United States Department of the Interior National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form.* If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. **Place additional certification comments, entries, and narrative items on continuation sheets if needed (NPS Form 10-900a).**

1. Name of Property					
historic name Ridgewood Reservoir					
other names/site number					
name of related multiple property listing N/A					
Location					
street & number Jackie Robinson Pkwy, Vermont Pl., Cypress Hills St., Highland Blvd not for publication					
city or town Brooklyn / Queens vicinity					
state NY code NY county Kings / Queens code 047/081 zip code 11208					
3. State/Federal Agency Certification					
As the designated authority under the National Historic Preservation Act, as amended,					
I hereby certify that this <u>X</u> nomination <u>request</u> for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60.					
In my opinion, the property X meets does not meet the National Register Criteria. I recommend that this propert be considered significant at the following level(s) of significance:					
nationalstatewide _X_local					
Signature of certifying official/Title Date					
State or Federal agency/bureau or Tribal Government					
In my opinion, the property meets does not meet the National Register criteria.					
Signature of commenting official Date					
Title State or Federal agency/bureau or Tribal Government					
4. National Park Service Certification					
I hereby certify that this property is:					
entered in the National Register determined eligible for the National Register					
determined not eligible for the National Register removed from the National Register					
other (explain:)					
Signature of the Keeper Date of Action					

United States Department of the Interior	
National Park Service / National Register of Historic	Places Registration Form
NPS Form 10-900	OMB No. 1024-0018

Ridgewood Reservoir

Name of Property

5. Classification

Ownership of Property Category of Property Number of Resources within Property (Check as many boxes as apply.) (Check only one box.) (Do not include previously listed resources in the count.) Contributing Noncontributing private building(s) 2 buildings Х Х public - Local district sites public - State site 1 structures 1 public - Federal structure _____ objects 0 4 Total object Name of related multiple property listing Number of contributing resources previously (Enter "N/A" if property is not part of a multiple property listing) listed in the National Register N/A 6. Function or Use **Historic Functions Current Functions** (Enter categories from instructions.) (Enter categories from instructions.) GOVERNMENT / Public Works GOVERNMENT / Public Park LANDSCAPE / Parks LANDSCAPE / Park INDUSTRY / Waterworks RECREATION / Outdoor Recreation 7. Description Architectural Classification Materials

(Enter categories from instructions.)

Mid-19th Century / Romanesque Revival

(Enter categories from instructions.)

foundation:

walls:

roof:

other: Bluestone, Granite, Brick, Clay

(Expires 5/31/2012)

Ridgewood Reservoir Name of Property

Narrative Description

(Expires 5/31/2012)

Queens & Kings Co., NY County and State

(Describe the historic and current physical appearance of the property. Explain contributing and noncontributing resources if necessary. Begin with **a summary paragraph** that briefly describes the general characteristics of the property, such as its location, setting, size, and significant features.)

Summary Paragraph

Ridgewood Reservoir is a reservoir-park of approximately 50 acres of land nestled within what is now called Highland Park, which straddles the boundary between the boroughs of Brooklyn and Queens in New York City. Prior to the consolidation of Greater New York in 1898, Brooklyn was an independent incorporated city and needed to supply its growing population with abundant clean water. Construction of the original reservoir, which consisted of two basins, began in 1856. Water first flowed through the system in 1858, although the entire assemblage of associated buildings and appurtenances was not complete until 1862. A third basin, gatehouse, and associated waterworks were added in 1891.

What currently remains of the original Brooklyn Water-Works at this site are the three reservoir basins, two brick gatehouses, influent and effluent chambers, and various appurtenances (such as valves, sluiceways, and pipes), not all of which are visible. The site is bounded on the north by the Jackie Robinson Parkway (originally the Interboro Parkway, parallel to Cypress Avenue, which in the 1850s was the Cypress Hill Plank Road); on the west by Vermont Place; on the east by Cypress Hills Street and Cypress Hills National Cemetery; and on the south by Highland Boulevard. Basins 1 and 2, lie entirely within Queens County. A small portion of Basin 3 lies within Kings County with the remainder in Queens.

The nomination consists of the following contributing resources: 2 buildings (Gatehouse No. 2 and No. 3), 1 object (the original cast iron fencing between Basins 1 and 2), and the Ridgewood Reservoir, including its three basins, dividing walls, and chambers as 1 site to reflect the system's historical function as one unit.

Narrative Description

RESERVOIR BASINS

The Ridgewood Reservoir is comprised of three basins, perhaps the most impressive features of the site. The original reservoir basins were sited to take advantage of the ridge of the original terminal moraine, the line of hills running the length of Long Island that mark the southern extent of the last ice age, as well as the streams and ponds from the eastern end of Long Island which provided the fresh water. The outwash plain, the flat land created by runoff from the melting glaciers, stretches southward toward Jamaica Bay, which is visible from many vantage points within the reservoir-park.

Basins 1, on the eastern side of the site, and Basin 2, to its west, were constructed by the City of Brooklyn between 1856 and 1858 in a natural depression on the moraine and are entirely within Queens County. A steam engine, no longer extant, at the base of the moraine pumped the water 164 feet up to the reservoir. Basins 1 and 2 cover 25.5 acres (11.85 acres and 13.73 acres, respectively) and reach a depth of 20 feet, with a total capacity of 161 million gallons (74,439,062 in one and 86,651,382 in the other).¹

¹ George B. Brainard, *The Water Works of Brooklyn: a historical and descriptive account of the construction of the works, and the quantity, quality and cost of the supply* (Brooklyn: 1873), 25-26.

Queens & Kings Co., NY

County and State

Ridgewood Reservoir Name of Property

Basin 3 was completed in 1891; a small piece of its southern end lies within Kings County, but the greater portion is in Queens. The third basin was created out of a pond adjacent to the first two basins; it covers 21.17 acres and has a capacity of about 132 million gallons.²

All three basins were built using the same construction methods and were sited to minimize the amount of earthwork required to form them. Stiff, coarse earth excavated from the ground in the process of shaping each compartment was then used in the construction of the embankments. The dividing walls between the basins are composed of a core "puddle" wall created from a mixture of this earth material from the excavations and white clay found in the area nearby. The core walls were created from this mixture in "lifts" of six inches, which were then allowed to dry before the application of another layer. The earthwork of the embankments proceeded simultaneously with the core walls, and these horizontal lifts were tamped down with heavy rollers to compact the earth to be watertight. The outer slopes of the banks were then covered with soil and seeded. The inner faces were paved with stones from the excavated site material using a dry-placement method and laid upon a thick bed of gravel. The stones were well packed (or "chinked") and pinned, and later the joints were filled with cement-mortar. The floors of the basins were finished with two feet of the same puddling mixture as the core walls, then covered with a thin layer of gravelly earth.³

The outer embankments are twenty feet wide at the top, and the dividing walls are fifteen-feet wide. The tops of the outer embankments as well as the embankment between Basins 2 and 3 are paved with crushed bluestone and serve as paths for pedestrians and runners. The embankment between Basins 1 and 2 is currently fenced off and not accessible to the public.

