Frankford Creek:
The Sad History of an Urban Stream and its Watershed
Frankford Creek, looking east from Frankford Avenue, 1898

SOURCE: Frankford Historical Society

Even in 1898, the creek and its tributaries were being polluted by untreated sewage, and by wastes from dozens of factories in the watershed.
In 1956 a diversion channel was built to carry the creek directly to the Delaware River, cutting off a stretch of the stream that wound through Bridesburg. The original mouth of the creek still exists, visible on this map as the little dogleg to the north of the modern creek outlet. The old creek bed, roughly marked in red, was filled in, and now is the location of the Delaware Expressway (I-95) and various sewers. The sewer outfall upstream shows where the former Wingohocking Creek, now carried underground in one of the largest sewers in the city, once joined the Tacony Creek to form the Frankford.
Frankford Creek
Watershed in Philadelphia and Montgomery Counties, 1889

SOURCE: Free Library Map Collection, Baist Atlas, 1889

Moving upstream from the mouth at the Delaware River in Bridesburg, the tributaries to the Frankford include Little Tacony Creek, Wingohocking Creek and Tacony Creek, which has Rock Run as one of its tributaries. The watershed covers 35 square miles in Philadelphia and Montgomery counties. Except for the Tacony and the Frankford, all the streams in the Philadelphia section of the watershed have been converted into sewers.
Industrialists made major changes to the creek, damming it in various places, digging channels, called mill races, to carry the water from these mill ponds into and out of their factories. More than 30 factories of various sizes, many of them making textiles, operated in the watershed in 1849. In spite of this industrial presence in certain sections, the watershed as still mostly open land, with its tributary system still intact.
In 1799 Frankford Creek was declared a “navigable stream” from the mouth to Frankford Avenue, where the influence of the tide ends. This put the creek under the jurisdiction of the U.S. government, specifically, the engineers of the War Department (now known as the Army Corps of engineers). As such, the bridges over the creek in that stretch either had to be high enough to let craft pass under, or be movable, as was this turn bridge at Orthodox Street.
Unfortunately, the Federal authorities did little over the years to help maintain a navigable channel in Frankford Creek. Even though they mostly refused to maintain the creek after the 1880s, they maintained jurisdiction for more than 50 years afterwards, which made it difficult for the City or any governmental body to do any work on the creek channel.
The City did dredge the creek at various places, but by 1929 the lower Frankford was basically not navigable by large commercial craft.
Wingohocking Creek and Rock Run

Wingohocking Creek drained most of Germantown and reached as far as northwest as Mt. Airy. Rock Run drained the Olney, Fern Rock and Oak Lane sections of the city.

SOURCE: Free Library Map Collection, 1889 Baist Atlas
The Wingohocking was the largest creek system in the city to be put underground. With east and west branches and other smaller tributaries, its watershed covered 9 square miles with about 21 miles of stream. By the time this photograph was taken, it had been partly piped underground, with the above-ground stretches basically an open sewer, carrying the wastes of tens of thousands of people and dozens of factories.
“Wingohocking Creek is to be put under ground”
Philadelphia Record, October 5, 1924

SOURCE: Temple University Libraries/
Urban Archives, Philadelphia Bulletin Collection

This article refers to one of the final sections of Wingohocking to be converted into a sewer. The process of burying the creek began in the 1880s and culminated in 1928, when the creek was finally obliterated from all but the city’s sewer maps. The creek was covered in Germantown first, and then the sewer was extended both upstream and downstream as adjacent areas became ripe for development.
“Wingohocking Creek to be put under ground”
Philadelphia Record, October 5, 1924


Before creeks were converted into sewers, branch sewers simply emptied into them, and factories dumped their wastes into them. Converting these polluted streams into sewers was seen by city engineers and health officials as a way to bury a potential health hazard, as the highlighted sections of this article note.
Besides the perceived benefits to public health, putting creeks into underground pipes was the cheapest and easiest way to provide an undeveloped area with a main sewer (a large sewer into which many smaller sewers empty). Sewage is more than 99 percent water, and the easiest way to move water or any liquid is by gravity. Since the creeks were already flowing downhill by gravity, putting sewers in stream beds provided the gravity flow needed. Instead of excavating to bury the pipes in a trench, which was expensive, the completed sewers were then buried under fill.
Another reason for burying streams has to do with the city’s grid system. Streams don’t follow straight lines, they meander here and there, cutting across the rigid geometry that has been imposed on the Philadelphia landscape since William Penn’s time. After burying the creeks, their valleys would be filled in -- the Wingohocking valley, in some places, was leveled with up to 40 feet of fill-- and then the street grid could be run over the valley without having to build expensive bridges at every creek crossing. Note the two bridges needed to cross this bend in Frankford Creek at Wyoming Avenue. A slight deviation from the City’s rectangular grid could have placed a curving street around the bend, and eliminated the cost of the bridges.
Wingohocking Sewer under construction, ca. 1890s

Sections of the Wingohocking sewer includes pipes more than 20 feet across, among the largest in the Philadelphia’s 3000 mile sewer system.

