



HISTORY HIDDEN IN PLAIN SIGHT

Clear Stream Pond

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By the early 1850s, Brooklyn was desperate for water. The borough's wells contained too many particles of solid matter per gallon. It was unsafe to drink. Manufacturers also needed water to power their steam boilers and engines. In 1855, after years of failed committees, schemes, and company formations, the New York State Legislature passed an act allowing the incorporation of the Nassau Water Company. The NWC was granted the right to take water from Long Island ponds, springs, streams, and eventually driven wells via a system of underground conduits (the original design was open-air canals). The NWC board was reorganized a few years later into the Nassau Water Works of the City of Brooklyn. Most folks, however, referred to the NWW as the "Brooklyn Water Works," an unofficial but widely used title.

In 1858, a small plot of land on Merrick Road (between Arlington and Guenther avenues) that contained a subterranean spring, was purchased for \$1,010 by the water works. The plan was to turn the spring into a pond. Cornell's Pond (Arthur J. Hendrickson Park) and Watts Pond (Mill Pond at Edward W. Cahill Memorial Park) were also purchased. The three sites comprised Valley Stream's contribution to Brooklyn's unquenchable thirst.

Fine sand and gravel covered the triangular-shaped plot. Although pervious materials, they retained impressive amounts of water. After a good rain, some of the water replenished the aquifer; the balance flowed along the sand's surface, temporarily creating a spring that disappeared during droughts. Once excavated, the spring-turned-pond held 800,000 gallons of water. The Brooklyn Water Works christened the one acre reservoir Clear Stream Pond. "It pours a stream as clear as crystal," boasted *The Brooklyn Daily Eagle* in 1859.

In addition to rainwater, the new pond was fed from the north by two short and narrow headwater streams that formed a V at the center of the northern rim. The western stream ran along Arlington Avenue; its headwater was at the juncture of Hunter Avenue and Fenwood Drive. The eastern stream, named Clear Stream, ran between Lyon Street and Guenther Avenue; its headwater was near the intersection of Shipley and Countisbury avenues.

Valley Stream lies south of the Ronkonkoma Moraine, which was formed during the Wisconsin glaciation 21,000 years ago. The south shore is made up of outwash plain valleys, created by streams during the melting of the moraine's glacier. A dry valley refers to a valley that no longer has a preserved stream channel. The western stream that was once attached to the northern rim of Clear Stream Pond is now a dry valley; as is the headwater of Clear Stream.

Clear Stream, back in the day, was a lively, viable water source filled with trout and pickerel. It passed under Merrick Road, meandering its way through the West End, the mall, and the Mill Brook community. Today, the stream is a dry valley through the West End and the mall. It re-emerges, however, between Riverdale and Southgate roads in Mill Brook and joins Hook Creek at Rosedale Road, before entering Jamaica Bay.

A gate house was erected on the southeast corner of the pond. The house protected the sluice gate, which controlled the water's flow; and the spillway, which redirected excess water. A branch conduit was installed at the pond, releasing a minimum of 750,000 gallons of water into the pipeline each day. The conduit ran south, parallel to Clear Stream's path through the West End. Since the land below the moraine is glacial outwash, it slopes downward; ideal topography for gravity-fed conduits.

George Bradford Brainerd (1845-1887), a Connecticut-born civil engineer, photographer, writer (he penned *The Water Works of Brooklyn* in 1873), inventor, and historian, is best known for his photography of public works projects. During the summer of 1874, Brainerd traveled by horse-drawn wagon to Valley Stream to photograph Clear Stream Pond. He used the collodion silver glass wet-plate process of photography, a complicated technique that required photographic material to be coated, sensitized, exposed, and developed within 15 minutes. Brainerd set up an outdoor darkroom (a tent) on site to develop the negatives. His death in 1887, some say, was hastened by his exposure to the toxic chemicals he used.

The conduit ended near Fir Street, close to where the rail stands today. (The rail didn't exist at the time; it was built a few years after the construction of the water works.) There it joined the Ridgewood Aqueduct, which ran east to west. The aqueduct, over nine feet in diameter, transported the water to a pumping station in Brooklyn. Steam-powered pumps forced the water up through a tube to the man-made Ridgewood Reservoir that sat atop the Harbor Hill Moraine – the northern moraine of Long Island. The elevation of the reservoir was important, as it had to be well above the highest buildings in order for the water to flow down through the pipes via gravity.

By 1877, the pond began to fail. From *The Brooklyn Daily Eagle*: “The water did not look as clear as the other lakes, being spotted with green scum.” And, the spring-turned-pond, it was found, did not replenish sufficiently after a drought. “It is only with the greatest difficulty that the water can be got through the weir at all, and at present the city derives little or no benefit from its supply.” In 1944, “A Map of Valley Stream about the Year 1880” was created by local gentry for a history piece included in a church publication. The pond was labeled with a racially inspired nickname; named so, it is believed, after the reservoir's dark and murky water. The pond was in a downward spiral.