The three basins are now thickly filled with vegetation, some native and some invasive species. The vegetation has grown through the stone facing on the inner embankments, which is visible in many places. Basin 2 is filled with water, which supports various birds and other animals, but it is choked with invasive phragmites. There are native and non-native plants along the walls of the basin.

A portion of the original cast-iron fencing remains between Basins 1 and 2. That fencing, produced at the Hecla Iron Works in Williamsburg, Brooklyn, is identical to fencing installed at the same period around the Central Park Reservoir.⁴ Modern fencing made to replicate the original has been installed in various areas along the path between Basins 2 & 3.

GATEHOUSES & APPURTENANCES

Two nearly identical brick gatehouses stand at the north edge of the site and are the only completely aboveground structures remaining. Both gatehouses are brick, built in a simple Romanesque revival style, with arched doorways and windows, and include some intricate brickwork at the cornices. Otherwise, they are unornamented.

One gatehouse is commonly referred to as Gatehouse No. 2. (It has also been called Gatehouse No. 27.) It served both Basins 1 and 2 and is situated at the northern end of the dividing wall between them. Gatehouse No. 2 was constructed between 1857-1858 as part of the original reservoir. It measures approximately 52 feet long by 13 feet wide and is divided into two distinct types of construction. The east end of the building has a timber-framed roof over a valve pit, and measures 31 feet by 13 feet wide. The valve pit walls are granite masonry

² "Mr. Dalton's Report Sent to Mayor," *Brooklyn Daily Eagle*, February 18, 1899.

³ Brainard, The Water Works of Brooklyn, 25-27.

⁴ Save Ridgewood Reservoir, "Reservoir Fencing," May 25, 2010, Available at http://ridgewoodreservoir.blogspot.com/2010/05/>.

(Expires 5/31/2012)

Ridgewood Reservoir Name of Property Queens & Kings Co., NY County and State

blocks, which serve as the foundation for the brick masonry superstructure. The west side of the building is a brick masonry superstructure with a flat concrete roof. The exterior measures approximately 21 feet long by 13 feet wide and housed the former chlorine tank room and chlorinator room. It appears to be built on a shallow foundation with a concrete slab-on-grade building. Two iron control valves rise from the concrete on the south side of the gatehouse. These were used to control the flow of water from the reservoir through the gates and into the water mains.

Gatehouse No. 3 serves Basin 3 and sits at its northern edge. It was completed in 1891. It is 52 feet long at the north face and, like Gatehouse No. 2, has two different types of construction. The east end of the building measures 28 feet long by 28 feet 4 inches wide and houses the below grade valve pit in a granite block dry well. The west side of the building measures 23 feet 9 inches long by 12 feet 6 inches wide and housed the former chlorinator rooms. Below grade and reaching to the floor of Basin 3 is a granite foundation with four rusted iron gates about 4 feet tall by 3 feet wide and 1.5 inches thick. Two gates are situated close to the floor of the basin and two are approximately ten feet above. The water was routed through these gates into the distribution system under the streets of Brooklyn. The control valves for the gates are located inside the building.

Today the gatehouses are sealed and fenced off, and both are in considerable disrepair. According to field investigations performed by GZA GeoEnvironmental of New York on behalf of Mark K Morrison Associates for the NYC Parks Department in March 2017, both gatehouses display evidence of deterioration and damage to the brick masonry, with deterioration of the mortar at various locations on the exterior of the buildings.⁵ Vegetation is growing from some mortar joints and along the edges of the roof. The wood roof trusses and decking are in poor condition from water damage and rot.

These are the only above ground structures remaining. The pump stations below the moraine were demolished in mid-20th century; all that remains to mark their existence is a street named Force Tube Avenue, which runs along the line where the pipes once connected the pump stations to the reservoir. There were several other original aboveground structures, which no longer exist. The original Reservoir Keeper's House dating from 1858 was demolished in the 1930s to make room for the Interborough Parkway (now the Jackie Robinson Parkway). A second Keeper's House was built in 1940 on the eastern edge of Basin 1 to replace the original. That was torn down in the early 1990s. The site has been in its current configuration (with only the two gatehouses remaining) since the 1940s.

INFLUENT AND EFFLUENT CHAMBERS, AND APPURTENANCES

In addition to the gatehouses, other significant elements of the engineering infrastructure remain in Basin 3. Two of the original 6-foot diameter steel pipes, through which water was pumped from below, are in place in the south wall of the Basin 3. The granite-lined influx (stilling) chamber remains at the southern edge, its original function evident in its form. The influx (stilling) chamber located on the south wall of Basins 1 and 2 is still visible, but it has suffered some deterioration compared with that in Basin 3. Both influx chambers are built into the walls of basins.

⁵ GZA GeoEnvironmental of New York, "Asbestos and Hazardous Materials Survey, Basin 1 & 2 Efflux Chamber and Basin 3 Efflux Chamber, Highland Park/Ridgewood Reservoir Dam," March 9, 2017; "Visual Structure Evaluation, Basin 1 & 2 Efflux Chamber and Basin 3 Efflux Chamber, Highland Park/Ridgewood Reservoir Dam," March 9, 2017.

Ridgewood Reservoir Name of Property

HISTORIC INTEGRITY

(Expires 5/31/2012)

Queens & Kings Co., NY County and State

After more than 150 years, the site retains visible elements of its historic use and character and maintains its historic integrity in that all the elements of the water system survive in their original location and setting. The Reservoir's original organization, materials, and many of its key structures remain in place. Aside from the bricked-up windows in the gatehouses and the concreted openings to the conduits (all likely installed to prevent trespassing), the physical elements and materials are unchanged. The basins of the reservoir are now thickly overgrown with trees and other vegetation, some of which is native to the area, but the outlines of the reservoir basins are clearly visible. The tops of the embankments are now actively used as pedestrian and running paths, and the gatehouses stand in silent testament to the significance of these water-works to the history and growth of Brooklyn. Today, the Ridgewood Reservoir stands as one of the most significant unprotected pieces of nineteenth century urban infrastructure extant in New York City.

Ridgewood Reservoir

Name of Property

(Expires 5/31/2012)

Queens & Kings Co., NY County and State

8. Statement of Significance

Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)



Property is associated with events that have made a significant contribution to the broad patterns of our history.



С	Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack
	and distinguishable entity whose components lack individual distinction.



Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations

(Mark "x" in all the boxes that apply.)

Property is:

	A	Owned by a religious institution or used for religious purposes.
	В	removed from its original location.
	С	a birthplace or grave.
	D	a cemetery.
	Е	a reconstructed building, object, or structure.
	F	a commemorative property.
	G	less than 50 years old or achieving significance within the past 50 years.

Period of Significance (justification)

Criteria Considerations (explanation, if necessary)

Areas of Significance

(Enter categories from instructions.)

Engineering

Community Planning and Development

Period of Significance

1856-1959

Significant Dates

1856-1959

1891

1858-1959

Significant Person

(Complete only if Criterion B is marked above.)

Cultural Affiliation

Architect/Builder

H.S. Welles & Co.