SOURCE: City Archives of Philadelphia
The elevated metal pipe is temporarily carrying water over the work site. Once the sewer is finished, it will be buried along with new water and gas lines, with a new street built and paved on top of it, providing a ready-made infrastructure for the dense residential development that quickly spread over this once-rural area.
Wingohocking sewer under construction in Annsburgh Street, 1914

SOURCE: City Archives of Philadelphia
Wingohocking sewer under construction in Annsbury Street, 1914

SOURCE: City Archives of Philadelphia
Rock Run Sewer in Ashdale Street, 1922

SOURCE: City Archives of Philadelphia
Rock Run Sewer in Ashdale Street, 1922
SOURCE: City Archives of Philadelphia
This ditch, or flume, will carry the creek flow as the sewer is built in the creek bed.
Rock Run Sewer in Ashdale Street, 1922
SOURCE: City Archives of Philadelphia
Workmen pausing for the city’s Public Works photographer.
Rock Run Sewer in Ashdale Street, 1922

SOURCE: City Archives of Philadelphia
Once the sewer is finished, the pipe will be buried, Ashdale Street will be laid out on top of it, and new rows of houses will join those seen in this photo on the valley’s edge.
Rock Run Sewer in Ashdale Street, 1922

A view inside a completed section of sewer.

SOURCE: City Archives of Philadelphia
Little Tacony Creek, showing Briggs & Co.

By the 1890s Little Tacony Creek was badly polluted, both by industrial wastes from textile factories such as Briggs & Co., and raw sewage. Frankford Creek is on the left.

SOURCE: Free Library Map Collection, 1849 Dripps Map
Little Tacony Creek running through Globe Dye Works, 1910

SOURCE: 1910 Smith Atlas, Free Library Map Collection

Streamside factories (such as the Globe Dye Works) would often use the water for their various processes, and then dump the used water back into the creek. The wastes from a dye works could turn a creek many colors, depending on the dyes being used. Beginning in the early 1900s and continuing into the 1930s, a sewer was built to carry this polluted tributary. Note on the map how the city engineers, planning for the eventual burial of this stream, laid out Torresdale Avenue along its course.
The city’s first large-scale sewage treatment plant was opened in 1923, on Wheatsheaf Lane near the mouth of Frankford Creek. The first sewage to be treated by the Northeast Sewage Treatment Works was the flow of the Wingohocking Creek/Sewer, which still ran in the open creek bed in various places. The stream was diverted into an intercepting sewer and carried to the plant, relieving Frankford Creek of the sewage of more than 100,000 people.
Frankford Creek Intercepting Sewer Under Construction, 1930

SOURCE: City Archives of Philadelphia

The complete interceptor system for this area took many years to complete, due to delays caused by the Depression and World War II.
Even the city began to deal with raw sewage in streams, industrial pollution continued to be a problem. Many factories continued to run waste pipes directly into Frankford Creek and other Philadelphia streams. In this plan, the mill race runs under the bleach house, no doubt carrying wastewater directly to the creek.
Hexamer Insurance Survey, Frankford Dye Works, ca. 1870

SOURCE: Free Library Map Collection
A 1937 law forbidding the dumping of factory wastes was rarely enforced, partly due to the political and economic power of factory owners.
Frankford Creek
“purple and perfumed”
Philadelphia Evening Bulletin,
July 15, 1938

SOURCE: Temple University Libraries/Urban Archives
Philadelphia Bulletin Collection

See the next slide for the text of the letters that accompanied these pictures which, being black and white, don’t show the creek’s true colors.
Frankford Creek “purple and perfumed”
Philadelphia Evening Bulletin, July 15, 1938

SOURCE: Temple University Libraries/Urban Archives
Philadelphia Bulletin Collection
CREEK CALLED POISONED

Relatives Blame Child's Death on Impurities in Frankford Stream

Relatives declared today that poisons in Frankford Creek were responsible for the death yesterday of Earl Lintz, nine, 2136 N. Darlen st., mascot of the 20th Ward Fidelity baseball team.

