

ABSTRACT

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THE BRYANT STREET PUMPING
STATION AND THE MCMCILLAN PARK
RESERVOIR HISTORIC DISTRICT:
A QUESTION OF BOUNDARIES

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The McMillan Park Reservoir and Filtration Plant in northwest Washington, D.C., are rightfully designated as a local historic district, recognizing both their unique design and important role in the development and modernization of the city. However, the adjacent Bryant Street Pumping Station, an engineering marvel and Beaux Arts monument in its own right, and a resource which shares much of McMillan Park's historical significance, is excluded from the boundaries of the neighboring historic district. By researching the development of the national capital's water system, the history of the pumping station, and the process of designating McMillan Park, this project identifies why the Bryant Street Pumping Station was not considered a contributing element to the historic district. Understanding how these boundaries were initially drawn is key to ensuring that all potentially contributing elements are properly considered in the future, and ultimately lead to a greater appreciation for and preservation of the historic water infrastructure system of Washington.

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By

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“...one of the pillars upon which the Capital may well rest.”

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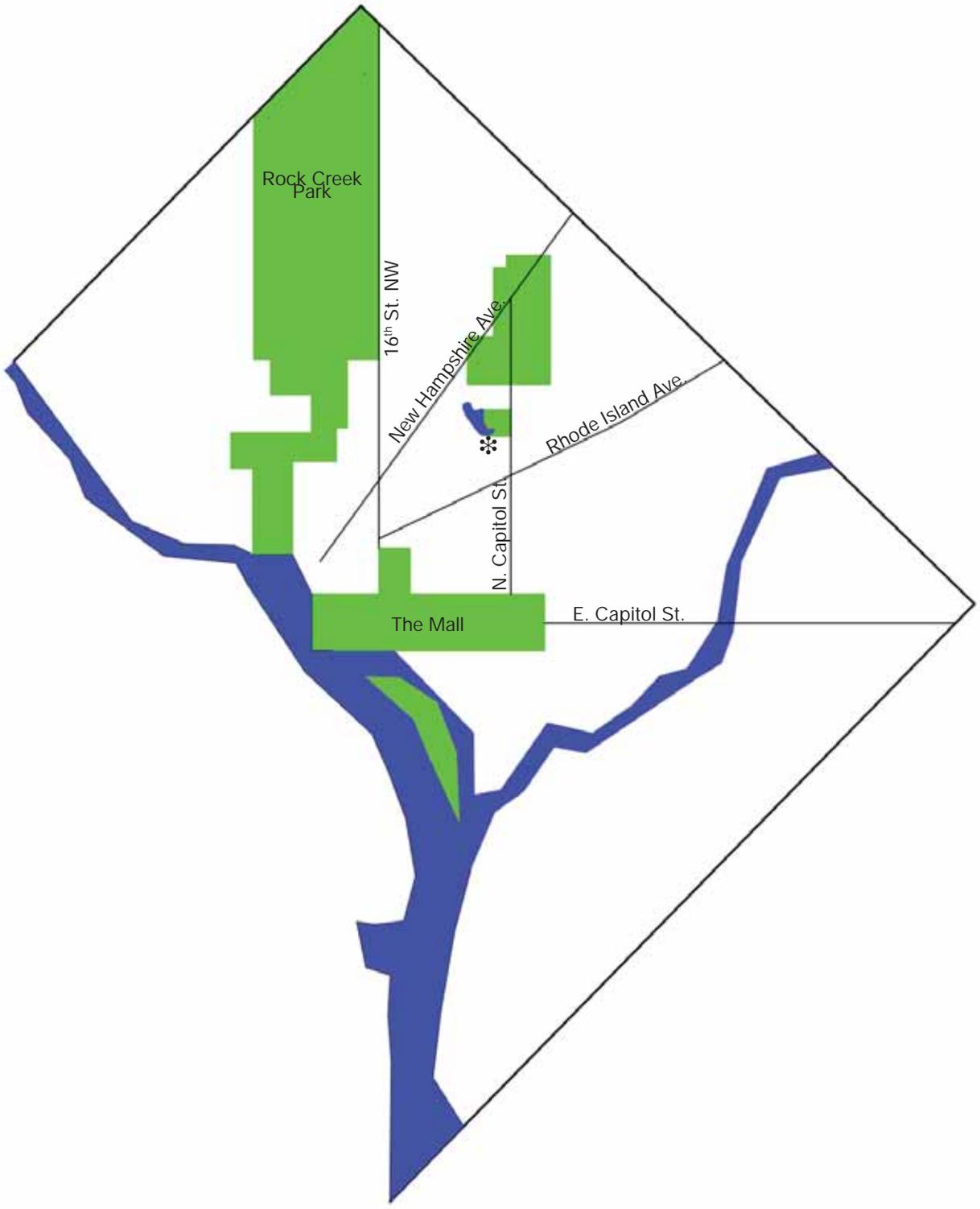


Figure 1: Schematic map of Washington, D.C.
* shows location of the Bryant Street Pumping Station



Figure 2: Aerial photograph of the Bryant Street Pumping Station and surroundings
Google Earth, 301 Bryant Street NW, Washington, D.C.



Figure 3: The Bryant Street Pumping Station
Photograph by the author, 2009.

CHAPTER 1

INTRODUCTION

In northwest Washington, D.C., a magnificent Beaux Arts building and civil engineering monument hides in plain sight. As a resident of the nearby LeDroit Park neighborhood, I have walked or driven past it dozens of times before finally stopping to read the sign out front—Bryant Street Pumping Station. To find that this grand structure with its rhythmic assembly of gables and arches housed a functioning municipal water-pumping station only raised more questions. Sitting adjacent to the locally designated McMillan Park Reservoir Historic District, the pumping station seems to share much of the same historical significance—the reservoir, the filtration plant, and the pumping station were all built at the turn of the twentieth century, and all contributed to the modernization of the city’s water supply—but to find that it was not considered a contributing element to the district was frankly surprising. Inspired, I set out to answer the question: why was the Bryant Street Pumping Station not included in the McMillan Park Reservoir Historic District?

The research began in earnest as little information on the pumping station is readily available—there is not any one document that offers a history of the pumping station, and simply getting a foothold on pertinent information proved difficult. I turned to the online archives of the *Washington Herald*, the *Washington Post*, and the *Washington Times*, and quickly found a wealth of information regarding the site’s construction, its early history, and its role in the city’s modern water supply. Next, the resources at the Washingtoniana Division of the Martin Luther King, Jr., Memorial Library provided a great foundation on the Washington Aqueduct and the need for the new pumping station, while the photo morgue of the *Washington Star* offered historical images of the station’s exterior and interior. The archives of the Historical Society of Washington, D.C., held unique sources detailing the typhoid fever outbreaks that ravaged the city after the Civil War, providing context for understanding the impetus behind the development of the

pumping station and the McMillan Filtration Plant.

The District of Columbia Historic Preservation Office (HPO) offered copies of the original McMillan Park Reservoir Historic District nomination forms and related reports. The Special Collections Research Center at the George Washington University's Gelman Library held the archives of the Committee of 100 on the Federal City, the organization that sponsored the nomination of the McMillan Park Reservoir Historic District. Through these records and correspondence with Anne Sellin, member of the Committee and author of the nomination form, I was able to finally answer my initial question.

While this project began asking a simple question about the boundaries of the McMillan Park Reservoir Historic District, I soon realized that there was a richer story to tell. Thus, this project focuses on three research questions:

- What is the history of the Bryant Street Pumping Station and what is its role in the modernization of Washington's water supply?
- Why was the Bryant Street Pumping Station specifically excluded from the adjacent McMillan Park Reservoir Historic District given their similar areas and periods of historic significance?
- Is there a framework around which a preservation strategy for the Bryant Street Pumping Station can be constructed?

Industrial and infrastructural sites such as the Bryant Street Pumping Station do not fit neatly within the traditional ideal of what constitutes a historically significant site. Specifically, the study of waterworks sites has long focused on aspects of environmental quality and the ethics of water accessibility—the recognition of these sites' historical and cultural importance has been recent and limited.¹ However, in researching for this project it became clear that the Bryant Street Pumping Station is more than a functional cog in the water supply system—it can be a lens through which to view the history of Washington.

As such, the following six chapters focus on Washington's first water sources, natural

1] Hunter, "Stewardship and Sustainability of Historic Waterworks Infrastructure," 8—9.

springs, and their inability to supply a growing capital; the typhoid fever epidemics which struck Washington in the latter half of the nineteenth century and the poor quality of unfiltered water; the construction of three key components to the modern water infrastructure: the Washington Aqueduct, the McMillan Reservoir, and the McMillan Slow Sand Filtration Plant; the construction of the Bryant Street Pumping Station; the process by which the McMillan Park Reservoir was designated a historic site, and why the Bryant Street Pumping Station was left out of the historic district; and finally, the Nizhny Tagil Charter for the Industrial Heritage will offer a basis for a preservation plan for the Bryant Street Pumping Station.

It is hoped that through this research the history of the Bryant Street Pumping Station can be better understood and the significance of Washington's water infrastructure can be better appreciated and preserved.

CHAPTER 2

EARLY WATER SOURCES IN THE DISTRICT OF COLUMBIA

As post-Civil War Washington grew, both in population and in prominence as the capital of a reunited country, the early water supply proved to be entirely inadequate for a city whose population leaped from 51,000 in 1850, to 276,000 in 1900.² The city's first potable water sources consisted of a series of natural springs. On his explorations of the Potomac Basin, Captain John Smith noted that the area was "fed...with many sweet rivers and springs," and Pierre L'Enfant would later identify "25 good springs of excellent water" that ran in even the driest of seasons.³ Five of the largest and most prominent historically include: Federal Spring, Caffrey's Spring, Franklin Spring, City Spring, and Smith Spring.

Federal Spring lay outside of the Washington city limits and in line with an extension of F Street Northeast, on property owned by Benjamin Stoddert. Stoddert, the first Secretary of the United States Navy, wished to keep his spring out of the new city's jurisdiction and he appealed to his close friend George Washington, who in turn advised L'Enfant to avoid the Stoddert property in his designs for the new capital city. This resulted in the "notch" in the plan's northeast corner. The spring, also known as Young's Spring, Stoddert's Spring, and Cool Spring, remained the last spring operated commercially in the District of Columbia—it was used as a water source by the Hygienic Ice Company as late as 1964.⁴

Caffrey's Spring, alternatively known as Caffray's Spring, Federal Spring (not to be confused with the above Federal Spring), or Hotel Spring, was located on the north side of F Street Northwest, between 9th and 10th Streets.⁵ Named for Reverend Anthony Caffrey of

2] Lee-Thorp, *Washington Engineered*, 74.

3] American Society of Civil Engineers, *A Guide to the Civil Engineering Landmarks of the National Capital*, 4.
Baume, "Springs, Wells, and Potable Water in the District of Columbia, 1790—1910," 5.

4] Bryan, *A History of the National Capital from its Foundation Through the Period of the Adoption of the Organic Act, Vols. I (1790—1814)*, 560.
Baume, 7—9.

5] Bryan, 559.



Figure 4: An early water pipe made from bored logs
Staff Photographer, *Washington Star*, *Untitled (Log Pipes, February 5, 1948)*.
© *Washington Post*, used with permission

Saint Patrick's Church, which purchased the site in 1794, the spring mainly served residential customers in the area.⁶

Franklin Spring, located in modern Franklin Square Park, bordered by I, 13th, K, and 14th Streets Northwest, was purchased by the federal government in 1832 to serve as the water source for the White House.⁷ The spring was also used as a source for the city's early water distribution network; pipes made of bored logs were run from the spring down 13th and F Streets to a public pump near the Treasury Building.⁸

Near the intersection of C and 6th Streets Northwest was City Spring, one of the first three public springs, along with Caffrey's and Franklin Springs.⁹ This spring was the source of the first underground water pipe in the District, which ran along Pennsylvania Avenue, between 6th and 7th Streets Northwest, paid for at the expense of the private landowners who tapped the line.¹⁰ It was also the source for the first publicly funded water line, which supplied Pennsylvania Avenue between 9th and 14th Streets Northwest.¹¹

Smith Spring, located on property owned by farmer John Smith just south of the Soldiers' Home and east of Howard University in a valley of Tiber Creek, was purchased by the federal government for \$40,000 to supply water to the Capitol, some 2.5 miles to the south.¹² By 1832, water was being piped from the spring to two brick reservoirs on either side of the Capitol, a system that remained in use until 1905.¹³ Pipes were also laid to service the Treasury Building in 1837.¹⁴ Though Smith Spring was further from the center of Washington (at the time) than

6] Baume, 9.

7] Guntheim, *The Federal City: Plans & Realities*, 16.
District of Columbia Department of Environmental Services, *By Broad Potomac's Shore: The Water and Sewerage Systems of the District of Columbia*, 3.
Olesen, "Demuddied Potomac Splashes From Your Spigot Thanks to 1000 Specialists Manning \$62 Million D.C. Plant," 11.

8] American Society of Civil Engineers, 4.

9] Guntheim, 16.
Olesen, 11.

10] Bryan, 562.

11] District of Columbia Department of Environmental Services, 3.

12] United States Army Corps of Engineers, *History of the Washington Aqueduct*, 2.
Ibid., 45.
American Society of Civil Engineers, 4.

13] United States Army Corps of Engineers, *History of the Washington Aqueduct*, 2.
American Society of Civil Engineers, 4.
Olesen, 11.

14] United States Army Corps of Engineers, *History of the Washington Aqueduct*, 2.

Federal Spring, and flowed at a much lower rate (estimated at 870 gallons per hour, compared to 9,900 gallons per hour), the spring's major advantage was its elevation, which provided greater water pressure. The added pressure from this elevated site would become critically important in later efforts to modernize Washington's water system.