James P. Kirkwood

(Expires 5/31/2012)

Ridgewood Reservoir

Name of Property

Queens & Kings Co., NY County and State

Statement of Significance Summary Paragraph (Provide a summary paragraph that includes level of significance and applicable criteria.)

Summary

The Ridgewood Reservoir is significant under criterion A in the area of community planning as the main distributing reservoir for the City of Brooklyn in the second half of the nineteenth century. The water it provided allowed the City of Brooklyn to grow from 96,838 in 1850 to 806,343 in 1890 and to become the third largest city in the country; when Brooklyn became part of New York City in 1898, its population was approaching 1.1 million. The water supplied the steam engines that made Brooklyn an industrial powerhouse, and that same water allowed Brooklyn to become the largest beer producing city in the United States. Its period of significance is from 1856, when construction began, to 1959, when it was no longer an active element in New York City's water supply system and the basins were relegated to reserve status for use in emergencies only. The three stone-faced basins collected the water for distribution into all of Brooklyn, and water flowed from the reservoir for a full century, from 1859 to 1959. The reservoir was officially decommissioned in 1989.

The Ridgewood Reservoir is also significant under criterion C in engineering as the last surviving component of the first great infrastructure project undertaken by the City of Brooklyn – the building of a water supply system from the south side of Long Island to the homes and businesses of her citizens. The Ridgewood water system stretched from ponds and streams in Massapequa to a distributing reservoir overlooking Prospect Park and into the water mains under the streets of Brooklyn. Today, almost nothing of the original system remains beyond the Ridgewood Reservoir itself. The conduit is no longer in use but remains underground (Conduit Avenue, Force Tube Avenue and Aqueduct Racetrack reference their origins); the pumping stations that housed the steam engines that pushed the water up the terminal moraine to the reservoir were demolished in the 1940s and 1966. The stone water tower and distributing reservoir on Mount Prospect adjacent to Prospect Park are no more. In sum, nothing remains of the City of Brooklyn's water system within the City of New York except the Ridgewood Reservoir. The site reflects an important part of Brooklyn's engineering history, urban history, and environmental history, and demonstrates how those histories are intertwined.

Context

The Dutch first settled the area that became Brooklyn in the 1630s. The English gained control over New Netherland in 1664 and in 1683 created Kings County, divided into six townships: Brooklyn, Bushwick, New Utrecht, Gravesend, Flatbush, and Flatlands (New Lots was created in 1852). As New York grew into a city in the 18th century, Brooklyn remained largely rural. In 1816, the most densely settled part of Brooklyn, located directly across the East River from lower Manhattan, was incorporated as a village, and in 1834 the village and town became the City of Brooklyn. The city of Williamsburgh, an industrial section located along the East River immediately north of Brooklyn, was created in 1851 out of the Town of Bushwick. In 1854, Brooklyn annexed Williamsburgh and Bushwick, and between 1886 and 1896 annexed the other towns, so that the City of Brooklyn became coterminous with Kings County. In 1898, the City of Brooklyn ceased to exist and Kings County became one of the five boroughs of Greater New York.⁶

Brooklyn was always tied to New York economically and culturally, of course, but until 1898 it was politically independent and pursued its own interests. Brooklyn looked east to Long Island, its natural hinterland, for the resources necessary for a growing city. In the 1830s the leading citizens of Brooklyn built the first railroad on Long Island, connecting the abundant agricultural lands of Queens and Suffolk with markets on the East River.

⁶ Margaret Latimer, "Brooklyn," in *Encyclopedia of New York City*, 2nd edition (New Haven: Yale University Press, 2010), 168-173.

(Expires 5/31/2012)

Queens & Kings Co., NY

County and State

Ridgewood Reservoir Name of Property

In the 1850s, Brooklyn tapped sources on the south side of Long Island to supply water for her growing population.

New York had confronted the same problem decades before; with its greater urban density, Manhattan's water problem became acute by the last decade of the 18th century. The quality and quantity of well water was of course an issue, but two specifically urban problems pushed the city to build the extensive Croton system. The first was disease. Epidemics regularly visited New York, especially yellow fever and cholera. After the yellow fever epidemic of 1798, which claimed 2,000 lives, a report investigating the outbreak concluded, "In suggesting the means of removing pestilential diseases, we consider a plentiful supply of water as one of the most powerful, and earnestly recommend that some plan for its introduction into this city, be carried out as soon as possible." Cholera visited the city in 1832; half of the reported 6,000 cases were fatal, and almost half the population fled the city. By contrast, Philadelphia, which had a functioning municipal water system, suffered only 900 dead during that cholera epidemic.⁷ Obviously, such a dangerous disease environment had an adverse impact upon the city's economic health.

New York City also suffered disastrous fires. The blaze in 1776 destroyed almost a quarter of the city. There were 110 serious fires in 1834 alone (this in a city with many wooden buildings), and the fire of December 1835 consumed 17 entire blocks, destroying 654 structures. Lost also were hundreds of businesses and thousands of jobs, and several insurance companies failed. After the fire in 1835, the Common Council allocated funds for the Croton reservoir and aqueduct to provide clean and reliable water to city residents and businesses. Remarkably, it was completed in less than seven years.⁸

In 1799, Aaron Burr received a charter to supply water to the city, but his Manhattan Water Company was more interested in banking than in providing water to citizens (it is the ancestor of the Chase Manhattan Bank); the water was expensive and of poor quality. After that unhappy experience, civic leaders determined that the project should be a public undertaking and the resource always a public benefit:

The control of the water of the City, should be in the hands of this Corporation [the City of New York], or in other words, in the hands of the people. From the wealthy and those who would require the luxury of having it delivered to their houses; and from the men of business, who would employ it in their work shops and factories, the revenue should be derived. But to the poor, and those who would be content to receive it from the hydrants at the corners and on the sidewalks, it should be as free as the air, as a means of cleanliness, nourishment and health. In the hands of any other power than the Common Council, this free use would be restrained, and the experience of all other Cities (and our own may be included) teaches us the sad lesson that the trust of this power would be abused.⁹

From the earliest settlements in the 17th century, residents of Brooklyn and the rest of Kings County got their water from wells, as did Manhattanites before completion of the Croton System in 1842. But as transpired in Manhattan, the increasing urban population eventually outgrew this resource. The water table was dropping faster than the aquifer could be replenished, and wells were being polluted by human and animal waste. In 1843, soon after completion of the Croton Aqueduct, a prominent medical man, Dr. Charles A. Lee, observed:

⁷ Nelson Manfred Blake, *Water for Cities: A History of the Urban Water Supply Problem in the United States* (Syracuse: Syracuse University Press, 1956), 45-48, 93, 131-133.

⁸ Jeffrey A. Kroessler, "Water for the City," in *The Old Croton Aqueduct: Rural Resources Meet Urban Needs* (Yonkers, NY: The Hudson River Museum of Westchester, 1992), 9-16.

⁹ Blake, *Water for Cities*, 140-141.