With John Haig, eight, 2114 N. Darlen st., Earl went to the game with the Kerbaugh A. C. at Thompson and Berkshire st., although warned by his uncle, Kirby Hale, 22, catcher on the team, to stay home.

The boys soon wandered from the lot to the creek and in a few minutes Earl fell in. Several players plunged in, but it was an hour before another uncle, Fred Exler, 2116 N. Franklin st., recovered the body.

Earl's grandfather, Orville Hale, a physician at Northeastern General Hospital said that even if the boy had been revived he would have died within an hour from poisons that seeped into his system.

At the hospital authorities said the boy's death was due to drowning. Chief Herbert M. Packer, of the Bureau of Housing and Sanitation in the Department of Public Health, pointed out that the Frankford creek actually is a sewer, and will be until money is available for proper pipes.


“Creek Called poisoned” Philadelphia Evening Bulletin, June 2, 1933
CHANNEL CHANGES

Besides the dams and mill races built by factory owners, and the occasional encroachments of their buildings into the flood plain, official channel changes, paid for by government funds, were also undertaken. Emergency dredging projects, by the city or the U.S. government, attempted to keep the lower stretches of the creek open for navigation. Other channel changes were designed to remove constrictions in creek, such as sharp bends, which were often the locations of overflows during storms. The first channel change of which there is a good visual record was undertaken by the city in 1901-1902. As shown in the following atlas plates, a sharp bend was smoothed out, which allowed the construction of two higher bridges and reconfiguring of streets in vicinity of Frankford.
Frankford Creek channel before & after 1901-02 Revision

In this photograph, taken before the channel of the creek was changed, it is difficult to even find a channel at all.
The so-called ‘Six Arch Bridge” at Frankford Avenue, built in 1796, tended to constrict the flow of the creek during high water and was replaced as a part of this project.
Frankford Creek Revision 1901-1902

SOURCE: City Archives of Philadelphia
The new creek channel under construction.
Frankford Creek Revision 1901-1902

SOURCE: City Archives of Philadelphia

The same view as the previous slide, after the channel revision.
Flooding became an increasing problem after the 1920s, as the farmland upstream from Frankford proper was built up with dense rowhouse neighborhoods. The removal of several upstream dams also released large amounts of silt into the creek channel, reducing its capacity.
Frankford Creek, July 11, 1934
Looking downstream from Worrell St. bridge, with Edgewater Finishing Co. on left

A 1931 study of the creek found that it had a capacity of only 2,200 cubic feet per second, while typical flood flows could range from 5,000 to 10,000 c.f.s.
Frankford Creek, July 11, 1934
Looking downstream from the Wingohocking St. bridge

SOURCE: Philadelphia Water Department Archives

While the dry-weather flow, as seen in this picture, was barely ankle-deep on an eight-year-old boy, the creek during rainstorms could quickly turn into a raging torrent, spilling out into the adjacent factories and neighborhoods, damaging business and homes.
Frankford Creek Flood, probably 1930s

SOURCE: Temple University Libraries/Urban Archives
Philadelphia Bulletin Collection
Illustration from March 18, 1956, Philadelphia Inquirer Sunday Magazine

Flooding on Vandike St., near Torreydale and Frankford Aves., formerly were common after heavy rains.
Owners of businesses along the creek appealed to the City for relief from the frequent floods, but the City deferred to the Federal government, which still maintained jurisdiction over the creek as a navigable stream.
The fact that the factories were often built in the flood plain, or encroached in the creek channel, did not lessen the righteousness of the business owners’ appeals. The jobs they created were an important bargaining point.
Factories tried to protect their buildings bricking up the lower windows and doors, to keep floodwaters at bay.
Low-slung bridges, like this pipe bridge between two factory buildings, also tended to catch debris and constrict the flow of water.
Letter from local business owner to Philadelphia Mayor J. Hampton Moore, May 13, 1932