Tiber Creek, with its headwaters on the Smith property, ran southeast, roughly paralleling present-day New Jersey Avenue Northwest, to the base of Jenkins Hill (Capitol Hill) where it made an abrupt turn to the west before emptying into the Potomac.¹⁵ L'Enfant initially had grand plans for the creek; his early designs would use the Tiber as a source of water for a series of five cascading fountains at the base of the Capitol.¹⁶ L'Enfant later proposed using a segment of the creek as the Washington Canal, eventually designed by Benjamin Latrobe in 1803, to serve the commercial needs of downtown, but the canal proved to be a flop, quickly filling with silt and garbage; by 1815 it was little more than an open sewer with only a few inches of running water. A culvert to contain the Tiber was built later, and in its place today is Constitution Avenue Northwest.¹⁷

While the wealthy could afford to sink their own private wells, the vast majority of the District's residents relied upon public wells.¹⁸ The need for potable water was so critical that the First Act of Incorporation, signed by Thomas Jefferson in 1802 to establish the relationship between the District of Columbia and the federal government, gave the City of Washington the authority to "sink wells and erect pumps in the streets;" the first public well would open the following year.¹⁹ These spring pumps remained active until the start of the twentieth century, long after the introduction of public water mains and interior plumbing.²⁰ In 1894, 201 wells remained throughout the city, though most were clustered in Capitol Hill (in an area roughly between Stanton Square and the Navy Yard), Southwest Washington (between the Potomac River and C

15] Baume, 15.
Berg, *Grand Avenues: The Story of the French Visionary who Designed Washington, D.C.*, 255—256.

16] Baume, 4.

17] American Society of Civil Engineers, 1.

18] Guntheim, 16.

19] *Ibid.*
Baume, 9.

20] District of Columbia Department of Environmental Services, 3.

and 3rd Streets Southwest), and the Shaw neighborhood (an area bound by H, 1st, and R Streets, and New Jersey Avenue Northwest).²¹ The number of wells continued to drop steadily, from 1,382 wells in 1865, to 194 in 1898, to 11 shallow and 20 deep wells in 1910, to 23 wells and 2 public springs in 1920.²²

21] *City of Washington: Public Pumps within the City Limits Taken from a Map Published by the District Commissioners, 1889, and from a List Furnished May, 1894*, The Historical Society of Washington, DC archives.

22] Baume, 15.



Figure 5: A public water pump on Pennsylvania Avenue NW, circa 1920—circa 1930
Theodor Horydczak, *Pump. An Old Pump on Pennsylvania Ave.*

CHAPTER 3

TYPHOID FEVER IN WASHINGTON

In the latter decades of the nineteenth century, cities across America suffered from intolerable outbreaks of typhoid fever and other communicable diseases that thrived in the unsanitary conditions of dense urban areas lacking modern infrastructure. German researcher Karl Eberth isolated the bacteria *typhoid bacillus* as the cause of typhoid fever and identified contaminated water as its most common breeding ground, stating:

The diseases which may be conveyed by water are many. The most common are typhoid fever, cholera, diarrhoea [sic], and numerous smaller ailments. The most typical of this class is typhoid fever. This is probably, and especially in small towns, conveyed more frequently by poisoned water than in any other way.²³

While Washington had the foresight to prohibit privies within the city limits in 1805, thus avoiding a major water contamination source, typhoid fever continued to ravage the District.²⁴ After the Civil War, the situation became untenable; urban typhoid fever rates skyrocketed across the country (1880 saw death rates from typhoid fever of 31.9 per 100,000 in New York City, 57.6 in Philadelphia, 42.4 in Boston, and 59.0 in Baltimore) and smaller cities saw increasing cases and devastating outbreaks as well. Plymouth, Pennsylvania, a town of 8,000, reported over 1,100 cases of typhoid fever with 114 fatalities—a death rate of over 1,400 per 100,000.²⁵

Once contaminated drinking water had been identified as the most likely culprit, large cities across the country spent millions of dollars shifting their public water intakes from polluted sources (often coincident with the dumping grounds for the city's raw sewage) to cleaner water sources. Chicago's Drainage Canal directed sewage into the Des Plaines River and ultimately the Mississippi River, instead of the Chicago River which emptied into Lake Michigan, the source of

23] Blake, *Water for the Cities*, 260 (quoted from Prince, "The Dangers from the Domestic Use of Polluted Water").

24] Bryan, 562.

25] Blake, 260.
Ibid., 261.

the city's water supply. This alone resulted in a reduction in the typhoid rate for the city from 173 per 100,000 in 1891, to 20 per 100,000 in 1900. Similar drops were seen in Cleveland where a new water intake in Lake Erie was constructed four miles from the coast, away from the heavily polluted shoreline.²⁶

For other cities water filtration was the answer. In 1875 fewer than 30,000 Americans had regular access to treated water, but by 1910 that number had grown to 10,000,000. Access to clean, pure water not only reduced disease rates, but studies showed that money spent on water and sewer infrastructure improvements were repaid handsomely in "(1) the dollar value placed on the reduction in work time lost stemming from the reduced incidence of certain diseases, and (2) the dollar value placed on increased life expectancy."²⁷

Washington in particular endured an average typhoid fever death rate of 55 per 100,000 in the years from 1850 to 1915.²⁸ Though typhoid fever cases in the District were widely dispersed, two areas of high concentration were evident in the mid-1890s, Southwest Washington (between B, 6th, G, and 10th Streets Southwest) and an area north of downtown (bordered by D Street Northeast/Northwest, 3rd Street Northwest, M Street Northeast/Northwest, and 3rd Street Northeast).²⁹ While reports of typhoid fever could be found year round, they generally peaked in spring and late summer.³⁰ Typhoid fever affected all residents of the city, but it struck African Americans disproportionately; from 1895 to 1906 the average death rate from typhoid fever was 78.2 per 100,000 for African Americans, compared to 47.8 for whites.³¹ It was clear that unfiltered Potomac River water was no longer an acceptable water supply source for the nation's capital.

Increasingly fed up with high typhoid fever rates, the public began to demand that the

26] *Ibid.*, 262.

27] Meeker, "The Social Rate of Return on Investment in Public Health, 1880—1910," 392.

28] Meeker, "The Improving Health of the United States, 1850—1915," 370.

29] *Map of the City of Washington Showing the Location of 500 Cases of Typhoid Fever Investigated in the District of Columbia, Excluding of the Cases at Takoma Park, During the Months of July, August, September, and October 1895, and including all Fatal Cases, with the Location of the Ancient Water-Courses, not now in Existence*, The Historical Society of Washington, DC archives.

30] Cosby, "The Water Supply of Washington," Plate 1.

31] Walker, "The Relation of Potomac River Water to Typhoid Fever in the District of Columbia," 289.

government provide clean, purified water.³² In response, the District of Columbia began to analyze possible filtration methods. Slow sand filtration (the English method) and mechanical filtration (the American system) were the two debated at the greatest length—a chemical system such as that already operating in New York City was briefly discussed, but prominent members of the medical community testified to Congress against such a system.³³ The slow sand filtration method, which passively filters water by allowing it to flow through beds of sand and gravel to remove particles, bacteria and other sediments, ultimately proved the most cost efficient and was supported by the Surgeon General’s Office as offering the greatest typhoid fever relief.³⁴ One study showed that American cities using the slow sand filtration method had an average typhoid fever death rate of 18.6 per 100,000, while the rate in cities with mechanical filters was 58.0, and in cities with unfiltered water supplies the rate was 75.0.³⁵ Though a mechanical system required less space (any proposed plant would likely have been located at the present site of the Bryant Street Pumping Station) the English system was chosen to filter Washington’s water supply primarily for public health reasons. The proposed filtration plant would be the largest of its kind in the country.³⁶

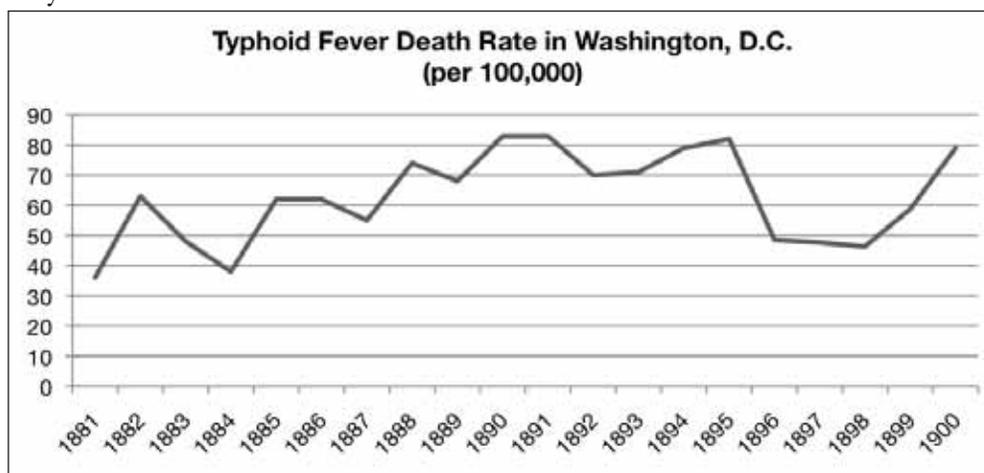


Table 1³⁷

32] Blake, 260.

33] Sellin, "Application for Historic Landmark: McMillan Park Reservoir," 3.

34] Smart, "A Paper on the Filtration of Public Works Water Supplies," in *Purification of the Washington Water Supply*, 77.

35] Walker, *Purification of the Washington Water Supply*, 55—56.

36] United States Army Corps of Engineers, *Water System of the District of Columbia, Plate IX*. Hazelrigg, "Thickness of Landscape, Horizontally and Vertically Considered," 1.

37] Walker, *Purification of the Washington Water Supply*, 53.



Figure 6: 1892 topographic map

Map shows the location of the new reservoir; the site of the future Bryant Street Pumping Station is located near the intersection of Trumbull Street and Tiber Creek. United States Coast and Geodetic Survey, *District of Columbia, Sheet 25, 1892.*

CHAPTER 4

THE WASHINGTON AQUEDUCT, THE MCMILLAN PARK RESERVOIR, AND THE SLOW SAND FILTRATION PLANT

Though L'Enfant had prepared several preliminary surveys for potential water sources, none were ultimately pursued; it was not until 1850 when Congress authorized the War Department to research the issue that a full study was undertaken. These studies, led by Lieutenant Colonel George W. Hughes, proved unsuccessful—their scope was confined only to Rock Creek—and Hughes eventually relinquished control to Lieutenant Montgomery C. Meigs who expanded the search area.³⁸ Two underlying beliefs governed Meigs' involvement in the project. First, that it was an essential duty of all municipalities to provide ample, free water to the public, stating “No bloated monopoly [should be allowed to sell] the necessary of life and health,” and second, that a water supply system could not be too large—excess supply would aid in flushing the city's sewer system.³⁹

Meigs' study offered three alternatives: using Rock Creek (as planned by Hughes), constructing a dam at the Little Falls of the Potomac to create a reservoir on the river, or building an aqueduct from the Great Falls of the Potomac into the city. Though the third option would be the most costly and technically challenging, it would provide the healthiest and most consistent water flow. In March 1853, Meigs was ordered to commence work on the aqueduct; on the very same day, Meigs' orders for the construction of the Capitol wings and his work on the Post Office Building were also given.⁴⁰

The start of the aqueduct's construction in November 1853 marked the beginning of the modern era of water infrastructure in Washington.⁴¹ Upon the approval of an agreement with the State of Maryland for the aqueduct's necessary right-of-way, a diversion dam was built across the Potomac, just above Great Falls, directing water into a conduit nine-feet in

38] Gross, “Cheapest Commodity; Costs Almost Nothing,” B6.

39] Blake, 268.

40] Weigley, *Quartermaster General of the Union Army*, 61—62.

41] American Society of Civil Engineers, 5.

diameter.⁴² Completed in 1859, this conduit delivered water to two reservoirs designed by Meigs, the receiving reservoir at Dalecarlia, which then fed the distributing reservoir at Georgetown. Initially, the Georgetown reservoir delivered an adequate supply of unfiltered Potomac water to properties in northwest Washington; the regular supply helped spur development in the quadrant leaving a legacy of prosperity that remains today.⁴³

However, by the 1870s growth in other sectors of the city, most notably Capitol Hill, an elevated area several miles east of the Georgetown Reservoir, left the present system insufficient—the supply lessened and pressure dropped greatly traversing the city due to friction and leaks in the narrow distribution mains.⁴⁴ To remedy the situation, Meigs proposed the construction of a new reservoir, above the L'Enfant city between 10th and 14th Streets Northwest (near the present location of Cardozo High School); the elevated site and central location would provide much needed pressure and regular water access to the eastern edges of the city.⁴⁵ However, getting Potomac water to this new reservoir would prove difficult.

Lieutenant Richard L. Hoxie and Major William Twining of the United States Army Corps of Engineers were charged with designing a force conduit system to deliver water from the Georgetown Reservoir to Meigs' proposed reservoir. Major General Garret J. Lydecker, taking over the project in 1882, shifted the site of the new reservoir to a valley of Tiber Creek just east of Howard University, a location that happened to be the site of Smith Spring.⁴⁶ Though Lydecker examined several possible areas, including a location just 3 miles from the water intake at Great Falls and a property on Brightwood Avenue, the east-central location of the Howard site made it the most advantageous.⁴⁷ According to Lydecker this new reservoir would “double the District's immediate supply, triple its eventual capacity, and with minimal pumping reach not

42] Guntheim, 16.