Ridgewood Reservoir Name of Property Queens & Kings Co., NY County and State

It is fearful to contemplate the amount of decomposing organic matter contained in the wells in the vicinity of Trinity, St. Paul's, and St. John's burying grounds, which for more than a century furnished the only water used by those residing in their neighborhood. No one can doubt that the use of such water, as well as that from the wells on the Collect, and over the greater portion of the city below Canal-Street, must have proved extremely detrimental to the health of the citizens, and especially to children, and infants¹⁰

Soon after the City of Brooklyn was incorporated in 1834, the water question became a public concern. Initially the city planned to dig wells around Fort Greene and pump the water into a reservoir atop the hill. A decade of inaction followed. In 1849 a report found that "Brooklyn well-water contained 18 ½ grains of solid matter to the gallon, or 14 1/8 grains more than the Croton water, and hence was ill adapted to domestic use."¹¹ Because well-water was contaminated, Brooklyn had to look beyond its municipal boundaries for its supply. In 1851, with the city's population approaching 100,000, the Brooklyn Common Council finally initiated the legal and financial actions necessary to build its water system.¹²

Brooklyn first had to contend with the Williamsburg Water Works Company, a private company chartered in 1852 (it became the Long Island Water Company in 1853) that developed a similar plan. Though it had been understood that the Williamsburg company would tap supplies on the north side of the terminal moraine only, not the Atlantic side where Brooklyn had conducted surveys, the company had in fact preempted Brooklyn's plans by securing control of ponds and springs across the south side of Queens County sufficient to supply nearly 63 million gallons a day. In September 1852, General Ward B. Barnett completed the first plan for the system for the private company. An open conduit would bring water from Long Island to a pumping station in East New York that forced the supply up to a distributing reservoir situated where the Ridgewood Reservoir would be constructed.¹³ This was the same general plan for the system that the City of Brooklyn would build. Thus by getting control of the water sources and having engineering plans in hand, the company was poised to supply Brooklyn and Williamsburg on its own terms, or to compel the cities to buy them out.

Following New York's lead, the City of Brooklyn was consistent in pushing for public ownership and control. "The experience of other cities which have been supplied by private companies," the Water Committee reported, "has been generally unsatisfactory, and that sooner or later the public sentiment has demanded that the work should be under public control."¹⁴ In terms of urban history, this represents an important step in the rise of the modern city – municipal investment and ownership as opposed to contracting with and relying upon private entities. Similar stories can be told about the development of municipal and statewide power systems.

The consolidation of the City of Brooklyn, the City of Williamsburg, and the Town of Bushwick into a single city resolved this unacceptable situation of a private company monopolizing an essential resource. The legislature passed the consolidation bill in mid-1853, and the new city charter took effect on January 1, 1855. The charter included a provision allowing the city to acquire control over private water companies. In anticipation, in March 1854, the metropolis began negotiations to buy out the "interest, property and effects" of

¹⁰ Fayette B. Tower, *Illustrations of the Croton Aqueduct* (New York: Wiley & Putnam, 1843), 138-139.

¹¹ Brainard, The Water Works of Brooklyn, 5-6.

¹² Brainard, *The Water Works of Brooklyn*, 5-6; Jeffrey A. Kroessler, "Brooklyn's Thirst, Long Island's Water: consolidation, local control, and the aquifer," *Long Island History Journal*, Vol. 22-1, 2011.

¹³ Henry R. Stiles, *The Civil, Political, Professional and Ecclesiastical History and Commercial and Industrial Record of the County* of Kings and the City of Brooklyn, N.Y., from 1683 to 1884 (New York: Munsell & Company, 1884), Vol. I, 584-591.

¹⁴ Brainard, *The Water Works of Brooklyn*, 6-9; *New York Times*, April 19,1852; January 7, 1853; March 5, 1853; April 28, 1853.

(Expires 5/31/2012)

Ridgewood Reservoir Name of Property Queens & Kings Co., NY County and State

the Long Island Water Company. But selling the idea of paying for a water system extending east into Long Island to the voters was not easy. In 1853 and again in 1854, Brooklynites voted down plans submitted by the Water Committee over concerns about cost.¹⁵ Under the new charter, however, the city was authorized to gain control over private water companies without voter approval. In 1856 Brooklyn began issuing municipal bonds to fund the purchase of the private water company. And the price was not as outrageous as anticipated because the company's rights to the Long Island streams would "soon lapse in consequence of their failure to exercise it."¹⁶ Clearly, the incorporators of the Williamsburg Water Works had intended all along to force Brooklyn to buy them out, as indeed happened.

While cost was a concern, Long Island did present the best source of reliable water. The south side of Long Island, the outwash plain below the terminal moraine that marked the limit of the last glacier, indeed offered great promise. The drainage basin to be tapped covered 60 square miles. In his 1873 history of the water works, engineer George Brainard wrote, "Layers of fine, uniform-grained sand, beds of pebbles and gravel, and occasionally local deposits of clay in thin strata, characterized the ground to great depths. Through this porous material the waters flow toward the ocean, bursting forth at various points in springs, forming streams of singular clearness and purity." The rainfall of many centuries saturated the sand, and "from the extreme slowness with which the water finds its way through the water-bearing stratum, that the flow from the springs deriving their water from it is not perceptibly affected either by storm or drought."¹⁷ The natural landscape and geology offered the right conditions for an ample and reliable supply of good quality water, at least for the foreseeable future.

In 1856, Brooklyn issued municipal bonds to fund the purchase of \$1.3 million in stock of the new Nassau Water Company, incorporated on April 25, 1855 as successor to the Long Island Water Company, and construction commenced at once on the reservoir and conduit. The city entered into a contract with H.S. Welles to construct within two years a system delivering 20 million gallons per day (mgd).¹⁸ The chief engineer was James P. Kirkwood, and he saw the project through to completion.

Six reservoirs were originally planned and completed: Baisley's, Simon-son's, Clear Stream, Valley Stream, Pines, and Hempstead. Each was named by the source of its feeding stream.¹⁹ The ponds were drained to remove hundreds of thousands of cubic yards of mud and rotting vegetation that had settled on the sandy bottom. Initially, water from Baisley and Simonson's ponds was thought to be a sufficient supply, but by the 1860's the works had to be extended eastward to Hempstead Pond.²⁰ Demand for water kept increasing due to increased population and increased per capita consumption, as well as the demands of Brooklyn's thriving industries and breweries. A major factor in the increased demand was that beginning in the 1860s indoor plumbing and flush toilets became more widespread. To meet this demand, nine additional reservoirs were added and the system eventually reach east to Massapequa Pond (built 1888) on the Nassau and Suffolk County border. The water sources were, from west to east, Springfield Pond, Watts Pond, Smith Pond, Millburn Pond, East Meadow Pond, Matowa Pond, Wantagh Pond, Seaman Pond, Massapequa Pond.²¹

¹⁵ Brainard, The Water Works of Brooklyn, 6-9.

¹⁶ New York Times, March 29, 1854; May 30, 1854.

¹⁷ Brainard, *The Water Works of Brooklyn*, 10-12.

¹⁸ Brainard, The Water Works of Brooklyn, 8.