SOURCE: City Archives of Philadelphia

Local business owners appealed to the Mayor to do something about the flooding problem. A city survey of the creek in 1931 had recommended dredging, channel changes and bulkhead construction that would have cost an estimated $2 million. Since the country was in the midst of the Depression, no money was available for such work.
In this letter, John McCoy, secretary of the Edgewater Dyeing and Finishing Company, refers to the creek as the “Frankford Sewage Canal.” The irony that McCoy and other business people seemed to miss is that it was often their factories that were creating the problems that they were appealing to the City to alleviate.
Instead of a major overhaul of the creek, the City was able to do only piecemeal projects. Undertaken in cooperation with the Works Progress Administration, the removal of this bend employed more than 1000 men, who worked at low tide using shovels and wheelbarrows to straighten the channel.
Horseshoe Bend in Frankford Creek, from 1931 survey

SOURCE: City Archives of Philadelphia
Horseshoe bend Aerial view, 1930, and newspaper article, Philadelphia Bulletin, May 27, 1934

Frankford Creek at the Delaware River, 1950

The area in red shows the former location of the horseshoe bend.

SOURCE: Frankford Historical Society
At this 1938 hearing, the Federal government refused to do anything about the flooding and problems, but continued to maintain its jurisdiction over the creek as a navigable stream. Without Federal support, the city lacked the funds to undertake any such project itself.
In fact, the Federal authorities knew that the lower creek had not been navigable since the late 1920s, due to silting problems that led to exposed mud flats in most places except at high tide. The city’s 1931 survey of the creek found that it navigable only by small craft “at advantageous stages of the tide.”
Ironically, while lack of maintenance severely limited travel on the creek, one of the U.S. government’s reasons for not funding improvements was that there was insufficient commerce on the creek to justify the expenditures.
Continued lobbying finally convinced the Federal officials, in 1940, to declare that the creek was not navigable, relinquishing its jurisdiction and thus freeing the City to undertake much-needed work. The onset of World War II delayed the start of this and most other non-essential public work projects until after the war’s end, in 1947.
An integral part of the flood control program was the construction of a new cut-off channel to carry the creek directly to the Delaware River.

“Shift Proposed in Course of Frankford Creek”
Philadelphia Bulletin, February 1, 1948

Frankford Creek north of Frankford, showing bend in Juniata neighborhood

One of the first sections of the creek to be changed in the flood control project was this large bend in what is now the Juniata Park golf course.

SOURCE: 1888 Baist Atlas
City Archives of Philadelphia
Plans for Juniata Cutoff, 1947

SOURCE: Temple University Libraries/Urban Archives

A cut-off channel, combined with a stilling basin, was designed to keep silt from flowing into a new concrete channel to be built in downstream sections.
Looking Upstream at Juniata Cut-Off, 1949

SOURCE: City Archives of Philadelphia
Spillway for Detention Basin
Juniata Cut-off, 1950
SOURCE: City of Philadelphia Archives
The following series of before and after pictures chronicle some of the changes made in the creek during the flood control project of 1947-1956.
Looking Downstream from Wingohocking Street Bridge

1934 (above)
SOURCE: Philadelphia Water Dept. Archives

1950 (right)
SOURCE: City Archives of Philadelphia
Looking Upstream from Wingohocking Street Bridge

1934 (above)
SOURCE: Philadelphia Water Dept. Archives

1950 (right)
SOURCE: City Archives of Philadelphia
At Bromley Mills, Near Leiper Street

1934 (above)
SOURCE: Philadelphia Water Dept. Archives

1950 (right)
SOURCE: City Archives of Philadelphia
The following five slides show the progress of creek channelization between Castor Avenue and Wingohocking Street in 1950.

All photos from City Archives of Philadelphia
Ground-breaking (or more accurately, creek breaking)
Mayor Bernard Samuel is at the controls of the steam shovel
June 27
July 17
Frankford Creek near Leiper Street, 1946 and 1960

A section of the creek near Leiper Street (shown in red) was channeled into an underground conduit as part of the flood control project. The aerial view to the left is from 1960; above, 1946.

SOURCE: Philadelphia Water Dept. Archives
The final part of the flood control project--the diversion of the lower portion of the creek into a new channel--was completed in 1956. The old creek channel was mostly filled in, with sewers built in part of its bed.
A Storm Sewer that occupies part of the old bed of the creek now empties here.

Remnant of old mouth of Frankford Creek, 1960

SOURCE: Free Library Map Collection
5’6” x 10’ Sewer in former bed of Frankford Creek, 1957

SOURCE: City of Philadelphia Archives
Frankford Creek, Then and Now

In summary, the watershed of the lower creek was transformed from this natural, if compromised, system shown on the 1889 map (left), to what is, in many sections, now little more than an urban stormwater conduit.