“Light on City Water.”

43] District of Columbia Water and Sewer Authority, *History*.
Guntheim, 16.

44] “Improved Water Service.”

45] Lessoff, *The Nation and its City: Politics, “Corruption,” and Progress in Washington, D.C., 1861—1902*, 185.

46] *Ibid.*, 187.
Ways, *The Washington Aqueduct, 1852—1992*, 81.

47] Walker, *Purification of the Washington Water Supply*, 221.

only deprived sections to the east and south but also developing suburbs to the north.”⁴⁸

The Senate Act of 1882 authorized the reservoir’s construction, stipulating that the minimum capacity be no less than 300,000 gallons; Congress appropriated \$1.5 million dollars for the reservoir and a system to feed it, though a tunnel was never specifically mandated.⁴⁹ Prior to the excavation of the reservoir, the District’s Chief of Engineers constructed a springhouse over Smith Spring to prevent the mixing of the “pure” water from the spring and the unfiltered Potomac water to be stored there.⁵⁰ The Moorish Revival style structure encasing the spring remains in place today.⁵¹

The most difficult hurdle in reaching the reservoir was the crossing of Rock Creek, which would require either a 1,500-foot long bridge over the valley or a tunnel with an inverse siphon below.⁵² Lydecker believed, based on examinations of existing nearby wells and rock outcroppings, that solid rock would be found along the entire length of the conduit making a tunnel a feasible solution.⁵³ Thus, work on the Washington City Tunnel began on July 15, 1882, and Lydecker firmly believed that the construction would be a “simple piece of engineering work.”⁵⁴ However, it was quickly realized that gross miscalculations had been made in the studies of the route’s geology and faulty surveying only exacerbated the problem.⁵⁵ A series of long, costly delays resulted; repeated collapses of the tunnel and the constant need to pump water from the work site caused major technical and public relations problems for Lydecker.⁵⁶ After one particularly infamous cave-in while blasting beneath Rock Creek, it was revealed that the tunnel had not been built to design specifications and the resulting investigations and scandals filled the newspapers.⁵⁷ By 1889, over \$1.2 million had been spent on the tunneling alone, and

48] Lessoff, 187.

49] United States Army Corps of Engineers, *History of the Washington Aqueduct*, 45.
Lessoff, 187.

50] Ways, 1.

51] Sellin, “Application for Historic Landmark: McMillan Park Reservoir,” 14.

52] Lessoff, 187.

53] Ways, 84.

54] “Water Turned into Lydecker Tunnel.”
Ways, 79.

55] *Ibid.*, 84.

56] Lessoff, 188.

57] “Water Turned into Lydecker Tunnel.”



Figure 7: Workers in the Lydecker Tunnel, circa 1900
Staff Photographer, *Washington Star*, *Lydecker Tunnel*.
Original Caption: "Tunnel lining showing plastered stone sidewalls"
© *Washington Post*, used with permission

the project languished far short of completion—eventually the project would lie dormant for four years before work resumed.⁵⁸ For his role in the project’s mismanagement, Lydecker was cited for “neglect of duty” and court-martialed; the tunnel became known in Washington as “Lydecker’s Folly.”⁵⁹ Meanwhile, the reservoir had been completed having been dug out by horse drawn scrapers between 1883 and 1888, but sat vacant for 15 years while tunnel construction ground to a halt.⁶⁰ Work on the tunnel resumed in 1893 and construction ultimately finished in 1901.⁶¹ A second tunnel paralleling the original was completed in 1926 which allowed the Lydecker Tunnel to be periodically closed for routine maintenance without noticeably interrupting water service.⁶²

The completed Lydecker Tunnel, a horseshoe shaped conduit of brick and rubble stone (cast iron pipes were used below Rock Creek where the tunnel lies over 170 feet below the hydraulic grade) 9-foot wide and 9.8-foot tall, ran nearly 21,000 feet from the Georgetown Reservoir to the new city reservoir.⁶³ Water first entered the tunnel at 9:10 a.m., on November 21, 1901, and by January 8 the following year, the new reservoir was full and officially entered service, 17 years behind schedule and millions of dollars over budget.⁶⁴

While this new reservoir provided an adequate supply to the city, and its high elevation and central location offered the desired water pressure, the system still delivered unfiltered Potomac water, and the need for purification remained evident. Thus, the Washington Aqueduct Project of the United States Army Corps of Engineers began designing what would become the McMillan Park Slow Sand Filtration Plant.⁶⁵ The plant, designed by engineer Allen Hazen, opened in 1905—by October 5th it was operational, filtering a total of over 65,000,000 gallons per

58] Lessoff, 189.

59] Ways, 85.

60] United States Army Corps of Engineers, *History of the Washington Aqueduct*, 45.

61] “Water Turned into Lydecker Tunnel.”
Ways, 76.

62] United States Army Corps of Engineers, *Water System of the District of Columbia*, 5.

63] District of Columbia Department of Environmental Services, *By Broad Potomac’s Shore: The Water and Sewerage Systems of the District of Columbia*, 218.
Walker, 218.

64] “Water Turned into Lydecker Tunnel.”
Lessoff, 192.

65] “Water Turned into Lydecker Tunnel.”

day.⁶⁶ Several small lift stations delivered water from the reservoir to one of 29 sand beds where the water was filtered passively through four feet of sand and gravel to remove particulates.⁶⁷ The site's most distinctive features remain today, two rows of ten sand towers that were used to store cleaned sand before being deposited into the filter beds.⁶⁸ Engineers estimated that water took approximately six days from the time it entered the aqueduct intake at Great Falls until it was filtered and fed into the city's clean reservoir ready for distribution.⁶⁹

This clean reservoir, stored underground at a site adjacent to the McMillan Reservoir, has a capacity of 14,000,000 gallons, about half of which is sent directly into the distribution mains where it is fed by gravity to District consumers.⁷⁰ While water distributed in gravity mains is "usually considered less than desirable in modern cities," the elevation of the reservoir provided the necessary water pressure to low-level areas of the city.⁷¹ The other half of the clean water is sent to the Bryant Street Pumping Station where it is lifted to supply Washington's high elevation neighborhoods.⁷²

In many ways, the significance of the McMillan Reservoir and Filtration Plant is based on its design and role as "an important supplement to the Park System" of Washington as much as the modernization of the city's water infrastructure. The Park Improvement Commission (better known as the McMillan Commission) saw potential in the reservoir as a link between the "anchor parks" along Rock Creek and the Anacostia River, as well as a key visual link between the Soldiers' Home and downtown Washington. The reservoir also served as the eastern terminus for a series parks and public spaces sitting atop the natural escarpment above the L'Enfant city, including Meridian Hill Park, Cardozo High School, and Banneker High School, all of which offered dramatic vistas to the south.⁷³ The McMillan Commission realized the importance of the

66] Sellin, "Application for Historic Landmark: McMillan Park Reservoir," 2.
Walker, 8.

67] *Ibid.*, 95.
"Light on City Water."

68] Hazelrigg, 4.

69] Cosby.

70] Walker, 222.
"Light on City Water."

71] Walker, 218.

72] "Light on City Water."

73] Sellin, "Application for Historic Landmark: McMillan Park Reservoir," 3—5.

reservoir as a public space with architect, urban planner, and member of the Commission, Daniel Burnham stating:

Washington is growing very rapidly with the growth of the nation in numbers and prosperity, and...its parks like its public buildings, are not to be considered merely in reference to its resident population, but in relation to the millions of citizens from far and near who come to Washington expecting, and having a right to expect that here, at the seat of government, they shall find not merely what is considered 'good enough' in their workaday home cities, but the very best that is to be had.⁷⁴

In recognition of his work as the Chairman of the Park Improvement Commission, President Taft formally dedicated the Reservoir and Filtration Plant to Michigan Senator James McMillan in 1911.⁷⁵ McMillan Park also played a key role in the social life of the neighborhood—it was the site of playgrounds, baseball fields, and even an ice skating rink. Families often circled the reservoir in their cars, enjoying the cool evening breezes during the summer, even setting up picnics between the sand bin towers.⁷⁶ The park was one of the few places in Washington that could be used by people of all races; residents “described their ethnically diverse neighborhoods near the park and their delight in this rigidly segregated city in being able to enjoy its amenities regardless of race.”⁷⁷ Unfortunately, the public’s access to the site ended in 1941 when the reservoir and filtration plant were fenced owing to fears of possible water poisoning by the Nazis.⁷⁸ This trend of closing once public space has only increased in recent years with the fencing of Soldiers’ Home and the development of the Washington Hospital Center.

74] *Ibid.*, 8—9.

75] *Ways*, 97.

76] Sellin, “Application for Historic Landmark: McMillan Park Reservoir,” 27.

77] Sellin, “Testimony,” *Re: B16-0902, the Transfer of McMillan Park Reservoir to the National Capital Revitalization Corporation (NCRC)*.

78] Sellin, “Application for Historic Landmark: McMillan Park Reservoir,” 27.

CHAPTER 5

THE DEVELOPMENT OF THE BRYANT STREET PUMPING STATION

While the gravity main distribution system leading from the McMillan Reservoir was sufficient to serve areas of the city below the escarpment at the edge of the L'Enfant city, areas to the north would require pumping. Portions of the District have been designated as "high-service" areas since 1893 when the Tenleytown Reservoir entered service to reach areas of the city that could not be supplied by the original system.⁷⁹ Since that time, Washington has been divided into five zones based on elevation: areas below 70 feet in elevation are served by gravity mains from the Georgetown or McMillan Reservoirs, much of the First High-Service Area (between 70 and 140 feet in elevation) is served directly by the Bryant Street Pumping Station, the Second High-Service Area (between 140 and 210 feet in elevation) is supplied by the Brightwood Reservoir, the Third High-Service Area (between 210 and 335 feet in elevation), and the Fourth High Service Area (all areas above 335 feet in elevation) which is served by the Fort Reno Reservoir.⁸⁰

While these high-service areas had previously been supplied by pumping stations on P and U Streets Northwest, the creation of a new station with greatly increased capacity would help fuel Washington's growth to the north; indeed, the new pumping station would be "one of the pillars upon which the Capital may well rest."⁸¹ In order to meet these new demands, the District Commissioners selected Baltimore architect Henry F. Brauns to design a new pumping station in 1900.⁸² The station would be built on Bryant Street (then named Trumbull Street) just below the McMillan Reservoir on a site controlled by the Secretary of War.⁸³ Early cost estimates budgeted

79] Lessoff, 240.

80] Gross.
"Powerful Machinery for New Pump Station."
Ibid.
"Light on City Water."

81] "Powerful Machinery for New Pump Station;" "Affairs of the District," October 4, 1901.
"District's Pumping Station will be Finest in America."

82] "District Notes."

83] Baist, *Baist's Real Estate Atlas of Surveys of Washington, District of Columbia: Plate 17*,
"New Pumping Plant."

\$600,000 for the project (\$350,000 for the machinery and \$250,000 for the building) which would be subsidized in part by the federal government.⁸⁴ These estimates would later be raised to \$700,000, and finally \$750,000 with an additional \$300,000 set aside for expansion plans by the time the first contracts were signed.⁸⁵

Brauns, born in 1845, began his architectural career at age 18 when he opened his own firm in Baltimore. He was listed in most of the Baltimore City Directories published between 1863 and 1912, with offices located near the intersection of North Charles and Fayette Streets alongside several other of the city's design firms. A charter member of the Baltimore Chapter of the American Institute of Architects (founded in 1870), most of Brauns' designs were industrial sites or public works facilities—functional in purpose but also highly decorative in appearance.⁸⁶

Once Brauns' design for the pumping station had been approved in 1901, the project was put out to bid; ultimately 74 proposals were submitted by 11 different construction firms, with the George A. Fuller Company of New York and Washington winning the bid. Cost estimates ranged from \$290,000 for construction with Indiana limestone, to \$452,000 using high-grade Vermont marble. Fuller's winning bid of \$314,282 proposed a combination of grade D Vermont marble, brick, and steel construction, with a concrete foundation (granite proved too expensive).⁸⁷ After minor revisions, the contract was awarded for \$350,000, exclusive of the pumping machinery.⁸⁸ Engineer Commissioner Captain D. D. Gaillard, Colonel Biddle, and Engineer in Charge of Mechanical Equipment W. A. McFarland would oversee the construction project scheduled to take two years.⁸⁹ Construction of the building's shell proceeded on schedule, but faulty casting of the pump engine machinery delayed the station's opening until August 1904.⁹⁰

84] "High-Pressure Service in Down-Town District."

85] "District's Pumping Station will be Finest in America."

86] Baltimore Architecture Foundation, *Henry F. Brauns*.

87] "Affairs of the District," October 4, 1901.

"The Work of Local Builders."

"Powerful Machinery for New Pump Station."

88] "The Work of Local Builders."

89] "New Pumping Plant."

"Affairs of the District," October 4, 1901.

90] "District of Columbia Rides on the Crest."

"Big Increase in New Water Mains."