¹⁹ Arthur S. Tuttle, The Brooklyn Water-Works, 1865-1949 (Brooklyn Engineers' Club: 1897), 68.

²⁰ Brainard, The Water Works of Brooklyn, 13-18.

²¹ Edward H Hall, *The Catskill Aqueduct and Earlier Water Supplies of the City of New York* (New York: Mayor's Catskill Aqueduct Celebration Committee, 1917), 73.

(Expires 5/31/2012)

Ridgewood Reservoir Name of Property Queens & Kings Co., NY County and State

To supplement the water from the fifteen reservoirs, 25 ground water pumping stations were built that consisted of both traditional wells and driven wells. Driven wells are employed in sandy soil and use an array of vertical metal pencil-shaped mesh pipes that act like straws to suck the water out of the ground; they are driven into the aquifer and attached to pumps to draw the water up to the surface. The remnants of at least one such well still exists at Watts Pond in Valley Stream.²²

An aqueduct was built to convey the water from east to west along what is now Sunrise Highway and Conduit Avenue. Constructed with brick, it was 5 feet high and 4 feet, 10 inches wide and shaped like an inverted horseshoe, similar to the Croton Aqueduct built in 1842. The aqueduct was originally planned to be an open channel but the design was changed and it was instead built below grade for security reasons and to prevent the water from freezing in the winter as the 4 foot layer of dirt above it acted as insulation.²³

The topography of southern Nassau and Queens counties is so flat that the water had to be pumped through the aqueduct by steam engines at coal fired pumping stations located next to each reservoir. The fuel costs were substantial. In 1917, the year that Catskill water was connected to the Ridgewood Reservoir directly, the City of New York saved \$500,000 in fuel (coal) costs because Catskill water was delivered by gravity and did not require pumping.²⁴ The largest and most impressive of the pumping stations was the no longer extant Milburn Pumping Station. The Brooklyn aqueduct terminated at the pumping station at what is now the corner of Atlantic Avenue and Logan Street. There, two pumping stations, one built in 1858 and the other in 1891, would pump water up to the reservoir 164 feet above via pipes that run along Force Tube Avenue (street still extant).

In early 1856, the city purchased Snediker's cornfield for the site of the system's primary reservoir, the site had been identified in the first tentative plan of 1851. On July 31, 1856, Brooklyn Mayor George Hall thrust the first shovel into the ground at the groundbreaking ceremony for the Ridgewood Reservoir, named for the easternmost water source in Queens County, then called Ridgewood, now Wantagh (this was part of Queens until the creation of Nassau County in 1899). A minister told the assembled crowd, "This day our Mayor, like Moses in the wilderness, strikes the desert spot, and the gladdened stream is to come forth and bless the people."²⁵

Dug out of natural basins on the moraine, the reservoir survives as an example of mid-19th century urban infrastructure. The floor of each basin was a mixture of clay (to keep the water in) and sand (to deter voles from burrowing holes); the inner slopes are covered in broken stone set in a bed of gravel and stone-chips. Functional engineering elements like the influx chamber and the gates and the foundations of the gatehouses were built of granite and are still extant. While the basin had a purely functional design, the reservoir also served as a recreational ground from its beginnings, with walkways overlooking the basins. This was not uncommon for

²² Amy Bentley, "The Well at Watts Pond," Long Island Herald, June 21, 2017.

²³ The Board of Water Commissioners, *The Brooklyn Water Works And Sewers. A Descriptive Memoir* (New York: D. Van Nostrand, 1867), p. 15, Plate N. 20.

²⁴ Board of Water Supply of the City of New York, *Catskill Water Supply: A General Description and Brief History* (New York: Board of Water Supply, 1917), 21.

²⁵ *New York Times*, August 1, 1856; New York City Department of Parks, "Ridgewood Reservoir: a Brief History," available at <<u>https://www.nycgovparks.org/parks/highland-park/highlights/19651>.</u>

(Expires 5/31/2012)

Ridgewood Reservoir Name of Property Queens & Kings Co., NY County and State

elements of a city's water system, an object of civic pride. The Manhattan reservoir at 42nd Street attracted a constant stream of strollers, as did High Bridge across the Harlem River.²⁶

The construction of the water system, including the Ridgewood Reservoir, additional storage reservoirs, conduit, pumping stations, and the distribution system under the streets of Brooklyn was an inspiring engineering feat, and it was accomplished in just two and a half years. Water was pumped up to the reservoir, and then gravity carried the water from the reservoir into the mains under the streets of Brooklyn and into homes, businesses, and fire hydrants. The reservoir atop the moraine was the fulcrum of this impressive system that transformed both Long Island to the east, the source of the water, and to the west, Brooklyn, which underwent an extraordinary burst of urbanization and industrialization.

The Ridgewood Reservoir began filling on November 18, 1858, and in December water was flowing into the city's newly installed water mains. By January 1859 the fire hydrants were functioning and residents who had paid to be connected to the new mains could enjoy fresh water in their homes. A sewage system was also built starting in 1858 to carry the water away from people's homes to nearby streams or the East River. On April 28, 1859, the justifiably proud city staged a massive celebration: a five-mile long parade with thousands of participants, including elected officials, fire companies, military regiments, and tradesmen. The crowd heard speeches by Peter Cooper, Governor Edwin D. Morgan, and officials from Philadelphia, Boston, Buffalo, Richmond, Baltimore, and Hartford. The setting featured a triumphal arch, and a new ornamental fountain in front of city hall demonstrated the accomplishment in grand fashion, as the water pressure pushed the spout high above the crowd. After dark there was a glorious fireworks display.²⁷

In 1883, the total cost of the system was reported as \$11,743,393.22. The main conduit stretched 12.39 miles east from the reservoir. When the system opened in 1859 there were 126,916 miles of pipes and mains under the city streets and 800 hydrants; by 1883, it had grown to 231,106 miles of pipes and 2,170 hydrants.²⁸

Without question, the water system facilitated Brooklyn's growth. From a population of 266,661 in 1860, the city of Brooklyn grew to 806,343 in 1890, a three-fold increase. A ready supply of pure water may not have caused all this growth, but it would have been impossible without it. Brooklyn attracted industry, which consumed enormous quantities of water. Sugar refineries and breweries used hundreds of thousands of gallons a day.²⁹ The age of steam was also the age of water, and, by the 1880s, Brooklyn had become the fourth largest manufacturing center in the nation. In terms of the traditional concerns of urban history, it becomes impossible to understand political and economic issues without considering the impact of an efficient water supply.

Between 1862 and 1871, the city's average daily consumption increased from about 5 million gallons to 19 million gallons, the maximum capacity of the original works. Civil engineer Augustus Kurth concluded that "we can point out with certainty the time, near at hand, when our conduit, which has been constructed with a capacity to deliver 40,000,000 gallons in 24 hours, will not be sufficient to supply the needed want of water."³⁰

²⁶ Laura Vookles Hardin, "Celebrating the Aqueduct: Pastoral and Urban Ideals," in *The Old Croton Aqueduct: Rural Resources meet Urban Needs* (Yonkers: The Hudson River Museum of Westchester, 1992), 49-56.

