

## **Rocks? Yum!** @hoagie\_fest Wed Jun 05 16:15:05 +0000 2019

the Mill Creek Sewer is indeed "at it again." i don't think many folks know about the history of mill creek sewer cave-ins, or even that there's a real actual creek running under west philly (and elsewhere) so i'm going to make an enormous thread about this while on the clock. <https://t.co/Q74WfzENsh>

For starters, let's back up. Before white folks rolled into what was then Lenapehoking and started terraforming everything, a huge array of waterways criss-crossed the region. many of these (colonial) place-names may sound familiar, though the waterways are now gone <https://t.co/XxP9tAKB7I>

Or, not quite gone, but hidden. This map shows the present state of our waterways, with red lines indicating which have been covered. <https://t.co/Vji96QHRpr>

There are a lot of reasons why this came to be. A primary driver was pollution. Mills, factories, slaughterhouses, etc were built along waterways allowing easy disposal of waste whether chemical, biological, or otherwise. This happened across the rapidly industrializing world. <https://t.co/8K1gkxPi2X>

This had obvious negative public health impacts. Open waterways were coming under scrutiny in the wake of massive outbreaks of water-borne diseases such as cholera & typhoid (typhoid alone killed almost 30,000 Philadelphians in the latter half of the 19th century) <https://t.co/k0vEKfOxiF>

These diseases were exacerbated by how the city handled human waste. People tended to use privies, which were manually emptied into street gutters or streams. With indoor plumbing, privy wells overflowed due to increased household water use. The city needed a way to divert this. <https://t.co/Ou1leaFvMF>

It's important to note that Philly has had sewers since about 1740. These primarily functioned as a way to speed the flow of storm water off of streets and away from inhabited areas. But as streams transformed into open sewers, covering these waterways became a city priority. <https://t.co/V53PEYpat4>

The city undertook massive stream-to-sewer conversion through the 19th & early 20th centuries. Along with public health benefits, these combined sewer systems both simplified municipal waste disposal and afforded new opportunities for housing & infrastructure over capped streams <https://t.co/fawjDpydgO>

Another aside: combined sewers (where stormwater, raw sewage, & sometimes capped streams flow together) form most of our municipal sewer system. When it rains a lot, the system fills quickly and bypasses treatment facilities, draining directly into rivers. (illo: @getthepliers) <https://t.co/omh2DcfvAN>

(mostly this means you should avoid waterways for a day or so after a heavy rain. our urban waterways are actually much cleaner than at any point in recent history, and our municipal drinking water is some of the best there is)

Back to that construction issue: we built over these capped waterways. we built a lot. and as the name of a waterway becomes just the name of a neighborhood or street, folks tend to forget that these capped streams (sometimes over a century old) run right under their feet. <https://t.co/KU6aMKvYLf>

We've gotten plenty of startling reminders, though. the Mill Creek Sewer specifically has collapsed multiple times since it was first constructed in the late 19th century. Here's a view of 45th & Sansom, following its recent construction along the Mill Creek Sewer, ca. 1880 <https://t.co/DPeIBbPCNI>

And here's the 4300 block of Sansom in August 1952, after a massive sinkhole formed by the collapse of a section of Mill Creek Sewer swallowed most of the street. The Philadelphia Evening Bulletin published these photos. <https://t.co/GiszUcQCTe>

The Bulletin captioned the images thusly: "Pit, mined by water escaping from breaks in the sewer carrying Mill Creek underground, extends from curb to curb. Hole measures 40 by 30 feet with a depth of 35 feet." <https://t.co/8Mw0SJ3kTQ>

Just a year before, a smaller hole had formed at Walnut near 43rd, swallowing "the new automobile of Mrs. Catherine Elfreth." <https://t.co/pUNC9DeHLP>

A year after the Sansom St. collapse, the road was still an open chasm. <https://t.co/rejOQCuqAe>

In the summer of 1961, a sinkhole formed at 50th & Funston, collapsing homes and requiring emergency rescues and evacuations. 6-year-old Cheryl Daniels was rescued from the rubble after 2 hours of effort. Doris Hardy, along with Chris and Raymond Hardy, were among those evacuated <https://t.co/rcDOMYBrj7>

The city did endeavor to repair & replace large sections of the Mill Creek Sewer, among other capped waterways in the city. <https://t.co/GJ94WXVm7r>

But there are miles and miles of these antiquated sewers in Philadelphia, and until we can change that, cave-ins like the one at 43rd and Baltimore this week (or this one, at 43rd and Sansom in 1971) will continue to occur. We're an old city! (at least by US standards) <https://t.co/jNNfny3wky>

Here's a little bonus: The bowl at Clark Park is the remnant of a mill pond fed by Mill Creek, in what was then farmland. The mill closed in the 1860s and the dry pond was used as a public dump until the city passed an ordinance to create a public park on the land. Fun! <https://t.co/z9ysv84WGf>

TL;DR through a combination of poop and hubris we put a bunch of streams and creeks into big pipes about a hundred years ago and now they keep falling apart

ok! that's all. big thanks to [@PhillyH2O](https://t.co/dgJ7ZDmkrD)'s photo archives (<https://t.co/dgJ7ZDmkrD>) & watershed blog (<https://t.co/VBIL2yBRay>), [@TempleLibraries](https://t.co/GW4IEFIUYq)' digital collections (<https://t.co/GW4IEFIUYq>), and Adam Levine over at <https://t.co/wnQyOKLlgJ> for the great images & historic info.

if you want to learn more, check out <https://t.co/VNNNjGVeGw> or read about daylighting (restoring buried waterways to a more natural state) here <https://t.co/z4k2JsGUJO>

update: just to be clear, PWD hasn't determined that the cave-in at 43rd & baltimore was caused by a collapse of the sewer pipe. they'll know more after some excavating.