Project Name	Location	Date
Knabe Piano Works	300 West Baltimore Street, Baltimore, MD	1869
Gatehouse at Lorraine Park Cemetery*# <i>where Brauns and his wife Isabella are buried; a unique building for Brauns in both its Victorian aesthetic and residential use</i>	5608 Dogwood Road, Baltimore, MD	1884
G. W. Gail and Ax Tobacco Warehouse	Baltimore, MD	1886
Mount Royal Pumping Station <i>described as "the most elaborately constructed plant of the sort in service, its decorations being of the style of a modern high-class apartment house"</i>	Baltimore, MD	1897
Northern District Police Station*#	3355 Kenswick Road, Baltimore, MD	1899
Power house and car bar for the Newport News and Old Point Railway Company	Old Point Comfort, VA	1899
Eastern High School	Baltimore, MD	1899—1900
At least one school in the District of Columbia	Washington, DC	1900?
Holy Cross Polish National Catholic Church# <i>an update of William H. Reasin's 1853 church</i>	Baltimore, MD	1902
Brown's Arcade*# <i>renovations after the 1904 Baltimore fire</i>	322 North Charles Street, Baltimore, MD	1904?
Bryant Street Pumping Station#	301 Bryant Street NW, Washington, DC	1904
The high-pressure water system design for the Baltimore Water Department	Baltimore, MD	1905?
Eastern Avenue Pumping Station*# <i>now the Baltimore Public Works Museum</i>	751 Eastern Avenue, Baltimore, MD	1912

* indicates site is listed on the National Register of Historic Places

indicates site remains in existence

Table 2: List of known works by Henry F. Brauns⁹¹

91] Baltimore Architecture Foundation.
Suplee, 719—720.
"Power House at Old Point."
Society of Architectural Historians, *American Architectural Competitions*.
"Plans for Schoolhouses."
Kurtze, "National Register of Historic Places Inventory: Lorraine Cemetery Gatehouse Lodge," 14.
Scott, *Baltimore High-Pressure Fire Service*, No. 1393b, 229.
Sangree.

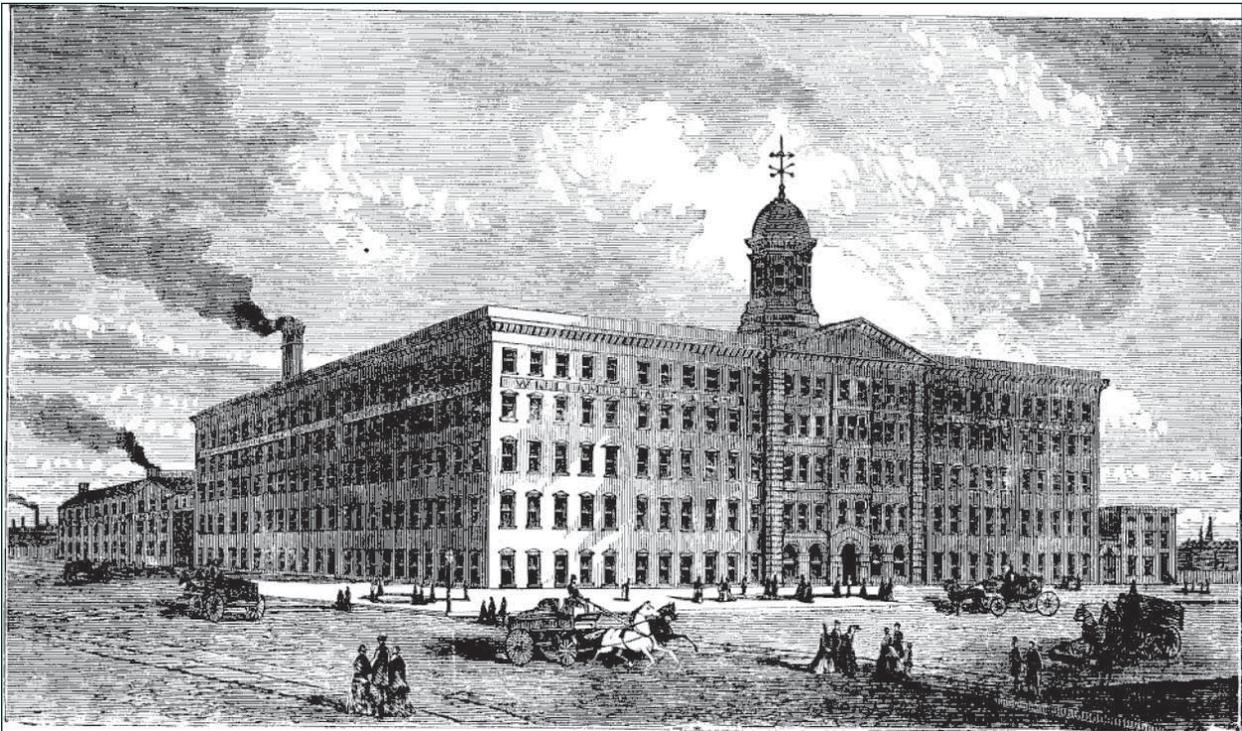


Figure 8: Knabe Piano Works

Designed by Henry Brauns, completed in 1869.

*Wm. Knabe & Co. Piano Factories, Corner Eutaw and West Streets, Baltimore in
The Monumental City: Its Past History and Present Resources.*



Figure 9: Northern District Police Station in Baltimore
Designed by Henry Brauns, completed in 1899.
Belfoure, Northern District Police Station.

Biddle called the project the “most important item under [the water] department,” and stated that after completion “tax payers will have little if any cause for complaint.”⁹²

Upon completion the station was nearly universally lauded as a magnificent achievement in public infrastructure; newspapers compared the building’s scale and façade ornamentation to that of a grand public library, and the facility even drew comparisons to the contemporary work of Daniel Burnham, Washington’s Union Station. When it opened, the Bryant Street Pumping Station was the largest of its kind in the country and McFarland deemed it the “finest and most complete city pumping works in America,” thanking his employees for their personal interest and dedication to the project.⁹³ The *Washington Post* described it as “not only one of the largest and most efficient, but also one of the handsomest buildings for such a purpose to be found in the United States.”⁹⁴ The station’s beauty was of such importance to the Water Department that efforts were made to purchase a row of “hovels” just west of the site in order to remove the blight they caused on the station and prevent them from marring its “spacious proportions.” When this proved too expensive, the department instead erected a tall screening fence to hide the homes.⁹⁵

Like many of Brauns’ work, the Bryant Street Pumping Station is massive yet ornately detailed. The station’s front (south) façade is composed of five parts: two large gables projecting from the building face that anchor either end of the elevation, and a central gable and porte-cochère flanked on either side by three arched windows. The entire façade is composed of gray brick with a slight pink hue, and is accented by four marble cornice lines, the third of which is denticulated. Each gable features marble detailing at the peak and cornice line. The station is enclosed by a flat-topped hipped roof, which features decorative copper work that has achieved a deep green patina over time.

The projecting gable ends are each three bays wide, with the first floor marked by three simple, two-over-two windows; the second story features three bays of rectangular, two-over-two

92] “Colonel Biddle’s Plans.”

93] “The Work of Local Builders.”
“District’s Pumping Station will be Finest in America.”
“Big Increase in New Water Mains.”

94] “Palaces Next to Hovels.”

95] *Ibid.*

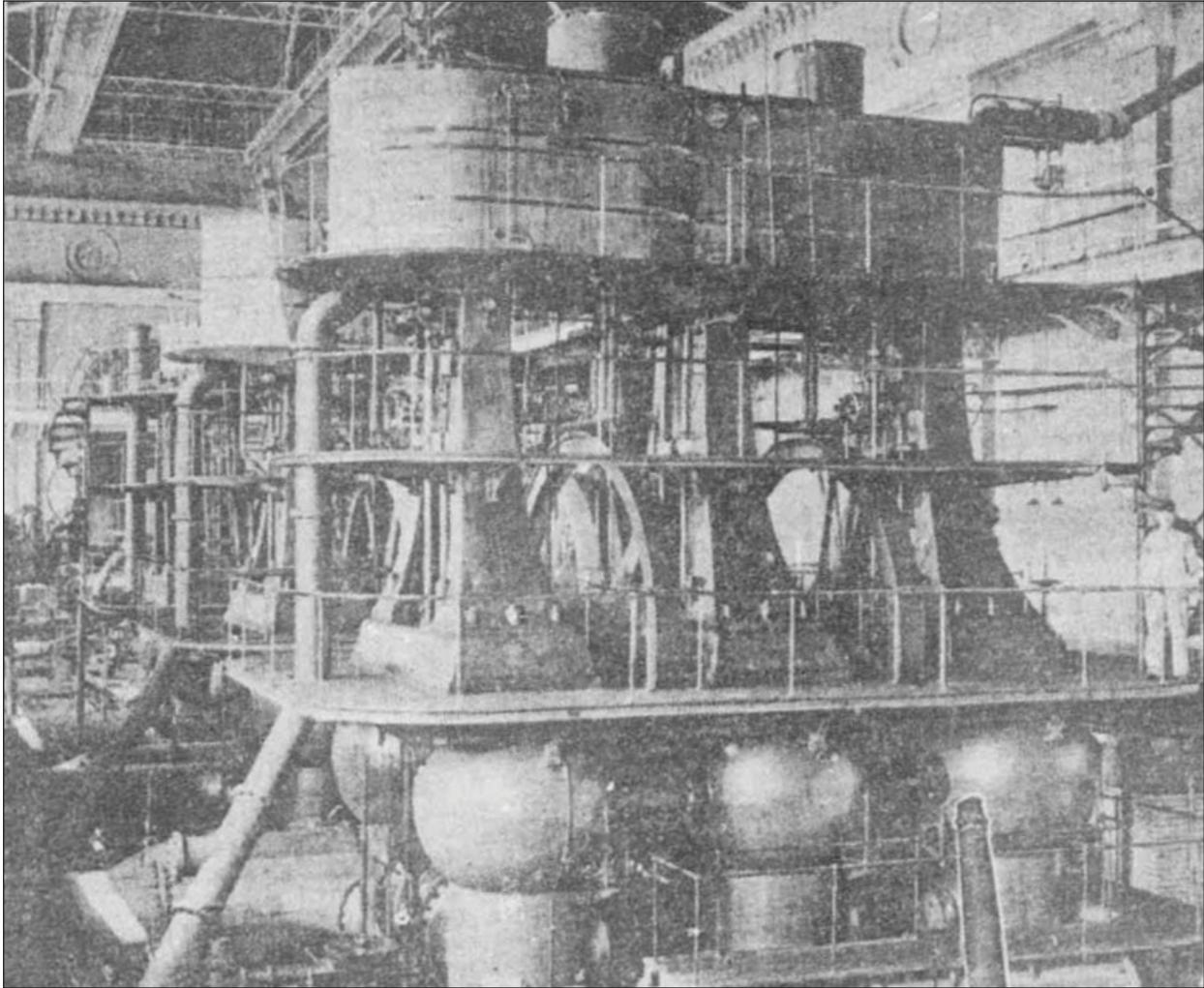


Figure 10: The station's original pumping engines
Staff Photographer *Washington Times*, *Untitled (pumping engine, September 6, 1906)*.
© *Washington Post*, used with permission



Figure 11: 1921 panoramic map of Washington Olsen, Washington: The Beautiful Capital of the Nation.



Figure 12: 1954 exterior photograph, looking northeast

Original caption reads: "The 40-year old Bryant St. Pumping Station of the Water Division, D.C., adjacent to the McMillan Filtration Plant, which is to be completely revamped and modernized as one of the major pumping stations."

Staff Photographer, *The Washington Star*, *Bryant Street Pumping Station*.

© *Washington Post*, used with permission

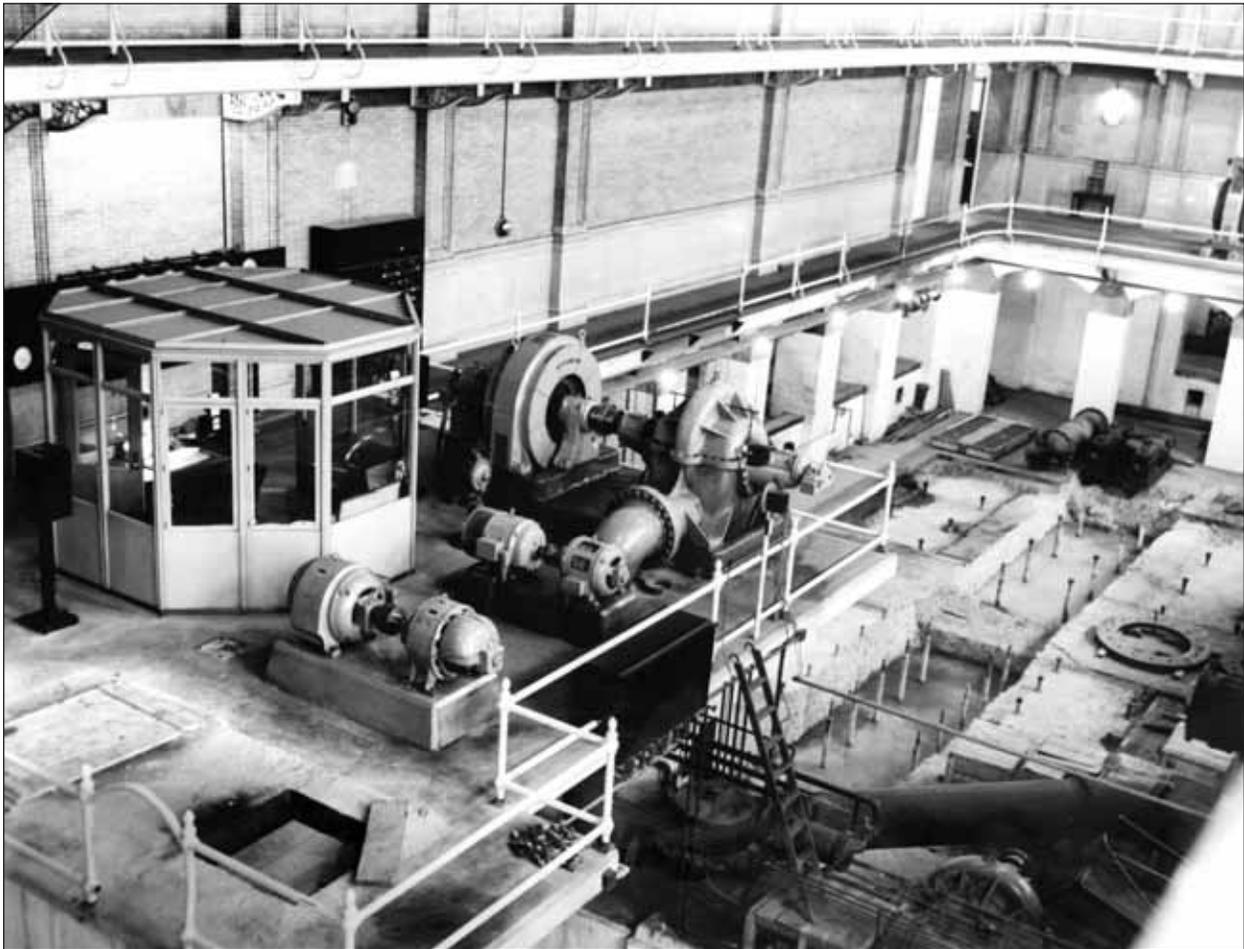


Figure 13: Main pump room, circa 1950

Original caption reads: "General View of pump room... at the D.C. Pump Station. On the left is a pump in action while at the far end of the room work is underway to replace older pumps with new ones. When the [work] is done, the room will contain 10 new pumps."