²⁷ New York Times, April 29, 1859; Brooklyn Eagle, May 13, 1932.

²⁸ Henry R. Stiles, The Civil, Political, Professional and Ecclesiastical History and Commercial and Industrial Record of the County of Kings and the City of Brooklyn, N.Y., from 1683 to 1884 (New York: Munsell & Company, 1884), Vol. I, 590.

²⁹ Brainard, *The Water Works of Brooklyn*, 41; Margaret Latimer, "Brooklyn," in *Encyclopedia of New York City*, 2nd edition (New Haven: Yale University Press, 2010), 168-173.

³⁰ Augustus Kurth, "Report of Civil Engineer Augustus Kurth, 1 October 1873," (Brooklyn: City of Brooklyn, 1873).

(Expires 5/31/2012)

Ridgewood Reservoir Name of Property Queens & Kings Co., NY County and State

In 1882, demand had reached nearly 35 million gallons a day (mgd). To keep up with increasing demand, the city built a third basin adjacent and to the west of the first two where there was a natural pond. This third basin was constructed in the same way as the other two basins, with a clay and sand base and stone facing. A gatehouse was built at the north edge of Basin 3 next to the original Reservoir Keeper's House. A new stilling chamber, where grit was allowed to settle from the water that entered the reservoir from the force mains, was also constructed on the southern edge. Basin 3 had a capacity nearly equal to that of the first two basins combined and therefore required a new pumping station to be built on the north side of Atlantic Avenue across the street from the first. Completed in 1891, the new basin with its pumping station increased the capacity of the Ridgewood Reservoir from 161 million gallons to 293 million gallons.³¹

Even after this expansion, however, supply barely kept up with demand. In January 1896, Commissioner of City Works Alfred Treadway White issued a report on the prospects for future supply for a system nearing capacity.³² The report stated that the water system had a capacity of 94 mgd; by 1899 daily use by the almost 1.2 million residents had reached 92 million gallons. With its population steadily growing and no additional sources or supply on the horizon, Brooklyn was facing a severe crisis. When the original system reached its limit of 19 mgd, Brooklyn was still able to acquire additional ponds further east and dig wells. Such an option was no longer available by 1900. In his 1896 report, Alfred Treadway wrote, "While the cities across the river feel that Brooklyn should hold to Long Island as its source of supply, our neighbors on the Island take an opposite view. Brooklyn must protect itself, but should give a fair hearing to these conflicting interests and serve itself with the least harm to others." That year, the governor signed a new law sponsored by a Suffolk legislator that would require Brooklyn to obtain approval from the Suffolk County commissioners prior to expanding its system, an unlikely prospect.³³ Brooklyn was effectively without options. To illustrate just how inadequate Brooklyn's original system would have been in the face of continued population expansion, by 1961 the 4.5 million residents of Brooklyn and Queens, together with local industries, consumed 640 mgd.³⁴ That is more than six times the capacity that Brooklyn's turn-of-the-twentieth century Water Works could supply.

As a historic monument to urban engineering and municipal infrastructure, the Ridgewood Reservoir is undoubtedly significant. But it also provides entrée into the history of municipal politics and the story of how Brooklyn became one of the five boroughs of the City of New York. In the years leading up to consolidation in 1898, debate over the proposed merger of Brooklyn, western Queens, Staten Island, and the Bronx (then part of Westchester) with Manhattan was concentrated on political corruption and the influence of Tammany Hall. Others worried that conditions in the overcrowded, dangerous, and disease-ridden immigrant slums would spread. Business interests and their political allies saw the necessity of bringing all existing and potential port facilities under a single municipal authority. And there was an intangible – Brooklyn's looming loss of independence and identity. But the water question was perhaps the most important issue of all, for it was clear that Brooklyn's system was at the limit of its capacity, and with state law making it all but impossible for Brooklyn to extend its water system into Suffolk County no additional sources of supply were available. The only viable solution was for Brooklyn to connect to New York's system, which had excess capacity. Brooklyn

³¹ Stiles, The Civil, Political, Professional and Ecclesiastical History, 590.

³² Alfred Treadway White, "Report on Future Extension of Water Supply for the City of Brooklyn," (Brooklyn: Commission of City Works, 1896).

³³ White, "Report on Future Extension"; *Queens County Review*, March 13, 1896; June 6, 1896; *Brooklyn Daily Eagle*, July 17, 1896. ³⁴ N.M. Perlmutter and Julian Soren, "Effects of major water-table changes in Kings and Queens Counties, New York City,"

⁽Washington, D.C.: United States Department of the Interior, Geological Survey Research, 1962), E136.

(Expires 5/31/2012)

Ridgewood Reservoir Name of Property

became part of Greater New York in 1898, and plans to connect Brooklyn with New York's water system followed soon after.

That was finally accomplished in 1917, when the Ashokan Reservoir in the Catskills came on line; other reservoirs in the Catskills were opened later. A direct connection from the Catskill water supply was tied into the Ridgewood Reservoir, supplementing the supply from Long Island. Supply was further augmented when the Delaware Water System was completed in 1951 (that system of reservoirs and aqueducts tapped the drainage basin of the Delaware River and required negotiations with Pennsylvania and New Jersey over the flow allotted to each state).³⁵ This further expansion finally rendered the Long Island water sources redundant. As almost all of Brooklyn received its water from the upstate sources of New York City's system, the Ridgewood Reservoir was officially designated a reserve supply in 1959, to be used in emergencies only (as indeed happened during a drought a year later). The reservoir was formally decommissioned in 1989 and Basins 1 and 3 were drained. Basin 2 remained as a reserve supply, to be used to feed fire hydrants or in emergencies.

Year by year, more and more sections of Brooklyn were connected to New York's abundant water system and the need to use water from diminishing sources on Long Island lessened, with the result that a major impediment to Long Island's suburbanization was removed. Already by the 1920s, several of the Brooklyn Water Works' old reservoirs and the land surrounding them, such as Valley Stream and Hempstead, were transferred to the Long Island State Parks Commission, which was controlled by Robert Moses, and became state parks. These Long Island reservoirs were decommissioned and subsequently available for recreational use including fishing. The Southern State Parkway runs through the former water system and the remnants of Brooklyn's water sources are readily seen in following that route.³⁶

The water table dropped significantly across Long Island south of the terminal moraine as a result of Brooklyn tapping the ponds and streams. As early as 1858, immediately after pumping commenced, the owner of a mill below Baisley's Pond in Jamaica sued over the decreased flow through his tidal mill and the court ruled in his favor.³⁷ Farmers sued because streams flowing through their property were reduced to a trickle and their wells dried up, causing them to dig deeper for water.³⁸ With less fresh water flowing into the tidal creeks, they froze over, killing the valuable oyster beds.³⁹ The Brooklyn water system thus transformed the ecology of Long Island in many observable ways. The water table gradually rose, but after decades of pumping, the aquifer suffered a significant influx of saltwater.⁴⁰

When the third basin was built in 1891, the City of Brooklyn also acquired adjacent properties and created Highland Park. By 1894, the firm of Olmsted, Olmsted and Eliot was hired to design the drive and concourse on the southern portion of the land that the City of Brooklyn had purchased in 1891 to help protect the reservoir. (This would become Highland Park.) Frederick Law Olmsted, Sr. was enamored of the view from the reservoir

³⁵ Eric A. Goldstein, and Mark A. Izeman, "Water," *Encyclopedia of New York City*, 2nd edition (New Haven: Yale University Press, 2010), 1381-1386.

