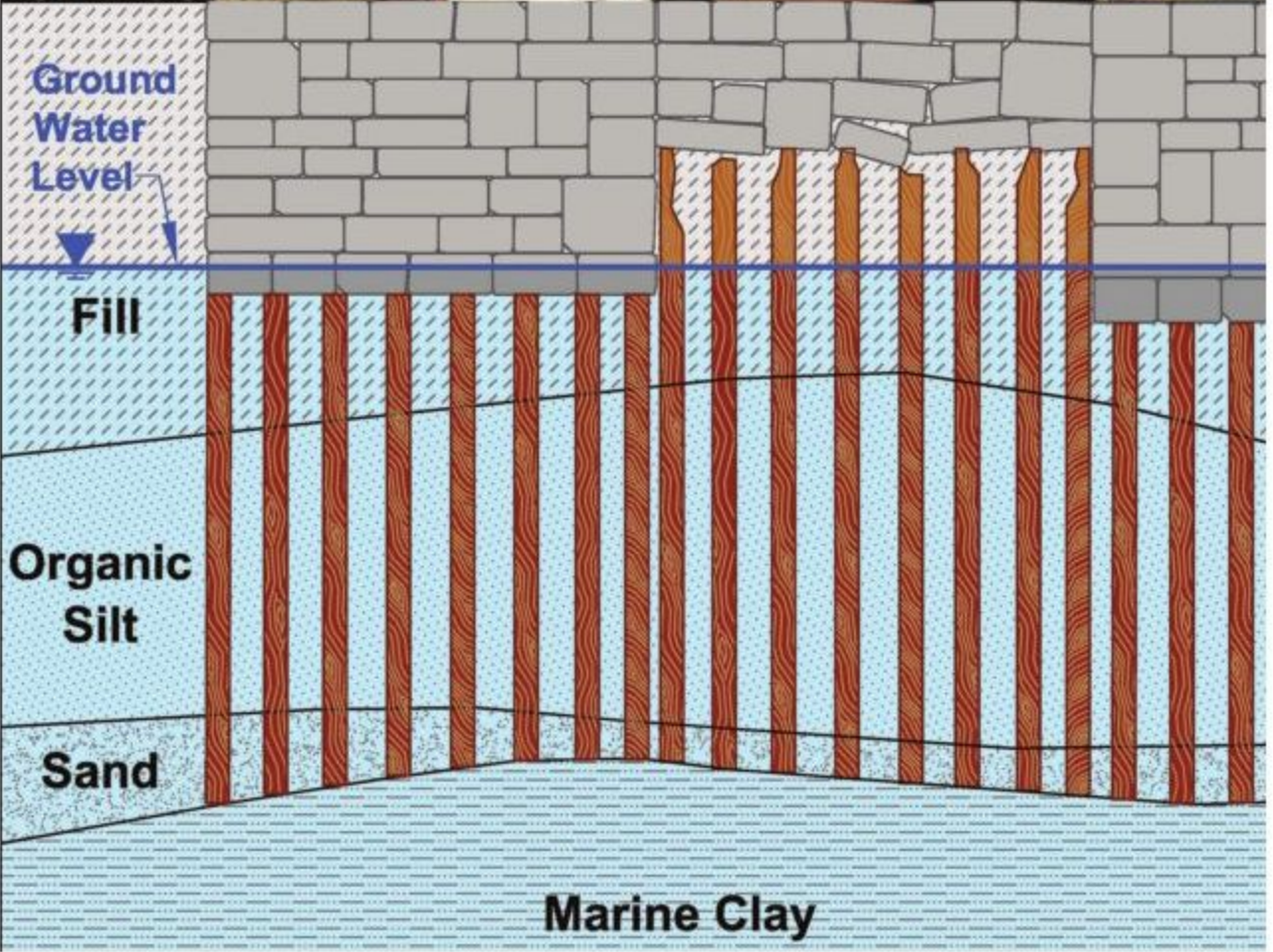


Groundwater Has Avoided a Crisis



By Cullen Paradis

Sporadic rains have helped break an intense dry season for Boston's groundwater reserves, which have avoided crisis with a bit of luck and a lot of infrastructure improvements.

The city's groundwater tables are looking healthier after record drought, and city mandated conservation systems are getting better at keeping it that way. Boston's foundations are far from certain, however, as climate change makes fluctuations in precipitation more common and more extreme.

Much of Boston's geography was constructed artificially from sea and marsh, and buildings in those areas stay stable with the help of wooden pylons sunk deep into the ground.

If they dry out, those pylons start to rot and can fail dramatically.

Organizations tracking groundwater levels were starting to get nervous in 2022, which had the least rain on record since the Boston Groundwater Trust (BGT) started keeping track over two decades ago.

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Groundwater

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With the help of spring rains the worst of that threat is past, but there's still a deficit and it's unlikely to be the last time Boston grapples with dry spells.

"It's a result of our changing climate that we're seeing these extremes," said Christian Simonelli, the BGT's executive director. "We had the wettest year ever in 2020 and then came back this year with a deficit. We've been seeing those swings more in the past

ten years."

The city has been preparing for that threat by improving rainwater collection systems and bolstering maintenance efforts to patch leaks in its water infrastructure.

Collection systems have been expanding their footprint through the zoning code's groundwater conservation overlay district. Any construction or renovation done within that zone has to install a groundwater recharge system, gradually increasing the city's coverage over time.

Catching and repairing breaches in infrastructure is harder, but the city has

been dedicating more funds toward that effort in recent years. The city also created its first citywide green infrastructure plan in December, which could encourage recharge systems in public space.

Repair efforts are directly assisted by private partnerships with groups like the BGT, which routinely tests water levels and alerts the city if something seems wrong.

That process will soon be a lot faster with the help of remote monitoring stations, which had their pilot project last year. The BGT is finalizing a contract with local a startup BluCloud Inc. for 25 remote

testers that would alert it to failures in real time, letting the city send out a repair crew immediately.

The BGT hopes to have comprehensive coverage across the city this summer, sometime around June.

"We've been working with BluCloud Inc. since 2017 on a potential remote reading solution and we're very confident in the results we've obtained," said Simonelli.

"We'll be able to get daily information instead of only getting a data point every five or six weeks."