Horan, *District Pumping Station*.

© *Washington Post*, used with permission

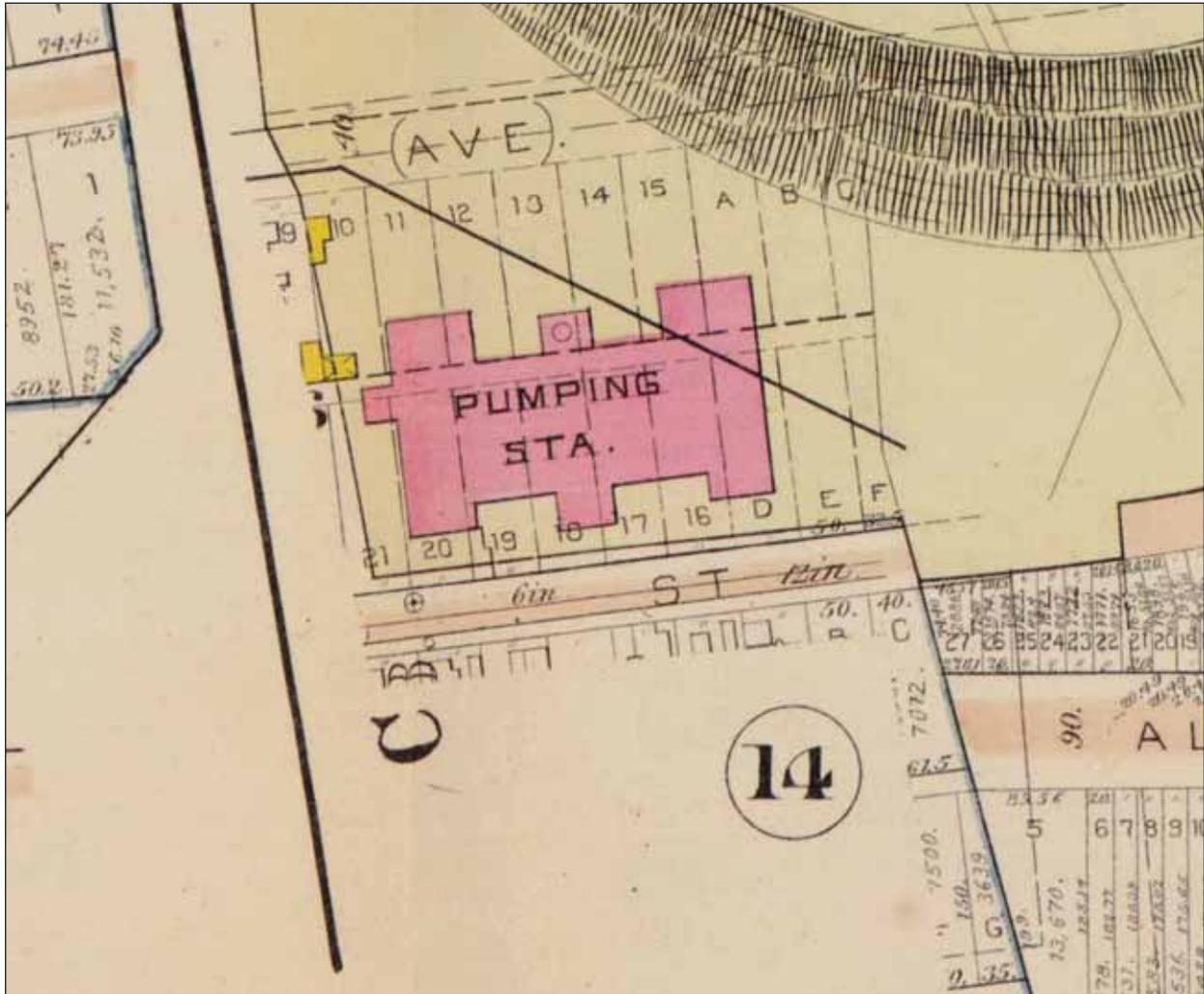


Figure 14: 1903 Baist map of Bryant Street Pumping Station

This series of Baist maps show that while several iterations of outbuildings have come and gone, the station itself remains unaltered.

Baist, Plate 17 (1903).

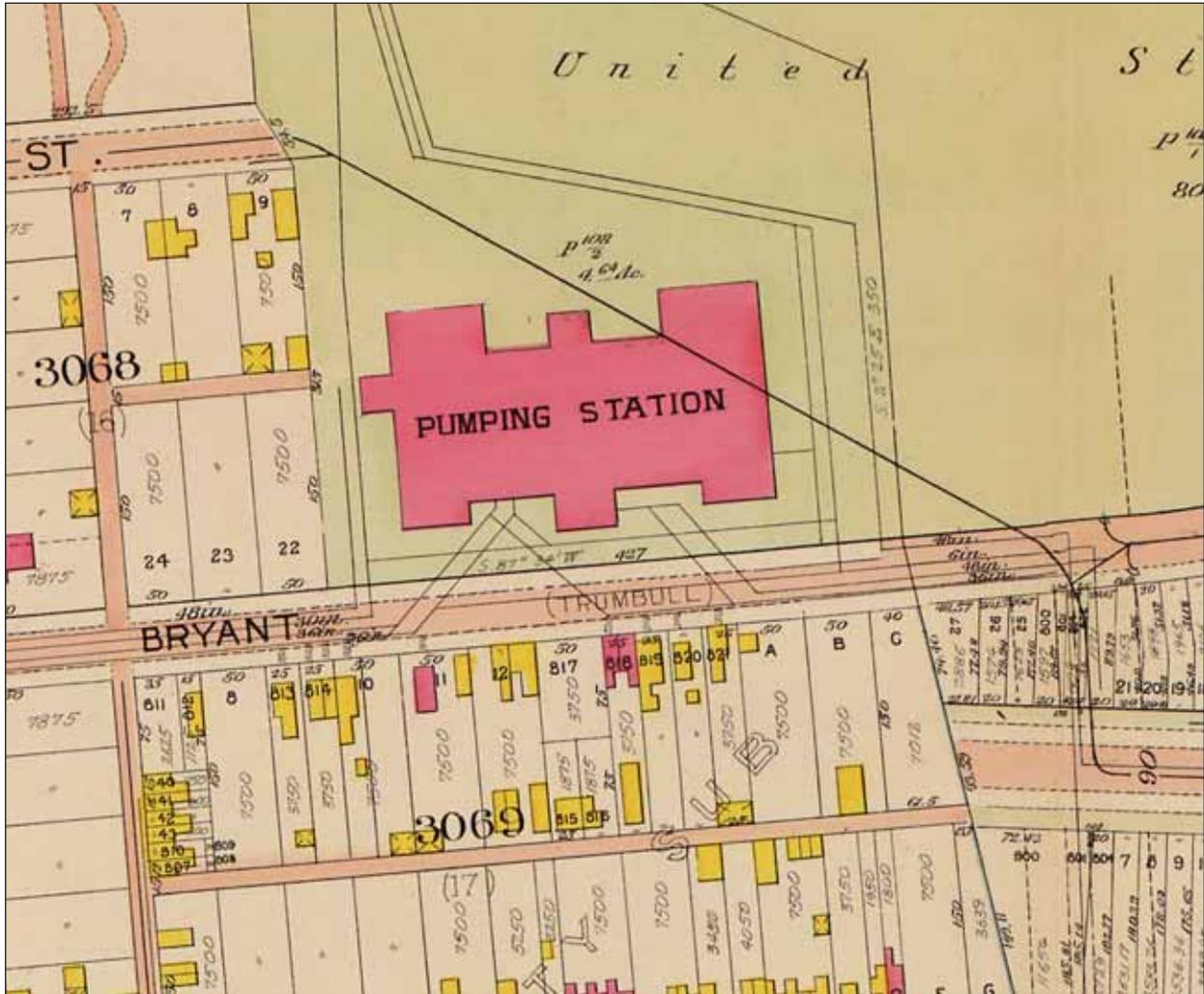


Figure 15: 1907 Baist map of Bryant Street Pumping Station
Baist, Plate 16 (1907).

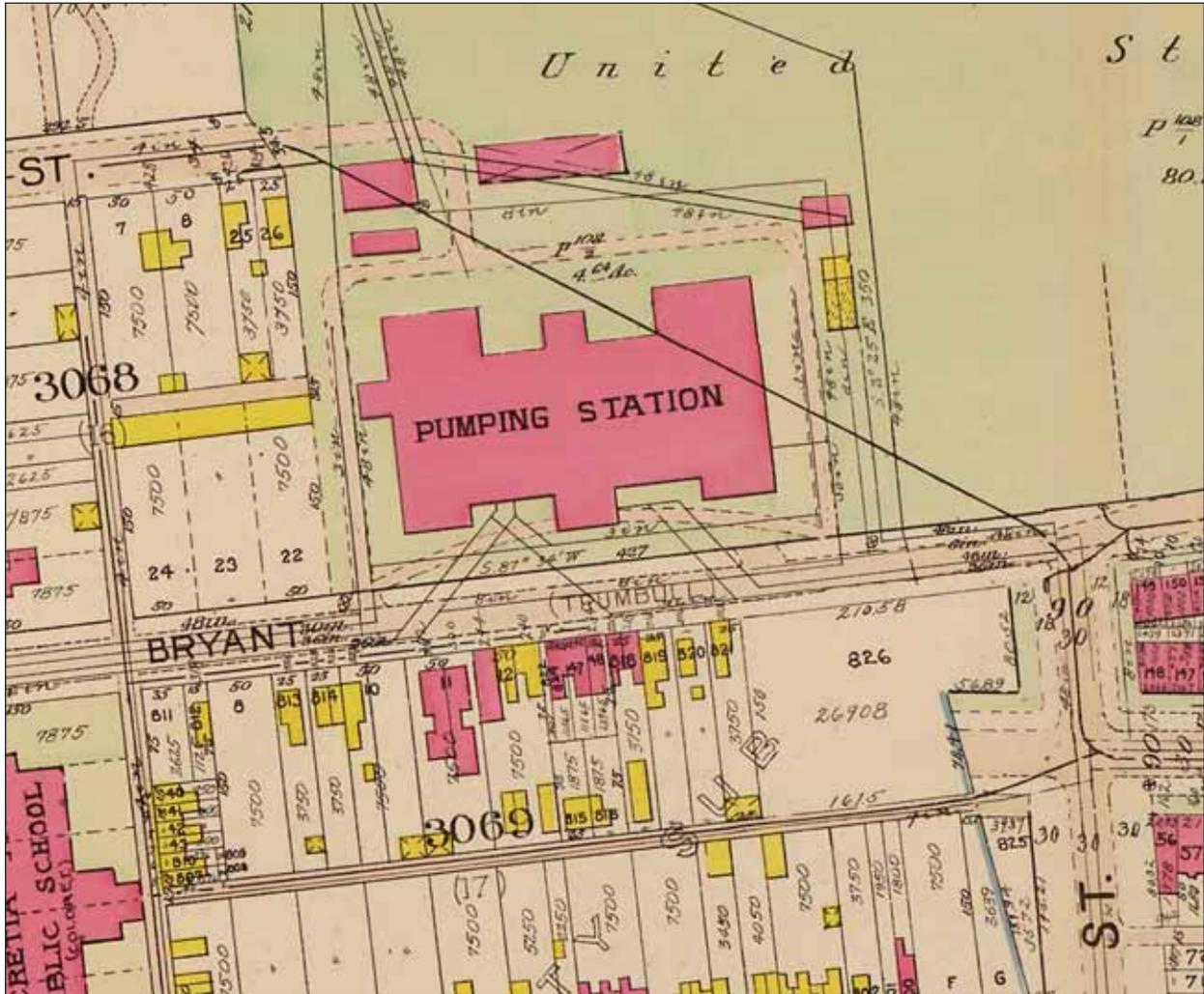


Figure 16: 1911 Baist map of Bryant Street Pumping Station
Baist, Plate 16 (1911).