³⁶ Robert Caro, *The Power Broker: Robert Moses and the Fall of New York* (New York: Alfred A. Knopf, 1974), 157-159; Jeffrey A. Kroessler, "Long Island State Parks Commission and Jones Beach," in Kenneth T. Jackson and Hilary Ballon, editors, *Robert Moses and the Modern City: The Transformation of New York* (New York: W.W. Norton & Co., 2007), 158-160.

³⁷ New York Times, November 11, 1858; December 4, 1858.

³⁸ Frederick Reisert v. The City of New York, 174 N.Y. 196, 1903.

³⁹ N. Hallock, "The Water Supply of Long Island," The Island Review 7 (1899).

⁴⁰ Long Island Daily Press, February 14, 1958; New York Daily News, March 2, 1978; Perlmutter and Soren, "Effects of major watertable changes," E138-139.

(Expires 5/31/2012)

Ridgewood Reservoir Name of Property Queens & Kings Co., NY County and State

looking south to the ocean, writing in 1894 to Brooklyn Parks Commissioner Frank Squire, "...this public ground is to be distinguished far above any other in the United States by the grandeur of the view for which it offers opportunity over the broad and far-reaching expanse of the Atlantic." In the first decade of the 20th century, the Department of Parks enhanced the facilities there. But the reservoir itself was not part of a public park, even though it was located within the park.

After the final decommissioning of the Ridgewood Reservoir in 1989, local residents lobbied to have the site preserved just as it was, envisioning its potential as an environmental resource within a public park. Community Board 5 in Queens consistently supported such an outcome. The neighboring communities in Brooklyn and Queens are quite different in terms of demographics (race, income, nationality), but the Ridgewood Reservoir stands as a unifying local resource. Its potential as a verdant ecological and recreational option has yet to be fully realized.

In 2000, the city intended to drain Basin 2 completely in response to a West Nile virus scare. It was thought that the water in Basin 2 served as a breeding site for mosquitoes which carried the virus. The city drained the water to a depth of 3.5 feet when the community again spoke out against the city's plan. Local activists pointed out that draining the basin would leave puddles that would still serve as breeding sites for mosquitoes. The city decided then to stop draining the basin and instead stock it with Gambusia or "Mosquito Fish," which eat mosquito larvae. Basin 2 has since evolved into a thriving wetland. Today, 173 plant species are found in the three basins, including 3 species that are endangered; 156 bird species have been counted, not to mention the too numerous to count species of insects. The evolving fresh-water site has become an important nearby oasis on the Atlantic Flyway and has attracted bird watchers for decades.⁴¹ To neglect this serendipitous aspect of its environmental history is to omit a crucial dimension of the site's significance and importance to surrounding communities.

Nonetheless, it was not until 2004, fifteen years after the reservoir had been officially decommissioned and its ecology shifted, that the site was transferred from the Department of Environmental Protection (which has authority over water sources) to the Department of Parks.⁴² Residents of the surrounding communities cheered that development, for they had watched the site's transformation over the decades and had actively lobbied the city to maintain it in its current, quasi-natural condition.

But there was profound disapproval three years after the transfer when parks proposed a \$50 million transformation of the site into playing fields.⁴³ In 2007, Parks Commissioner Adrian Benepe announced new plans for the site that called for recreational facilities being built in the basins, with a running track and ballfields covered with artificial turf. Brooklyn and Queens residents of the surrounding communities who understood the Ridgewood Reservoir's unique value, fought the city by arguing that it was possible to secure both the historic reservoir and rehabilitate playing fields elsewhere in Highland Park. Significant opposition came from CB 5 in Queens, the Audubon Society, and historic preservationists who argued that the city should not destroy this intact historic site. After much public outcry, an unenthusiastic response from elected officials,

⁴¹ Ryan Goldberg, "Saving Queens' Secret Wetlands," Village Voice, June 27, 2017.

⁴² New York City Department of Parks and Recreation, "Highland Park," available at <https://www.nycgovparks.org/parks/highland-park/history>.

⁴³ Save Ridgewood Reservoir, "Save Ridgewood Reservoir," available at <www.ridgewoodreservoir.blogspot.com>.

(Expires 5/31/2012)

Queens & Kings Co., NY

County and State

Ridgewood Reservoir Name of Property

and a downturn in the economy, the parks department shelved the proposal and abandoned plans to compromise the historical integrity of the reservoir complex.⁴⁴

However, a new threat then emerged when, in 2011, the parks department announced a project to "decommission the Class C High Hazard Dam at Ridgewood Reservoir in Highland Park." The crux of the plan was to breach the walls of the reservoir in three places and build a construction access road across the floor of Basin 3 at a cost estimated at between \$3 million and \$10 million. This plan was in response to New York State's Department of Environmental Conservation contention that a storm of extreme magnitude could fill the reservoir in so short a time as to cause a breach that would result in the flooding of surrounding neighborhoods.⁴⁵ Again, loud public opposition arose and a united phalanx of local, state, and federal elected officials expressed their disapproval and demanded that the historic integrity of the reservoir be respected. In April 2017, the Department of Parks agreed to have the site reclassified by the Department of Environmental Conservation from Class C High Hazard to Class A Low Hazard, thereby permanently eliminating the need to breach the reservoir's stone-faced basins and destroying the ecosystem that had evolved there.⁴⁶ Finally, the city accepted that the most productive and desirable future for the Ridgewood Reservoir would be to maintain it in its current state, restoring the historic features and managing the wetlands and woods that have evolved on the floor of each basin while exploring the building of pathways descending into the basins.

For decades the Ridgewood Reservoir was all but invisible, if it is possible for three massive stone-face basins in the middle of a public park covering nearly 50 acres to be invisible. It was abandoned by the city, but even as it suffered from neglect, the site became greatly appreciated by local residents, school groups taking ecology tours and bird watchers. This historic site is now poised to undergo what is hoped to be a sympathetic restoration that will highlight and protect the engineering elements and architectural features still in place while respecting the emerging natural landscape.

⁴⁴ Colin Gustafson, "City Mulls Three Options for Ridgewood Reservoir," *Queens Chronicle*, February 20, 2007; William C. Thompson Jr., and Robert F. Kennedy, Jr., "A Wilderness, Lost in the City," *New York Times*, May 29, 2008; "Comptroller Rejects Contract to Turn Ridgewood Reservoir into Sports Fields," New York City Comptroller's Office, June 26, 2008.

⁴⁵ Save Ridgewood Reservoir, Archives, available at <http://ridgewoodreservoir.blogspot.com/2016/>.

⁴⁶ Save Ridgewood Reservoir, Archives, available at <http://ridgewoodreservoir.blogspot.com/2017/>.