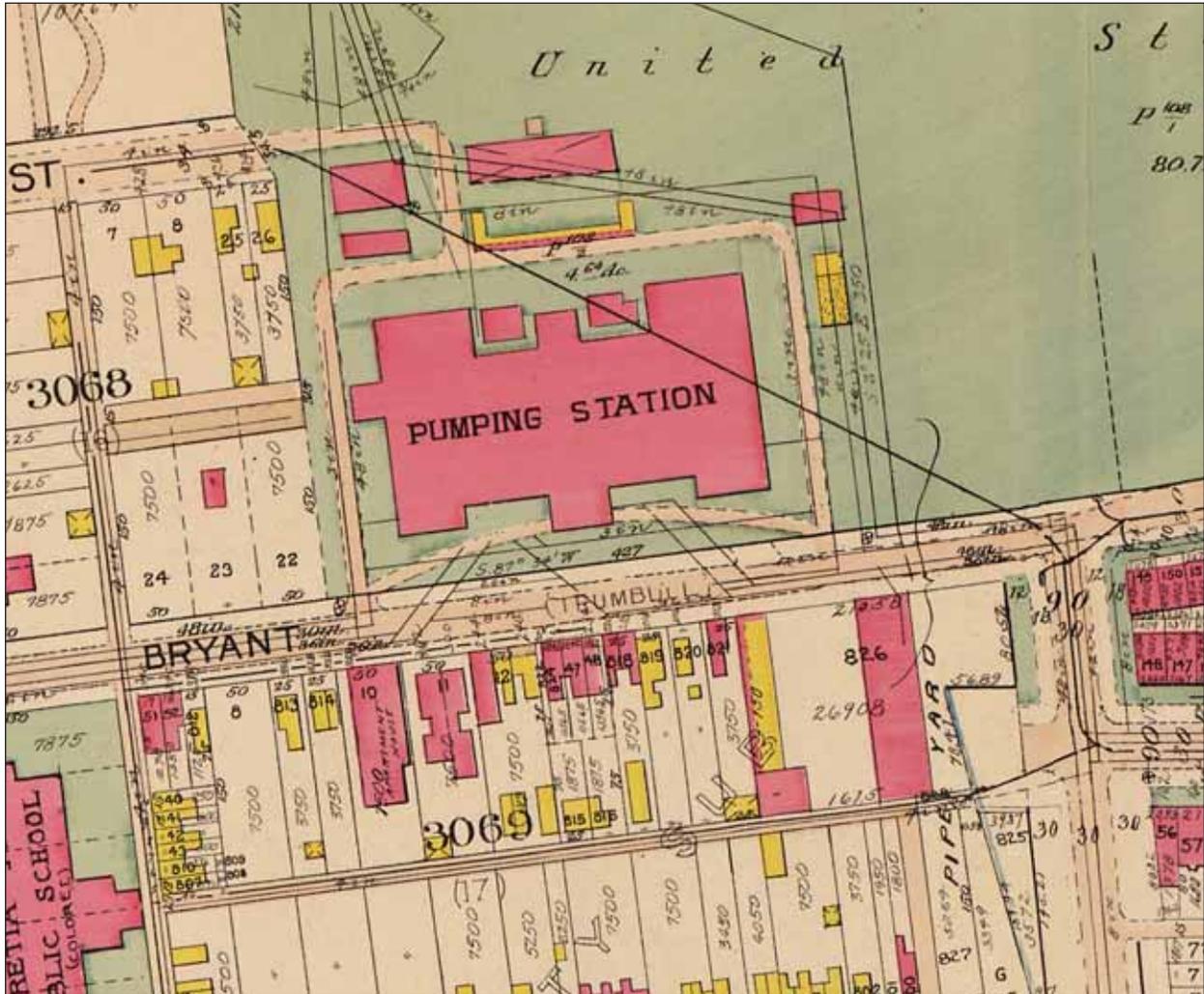


Figure 17: 1915 Baist map of Bryant Street Pumping Station
Baist, Plate 16 (1915).

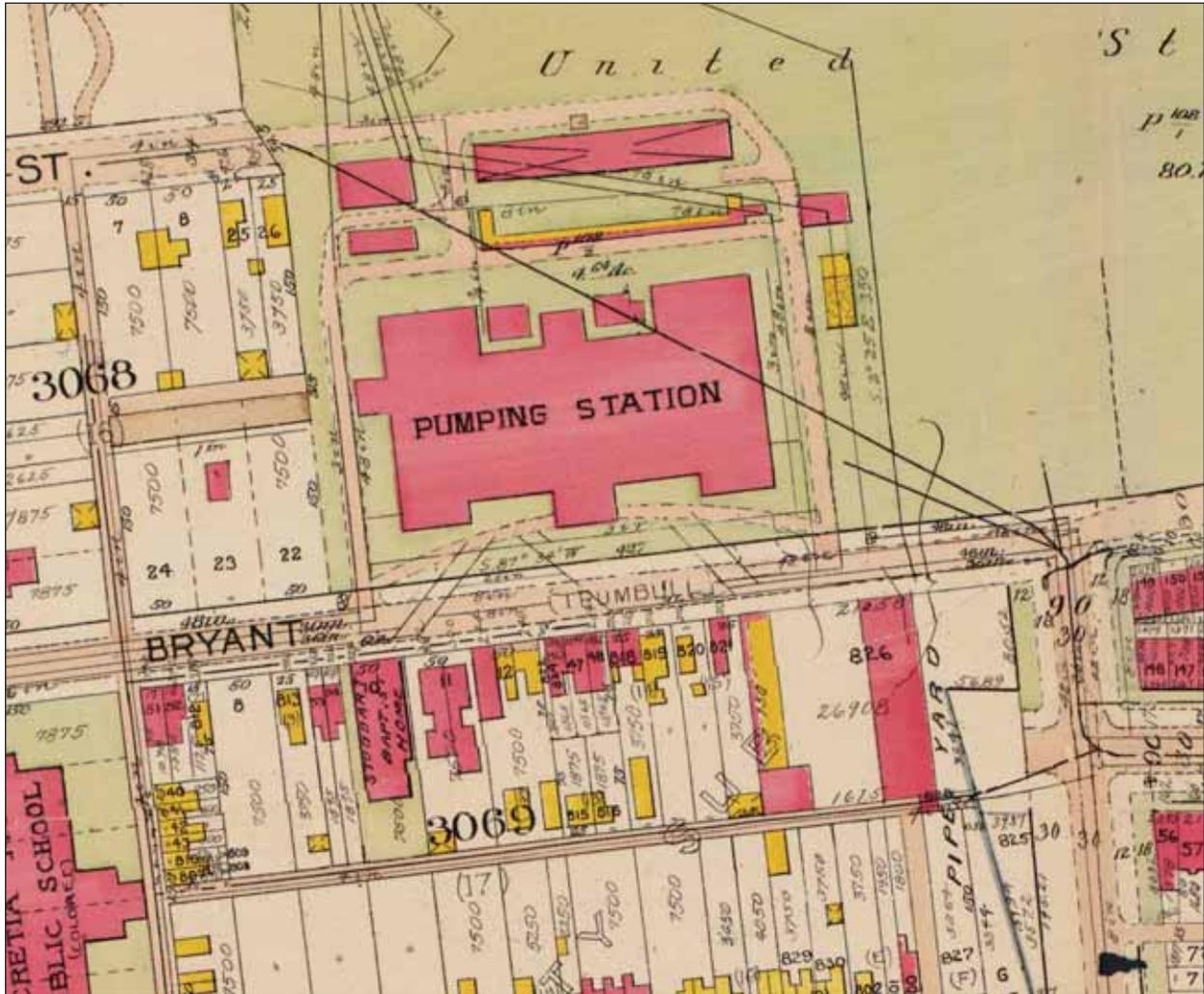


Figure 18: 1919 Baist map of Bryant Street Pumping Station
Baist, Plate 16 (1919).

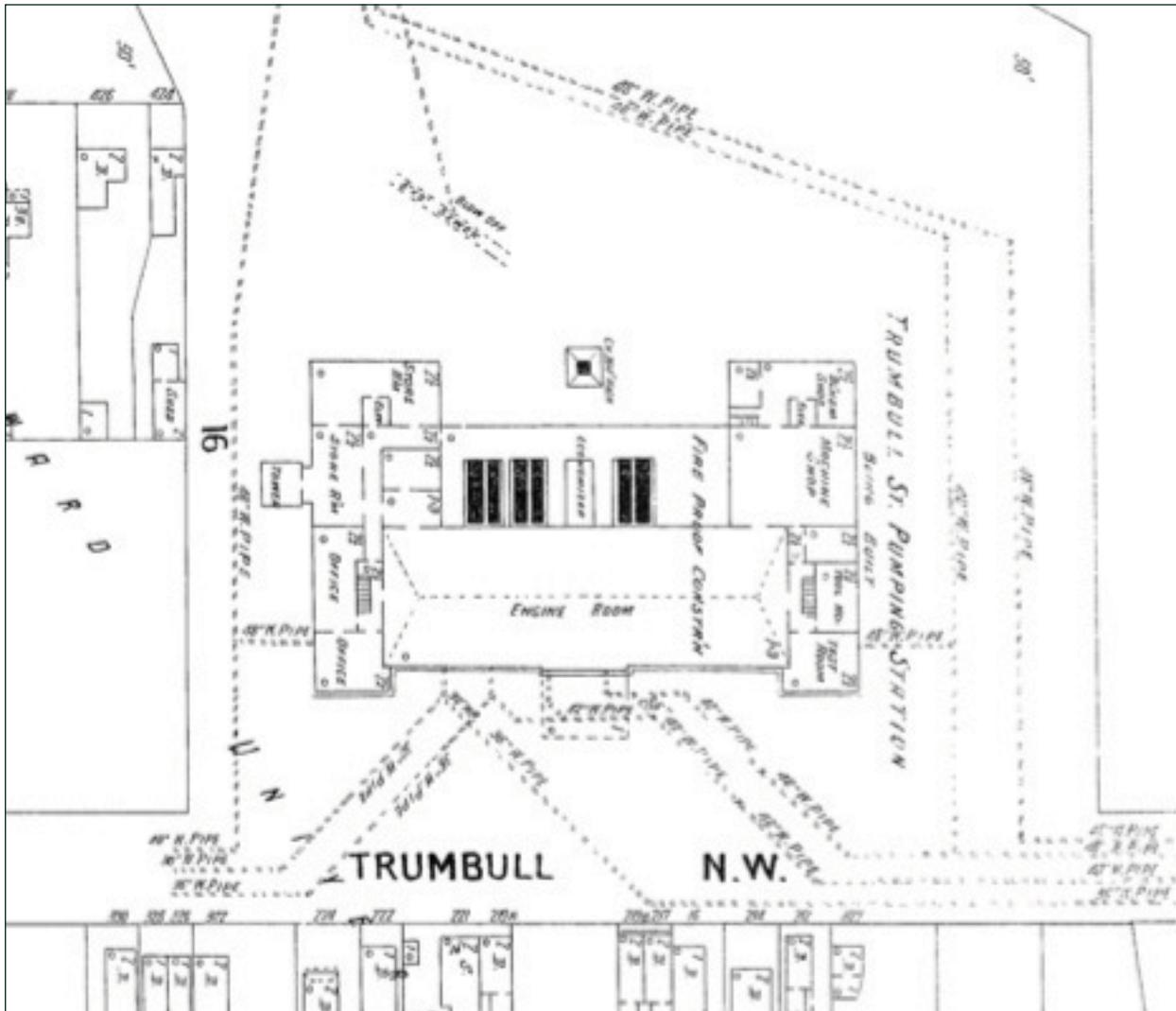


Figure 19: 1904 Sanborn map of Bryant Street (née Trumbull Street) Pumping Station

Figures 19 and 20 show the 1904 and 1928 Sanborn maps of the Bryant Street Pumping Station site.

Sanborn Map Company, *Plate 125, Volume II (1904)*.

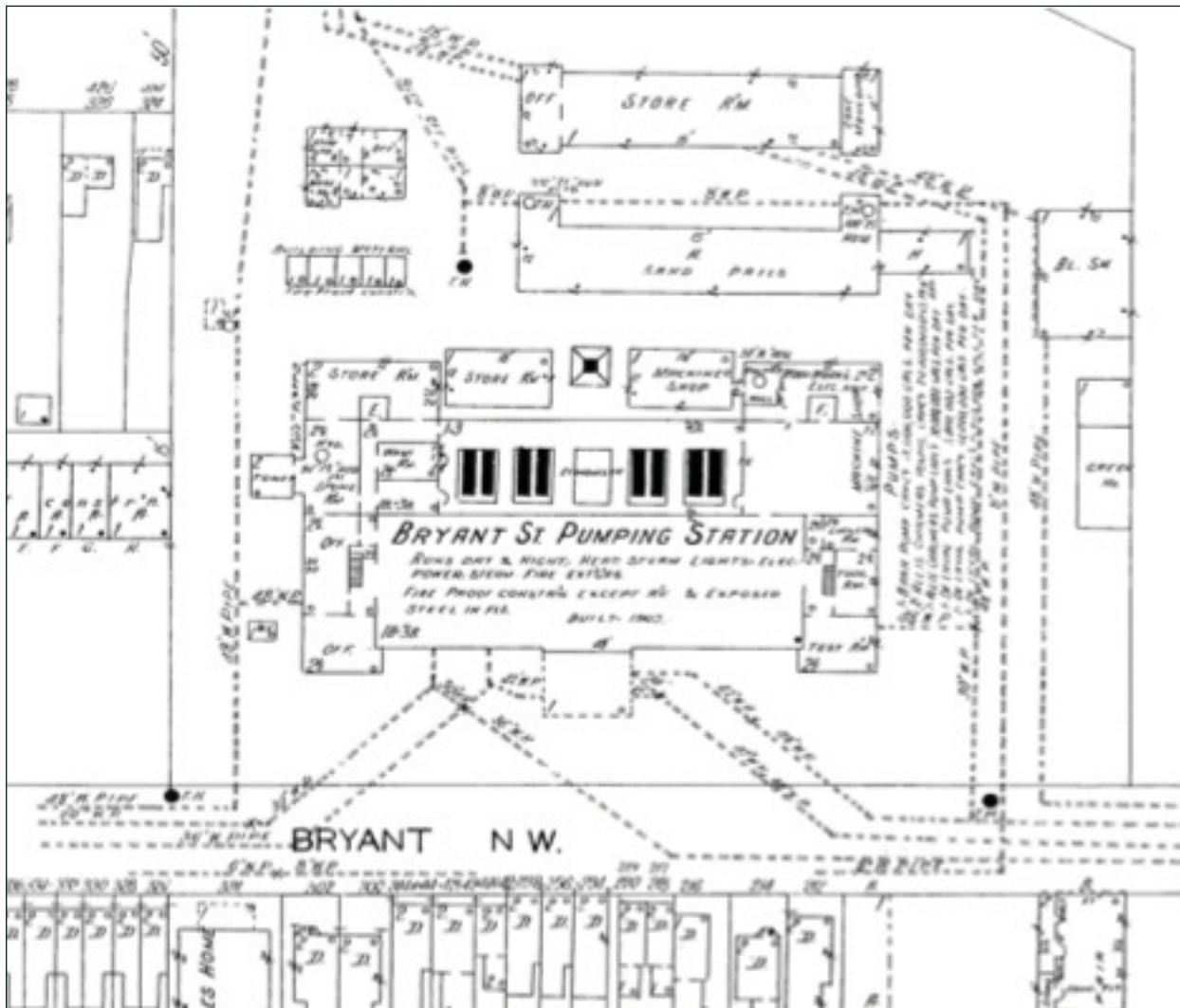


Figure 20: 1928 Sanborn map of Bryant Street Pumping Station
 Sanborn Map Company, *Plate 356, Volume III (1928)*.



Figures 21: The Bryant Street Pumping Station today
Photograph by the author, 2009.

windows with half-round panes framed by a brick arch sitting above the cornice line. The third story gable houses two extended half-round windows again framed by a brick arch. The portecochère has a large brick arch on its east and west faces for vehicles to pass through, while the south face features three smaller, decorative arches. The second story, three bays wide, matches that of the end gables, while the third story gable has three extended half-round windows, with a single round window at the gable's peak. The sections between the gables feature dramatic groupings of three two-over-two windows topped collectively by a half-round window. Just below the denticulated cornice is a row of six round windows, while above are three individual gables, each a single bay wide that house an extended half-round window.

One of the station's most distinguishing features, and the only exterior feature visible from the main entrance that indicates its industrial nature, is the towering smoke stack at the building's north end. At 204 feet it was the tallest in the city when built, and even today the smoke stack is taller than all but five buildings in Washington.⁹⁶ The interior of the station is dominated by the main engine room which measures 200 feet by 60 feet with ceilings 90 feet high. Also originally housed in the interior were: a blacksmith's shop, a hydraulic test room, store rooms, offices, and drafting rooms, along with two hydraulic freight elevators, and the station's six massive, 200-horsepower boilers. These brick and iron boilers ran on coal that was loaded in a hopper outside of the station which then fed a "long-link conveyor" system of overlapping buckets. These buckets deposited the coal over the boilers and then on their return trip removed the accumulated ash.⁹⁷

The station was originally built with five pumps: two with a capacity of 20 million gallons per day, and one pump each with capacities of 12, 7, and 2 million gallons daily.⁹⁸ The two largest engines were ordered from the Edward P. Allis Company of Milwaukee for \$148,000 each, while the smallest was purchased for \$19,950 from the Holly Manufacturing Company of Buffalo; the

96] "Huge Chimneys to be Erected at Navy Yard."

97] "District's Pumping Station will be Finest in America."

98] "District's Pumping Station will be Finest in America."

two remaining pumps were relocated from the existing station on U Street Northwest.⁹⁹ In 1908, a new 30 million gallon pump was installed, bringing the station's total capacity to 91 million gallons per day, easily enough to supply a city whose average daily water usage was 60 million gallons.¹⁰⁰ This engine configuration would last until 1954 when an update of the station was completed bringing the total number of pumps up to 11.¹⁰¹ Recently, the station has undergone a major \$58.5 million dollar rehabilitation effort to replace all 11 pump engines, heating, ventilation, and air conditioning systems, water mains, as well as to repair the warehouse and shop buildings, and install a modern security system.¹⁰²

The effect of the Bryant Street Pumping Station, as well as the McMillan Reservoir and Filtration Plant, was noticeable immediately. The water pressure on Capitol Hill had increased from 30 feet, to over 110 feet, even cracking pipes that were not prepared for the added pressure.¹⁰³ The increase in water pressure would also dramatically revolutionize the District's fire fighting capabilities, a fact that became especially important in the wake of the devastating 1904 Baltimore fire. Before the new pump station came online, the National Board of Fire Underwriters had encouraged the District to create a separate, high-pressure water main system for the Fire Department, but the pressure increases meant that the current system was adequate to meet safety concerns.¹⁰⁴ The new high-pressure service made the use of fire hydrants feasible in urban areas, eliminating the need to bring horse-drawn pump engines to the scene of the fire. These engines could then be put in service elsewhere to provide fire protection in suburban and rural areas lacking pressurized water service.¹⁰⁵

The filtration and distribution systems also affected the health and welfare of the

99] "New Pumping Plant."
"Bid for Pump Accepted."
"Powerful Machinery for New Pump Station."

100] "Install New Engine at Pumping Station."
"Powerful Machinery for New Pump Station."

101] United States Army Corps of Engineers, *Water System of the District of Columbia*, 15.

102] District of Columbia Water and Sewer Authority, *Proposed FY 2003—FY 2012 Capital Improvement Program*, 46.

103] "New Pumping Plant."
"District Pays on Plant Before Money is Due."

104] "City Bettering its Fire Defense."

105] "High-Pressure Service in Down-Town District."

residents. Deaths from typhoid had decreased from the highs of the 1890s, but at a slower rate than many had hoped. However, within three years of the pumping station's opening it was noted "in the typhoid season of 1907 there were about 200 cases less than in the 1906 period. This improvement in the situation suggests that the diminution of the amount of typhoid fever in the District of Columbia was due to the improvement in the quality of the drinking water as the result of sand filtration."¹⁰⁶ In 1903, the District Health Official began a study into the effects of the new filtration plant and pumping station on the incidence of typhoid, focusing on a large area of central Washington between North/South Capitol Street and 14th Street Northwest/Southwest.¹⁰⁷ While the results did not show the immediate drop in typhoid cases that had been anticipated, experts concluded that the remaining cases of typhoid were attributable primarily to infected milk and not the city's water supply.¹⁰⁸ Sadly, even after the opening of the filtration system the rate of typhoid fever remained significantly higher for African Americans; in 1906 the death rate from typhoid was 83.1 per 100,000 for African Americans, and only 35.4 per 100,000 for whites.¹⁰⁹

Service Area	Pump Type	Hydraulic Lift (feet)	Capacity (million gal/day)	Total Capacity (million gal/day)
Low	Single-Stage	5	35, 35, 35	105
1 st High Service	Single-Stage	92	35, 35, 35	105
2 nd High Service	Single-Stage	177	25, 25	50
3 rd High Service	Single-Stage	208	15, 15	50
	Two-Stage	208	20	
Total Capacity				310

Table 3: Pumping engine configuration after the 1954 rehabilitation¹¹⁰

106] Rosenau, Lumsden and Kastle, *Report #3 on the Origin and Prevalence of Typhoid Fever in the District of Columbia*, 98.

107] "Watching Effect of Purer Water."

108] *Ibid.*, 37. For a more complete discussion of the 1906 typhoid outbreak in Washington see Hinman, *Spatial and Temporal Structure of Typhoid Fever in Washington, D.C., 1895—1909: A Geographic Information Systems Exploration of Urban Health Concerns*.

109] Walker, "The Relation of Potomac River Water to Typhoid Fever in the District of Columbia," 289.

110] United States Army Corps of Engineers, *Water System of the District of Columbia*, 15.

CHAPTER 6

THE DESIGNATION OF THE MCMILLAN PARK RESERVOIR HISTORIC DISTRICT

The District of Columbia Historic Preservation Officer has designated the McMillan Park Reservoir as a historic district based on the following six criteria:

- The site (Smith's Spring) served as the water supply for the United States Capitol;
- The slow sand filtration plant was the first water treatment facility in Washington, and it "caused the elimination of epidemics of typhoid and reduced incidence of other diseases;"
- The site is a triumph of "pure water advocates" over those who argued for chemical treatments;
- The park is a contributing element of the McMillan Park System;
- Several major figures of the City Beautiful movement "contributed to the aesthetic and architectural development of Washington" including Allen Hazen, Frederick Law Olmsted, Jr., Herbert Adams, and Charles Platt who all played key roles in the Chicago World's Fair of 1893; and,
- The planning, architecture, and sculpture design of the park "carry out the principles of good design."¹¹¹

The site has also been determined to meet National Register of Historic Places Criteria A ("associated with events that have made a significant contribution to the broad patterns of our history"), B ("associated with the lives of persons significant in our past"), and C ("that embody the distinctive characteristics of a type, period, or method of construction"), and is thus eligible for listing on the National Register.¹¹² While the Bryant Street Pumping Station is not considered in the nomination of the McMillan Park Reservoir Historic District, it could certainly be argued that it is worthy of consideration as a contributing element of the district based on the role that it played, and continues to play, in the distribution of the first treated water in Washington, the development of the McMillan Park System, and its unique architecture that remains nearly unaltered on the exterior. Why then is the pumping station not a part of the historic district today, and why was its inclusion not even discussed?

111] Sellin, "Application for Historic Landmark: McMillan Park Reservoir," 1.

112] The National Park Service, *National Register Bulletin: How to Apply the National Register Criteria*, Vol. 15, 2.

In 1985, the United States Army Corps of Engineers opened a new rapid sand filtration plant on the west side of 1st Street Northwest, abandoning the slow sand filtration beds (only one-fifth of which could be classified as “stable”) that had been used for over 80 years.¹¹³ No longer needing the property, the federal government sold the site to the District government for “community development purposes.”¹¹⁴ In September of the previous year, the Advisory Council on Historic Preservation (ACHP) had notified the General Services Administration (GSA) that the property was potentially eligible for listing on the National Register, and that a Section 106 review would be required as per the National Historic Preservation Act of 1966.¹¹⁵ In response, the GSA indicated that they would “proceed to formalize the sale” of the property prior to the completion of their Section 106 responsibilities, but they would include a series of restrictive covenants that would ensure that a proper review was completed prior to any development. The ACHP found the GSA’s proposed covenants an unacceptable substitute for a full Section 106 review, but then proposed their own set of covenants that was ultimately enacted as follows, ensuring that the sale of the property with these covenants “would not adversely affect McMillan Reservoir, elements of which are considered eligible for the National Register of Historic Places:”

- A Historic Resources Report (HRR) must be prepared in consultation with the District of Columbia Historic Preservation Office (HPO);
- The HRR must be prepared in accordance with the Secretary of the Interior’s *Standards*;
- The HRR must “identify and evaluate historic resources in the Parcel in relation to the whole of McMillan Reservoir;”
- If no part of the Parcel is found to be eligible for listing on the National Register, then the GSA is absolved of all future review responsibilities;
- If there are eligible sites, the DC HPO must be “consulted during the development of any and all plans and specifications for the renovation, rehabilitation, demolition, or new construction;
- If the DC HPO does not agree with the proposed plans, they may request the ACHP’s comments;
- “Any and all rehabilitations and renovations work...will be undertaken in accordance with the Secretary of the Interior’s *Standards*;” and,

113] Harris, “Preposition-Position: Design Strategies in a Master Plan for Redevelopment, McMillan Sand Filtration Site, Washington, DC,” 28. Hazelrigg, 5.

114] The Council of the District of Columbia, “Chapter 20: Mid-City Area Element,” in *The Comprehensive Plan for the National Capital: District Elements*, 21.

115] *Memorandum of Opinion. Civil Action Nos. 90-1513, 90-1941* (United States District Court for the District of Columbia, Washington March 21, 1991), 9.