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(Expires 5/31/2012)

Ridgewood Reservoir Name of Property Queens & Kings Co., NY County and State

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Previous documentation on file (NPS):

- ____preliminary determination of individual listing (36 CFR 67 has been requested)
- previously listed in the National Register
- previously determined eligible by the National Register
- designated a National Historic Landmark
- recorded by Historic American Buildings Survey #
- recorded by Historic American Engineering Record # ____
- recorded by Historic American Landscape Survey # _

Primary location of additional data:

State Historic Preservation Office Other State agency Federal agency Local government University Other Name of repository:

Historic Resources Survey Number (if assigned):

Ridgewood Reservoir

Name of Property

(Expires 5/31/2012)

Queens & Kings Co., NY County and State

10. Geographical Data

Acreage of Property 57.27 acres

(Do not include previously listed resource acreage.)

UTM References

(Place additional UTM references on a continuation sheet.)

1	18	594158	4505082	3	18	593964	4504442
	Zone	Easting	Northing		Zone	Easting	Northing
2	18	593794	4504933	4	18	594307	4504719
	Zone	Easting	Northing		Zone	Easting	Northing

Verbal Boundary Description (Describe the boundaries of the property.)

The boundary is indicated by a heavy line on the enclosed map with scale.

Boundary Justification (Explain why the boundaries were selected.)

The boundary for the Ridgewood Reservoir has been drawn to incorporate the three basins that comprise the Reservoir as well as the paths immediately surrounding the basins. It does not include Highland Park, which was constructed around the completed Reservoir basins during the early twentieth century and was not related to the function of the water system.

Name of Property



Ridgewood Reservoir

Name of Property



(Expires 5/31/2012)

Ridgewood Reservoir Name of Property



(Expires 5/31/2012) Queens & Kings Co., NY

County and State

11. Form Prepared By

name/title Jeffrey Kroessler, Matt Malina, Elissa Sampson & Gina Poll	lara (Edited by Jennifer Betsworth, NY SHPO)
organization NYC H20	date October 2017
street & number	telephone
city or town	state zip code
e-mail	

Additional Documentation

Submit the following items with the completed form:

• Maps: A USGS map (7.5 or 15 minute series) indicating the property's location.

A **Sketch map** for historic districts and properties having large acreage or numerous resources. Key all photographs to this map.

- Continuation Sheets
- Additional items: (Check with the SHPO or FPO for any additional items.)

Photographs:

Submit clear and descriptive photographs. The size of each image must be 1600x1200 pixels at 300 ppi (pixels per inch) or larger. Key all photographs to the sketch map.

Name of Property: Ridgewood Reservoir

City or Vicinity: Queens / Brooklyn

County: Queens & Kings Counties State: NY

Photographer: NYCH20

Description of Photograph(s) and number:

NY_Queens and Kings Co_Ridgewood Reservoir_0001 Aerial view of the Ridgewood Reservoir, Image via Google Maps, January 24, 2017

NY_Queens and Kings Co_Ridgewood Reservoir_0002 Ridgewood Reservoir (Basins 2 and 3), facing north. Drone Photographer, Ines Leong. November 2017.

NY_Queens and Kings Co_Ridgewood Reservoir_0003 Ridgewood Reservoir (Basins 1, 2 and 3), facing north. Drone Photographer, Ines Leong. November 2017.

NY_Queens and Kings Co_Ridgewood Reservoir_0004 Ridgewood Reservoir (Basins 1, 2 and 3), facing east. Drone Photographer, Ines Leong. November 2017.

NY_Queens and Kings Co_Ridgewood Reservoir_0005 Stairs ascending the west side of Basin 3 from the parking lot on Vermont Place. 2017. Facing east.

(Expires 5/31/2012)

Ridgewood Reservoir Name of Property Queens & Kings Co., NY County and State

NY_Queens and Kings Co_Ridgewood Reservoir_0006 The original fence on the east side of Basin 2, facing north. 2017.

NY_Queens and Kings Co_Ridgewood Reservoir_0007 Perimeter Path on the west side of Basin 3, facing south. November 2017.

NY_Queens and Kings Co_Ridgewood Reservoir_0008 Basin 2, facing east. November 2017.

NY_Queens and Kings Co_Ridgewood Reservoir_0009 Basin 2 with gatehouse on left and phragmites choking the water. Facing northwest. October 2016.

NY_Queens and Kings Co_Ridgewood Reservoir_0010 Gatehouse 2, facing north. Drone Photographer, Ines Leong. November 2017.

NY_Queens and Kings Co_Ridgewood Reservoir_0011 Gatehouse 2, southeast corner, facing north. November 2017.

NY_Queens and Kings Co_Ridgewood Reservoir_0012 Gatehouse 3, facing east. Drone Photographer, Ines Leong. November 2017.

NY_Queens and Kings Co_Ridgewood Reservoir_0013 Gatehouse 3, north elevation, facing south. November 2017.

NY_Queens and Kings Co_Ridgewood Reservoir_0014 Basin 1 influx, facing north. November 2017.

NY_Queens and Kings Co_Ridgewood Reservoir_0015 Inflow from Basin 1 to gatehouse, facing east. November 2017.

NY_Queens and Kings Co_Ridgewood Reservoir_0016 Influx for Basins 1 and 2 overgrown with plants, facing north. 2017.

NY_Queens and Kings Co_Ridgewood Reservoir_0017 Basin 3 influx, two six-foot diameter pipes, facing east. November 2017.

NY_Queens and Kings Co_Ridgewood Reservoir_0018 Intake to Gatehouse 3, facing north. November 2017.

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C.460 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Office of Planning and Performance Management. U.S. Dept. of the Interior, 1849 C. Street, NW, Washington, DC.

Ridgewood Reservoir Name of Property



Ridgewood Reservoir Name of Property

(Expires 5/31/2012)



G. Kraetzer, View of Brooklyn City Water Works, 1859

(Expires 5/31/2012)

Ridgewood Reservoir

Name of Property

Queens & Kings Co., NY County and State

RIDGEWOOD RESERVOIR

GROUNDS.



Van Nostrand, Ridgewood Reservoir, 1867

(Expires 5/31/2012)

Ridgewood Reservoir Name of Property

Queens & Kings Co., NY County and State



George Brainerd, Ridgewood Reservoir ca. 1887

Ridgewood Reservoir Name of Property

(Expires 5/31/2012)

Queens & Kings Co., NY County and State



Basin 3, ca. 1896

Ridgewood Reservoir Name of Property (Expires 5/31/2012)

Queens & Kings Co., NY County and State



Ridgewood Reservoir, ca. 1909

(Expires 5/31/2012)

Ridgewood Reservoir Name of Property Queens & Kings Co., NY County and State



Ridgewood Reservoir, aerial view, 1924

(Expires 5/31/2012)

Ridgewood Reservoir Name of Property

Queens & Kings Co., NY County and State



Ridgewood Reservoir Flow Plan, 1944

Ridgewood Reservoir

Name of Property

Queens & Kings Co., NY County and State



Ridgewood Reservoir, Gate House Plans, 1944