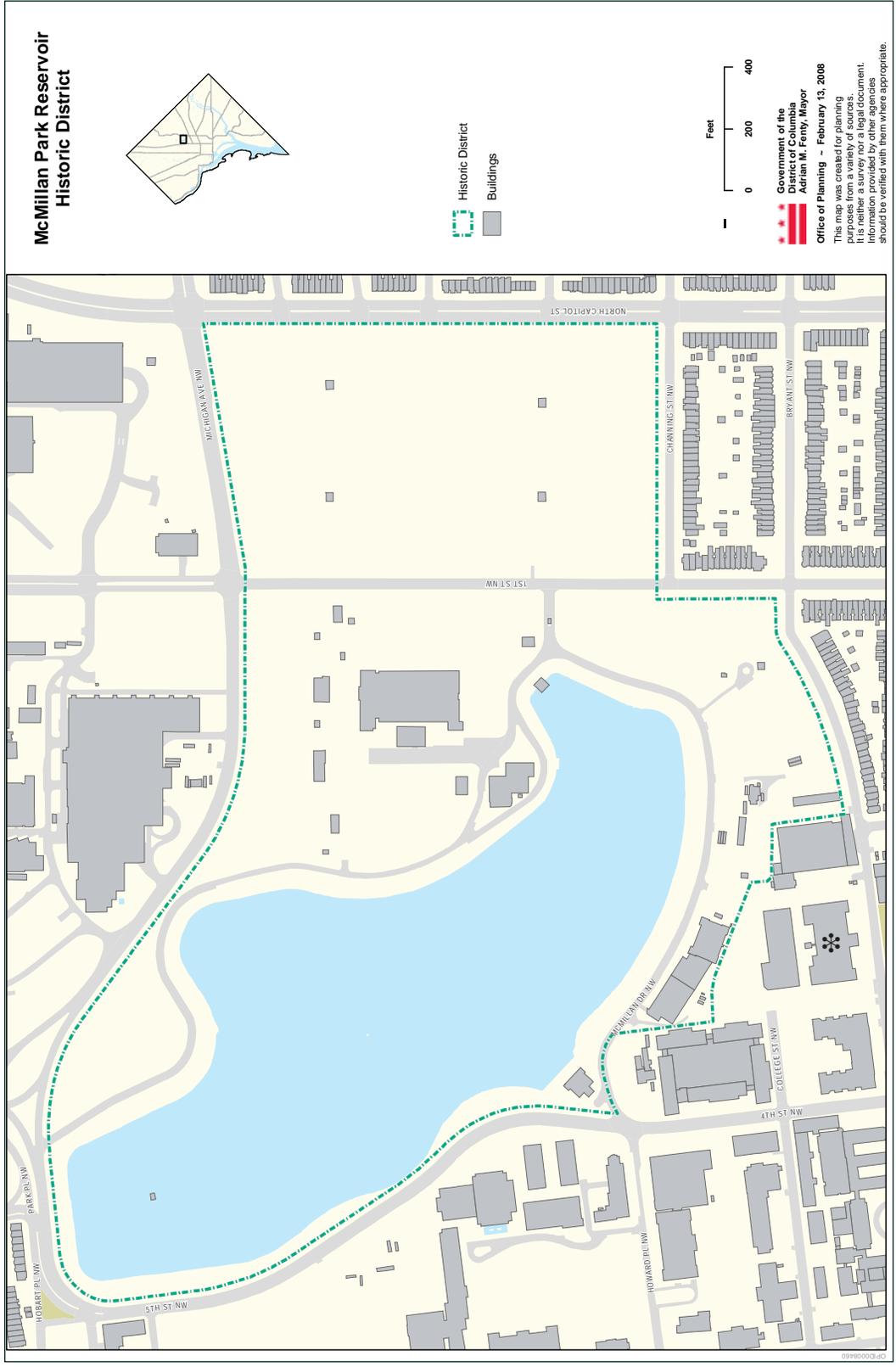


Figure 22: Current boundaries of the McMillan Park Reservoir Historic District
 * shows location of the Bryant Street Pumping Station
 District of Columbia Historic Preservation Office, McMillan Park Reservoir.



Figures 23—24: Aerial photographs of the McMillan Park Reservoir site

These aerial shots, looking northeast and southeast respectively, show the Bryant Street Pumping Station in relation to the adjacent McMillan Park Reservoir.

Figure 24: Schmick, *Soldiers' Home Area*. © *Washington Post*, used with permission

Figure 25: Staff Photographer, *Washington Star*, *McMillan Reservoir*. © *Washington Post*, used with permission



- The covenant shall run with the land, and will bind any future owners or assigns of the District.¹¹⁶

In October 1989, after the transfer of the property had been completed, the District Council approved a change in the site's future land use designation on the city's Comprehensive Plan from "park, recreation, and open space" to "mixed-use including moderate-density commercial." Making the site available for development constituted a change in the "character or use of [an] historic propert[y]," an undertaking under 36 CFR §800.2. As such, the National Capital Planning Commission (NCPC) would be required to perform a Section 106 review.¹¹⁷

However, the NCPC wrongly assumed a Section 106 review was not compulsory because at the time of the comprehensive plan amendment there were no specific development proposals to be considered; they had therefore unlawfully approved an amendment that "could clearly result in a 'change in the character of use' of the McMillan Reservoir."¹¹⁸ A subsequent court case ruled that it was "indisputable" that the change in land use constituted an "effect," and that a full Section 106 review was required.¹¹⁹ Oddly, during their review of the amendment, NCPC found that the change in land use designation would also result in a "major federal action" triggering an environmental assessment under the National Environmental Protection Act, which typically has a higher review standard than Section 106. By early 1990, the District had not yet initiated the required Historic Resources Report, but had begun a request for proposals for the development of the site.¹²⁰

Because the covenants and the Section 106 review requirement applied only to the lands sold by the GSA, just the reservoir and the filtration plant, and not the Bryant Street Pumping Station (owned by the District of Columbia since its construction), the mandated HRR only included these two sites. In fact, the only mention of the pumping station is that it was to be specifically excluded from the proposed boundaries of the district, along with Highway

116] National Trust for Historic Preservation, *Fact Sheet on McMillan Reservoir*.

Klima, "Letter to Patricia E. Bailey, re: Conveyance of McMillan Reservoir, Washington, DC."

117] Fowler, "Letter to Reginald Griffith, re: McMillan reservoir Comprehensive Plan Amendment."

118] *Ibid.*

119] *Memorandum of Opinion. Civil Action Nos. 90-1513, 90-1941*, 14.

120] *Ibid.*

Department Garage and the Fire Alarm Building, also located on Bryant Street.¹²¹ It was the reservoir and filtration plant sites that were the subject of the comprehensive plan amendment and the site of potential future development. The pump station, in contrast, was not subject to this Section 106 review, and therefore an HRR was not required at the time.

The completed HRR ultimately found that the reservoir and filtration plant sites met six criteria for local designation, and three of the National Register criteria. These findings were pursued further, culminating in the nomination and designation of the site as a local historic district. The Army Corps of Engineers opposed the designation believing that it may “limit [their] ability to perform [their] mission” of providing clean drinking water, and that proposed regulations by the Environmental Protection Agency would require upgrades and modifications to the facilities that could be hindered by the local designation.¹²² No comments were received from the District of Columbia Water and Sewer Authority.

In the end, it appears that the exclusion of the Bryant Street Pumping Station from the adjacent McMillan Park Reservoir Historic District was not a matter of political struggle between the Historic Preservation Office and WASA at the local level, and the GSA and Army Corp of Engineers of engineers at the federal level, nor was it a narrow definition of historic significance. Instead, the pumping station was left out of the district primarily because it did not face the same development pressures that existed at McMillan, which forced the nomination to pursue the most expedient route, which meant focusing on the more endangered filtration plant and reservoir.¹²³ However, nearly 20 years have passed since the McMillan Park Reservoir Historic District was nominated and it is now time to reexamine the significance of the Bryant Street Pumping Station and the preservation strategies for a functioning infrastructure site.

121] Sellin, “Application for Historic Landmark: McMillan Park Reservoir,” ii.

122] Costas, “Letter to James T. Speight, Jr., Chairman of the District of Columbia Historic Preservation Review Board, re: McMillan Park Reservoir, Application for Historic Landmark.”

123] Sellin, “E-mail to the author, re: Bryant Street Pump Station.”

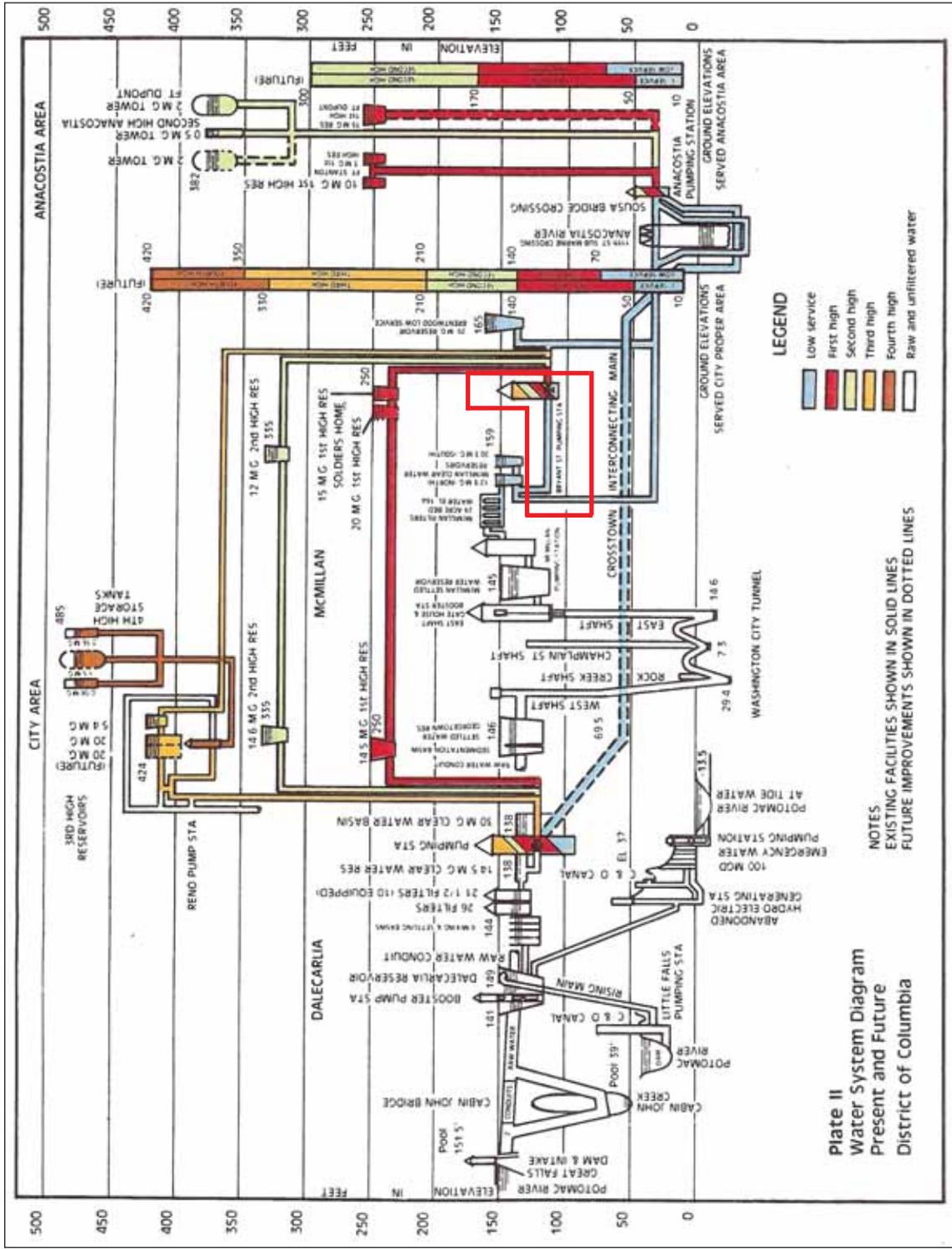


Figure 25: Schematic drawing of the Washington water system, circa 1954
 District of Columbia Department of Sanitary Engineering, Plate II: Water System Diagram, Present and Future.

CHAPTER 7

A FRAMEWORK FOR THE PRESERVATION OF HISTORIC WATER INFRASTRUCTURE

It is fortunate that a discussion of the historic significance of the Bryant Street Pumping Station can occur while the site still retains its original programming and remains in use as a functioning water pumping station. “Waterworks infrastructure which maintains its purpose-built function may have the greatest possibility of retaining some of its character-defining features, historic and physical integrity.”¹²⁴ For historic water infrastructure sites, like more traditional industrial sites, such as mills, manufacturing facilities, or mining operations, the histories of the industrial processes and the resulting social implications are intricately linked to the story of the site itself.¹²⁵ The obvious difference being that a waterworks tangible product is water, which cannot be studied as a cultural artifact alone. However, if we instead view the end result as the accessibility to water, we can interpret the role that the infrastructure has played in the development of the city, and in this way by studying multiple perspectives a greater understanding of the city’s history can be reached.

Recognizing the importance and significance of industrial and infrastructural sites around the world has led preservationists, historical archaeologists, and engineers to adopt the Nizhny Tagil Charter for the Industrial Heritage. Written by the International Committee for the Conservation of the Industrial Heritage (an advisory group of the International Council on Monuments and Sites (ICOMOS)), the charter declares that:

The buildings and structures built for industrial activities, the processes and tools used within them and the towns and landscapes in which they are located, along with all their other tangible and intangible manifestations, are of fundamental importance. They should be studied, their history should be taught, their meaning and significance should be probed and made clear for everyone, and the most significant and characteristic examples should be identified, protected and maintained, in accordance with the spirit of the Venice

124] Hunter, 5.

125] McVarish, *American Industrial Archaeology: A Field Guide*, 11.

Charter, for the use and benefit of today and of the future.¹²⁶

The Charter focuses on seven issues: defining industrial heritage, valuing industrial heritage, researching and recording such sites, legal protection options, maintenance and conservation, education and training programs, and finally presentation and interpretation. This framework provides a model upon which to base a preservation strategy for the Bryant Street Pumping Station.

The charter defines industrial heritage as “the remains of industrial culture which are of historical, technological, social, architectural or scientific value,” and although historic water infrastructure sites are not specifically mentioned, such sites “are didactic vehicles through which to explore history, technology, society, architecture and science.”¹²⁷ The Bryant Street Pumping Station, as the largest of its kind when it opened and as an ornate Beaux Arts structure, has many of the values that define a site of industrial heritage. Beyond mere technical and architectural values, the pumping station serves as a lens through which to view the social history of the workers, residents of the surrounding neighborhood, and the city at large. In 2001, the HPO identified the Bryant Street Pumping Station as eligible for listing on the National Register of Historic Places and the District of Columbia Inventory of Historic Sites.¹²⁸

The next issue is to not only thoroughly and accurately document the site but to make the resulting information publicly available. For the Bryant Street Pumping Station, much of this information is already completed—a major upgrade of the station was completed in 2007 that included the replacement of machinery on the station’s interior and façade maintenance. Construction drawings should still exist.¹²⁹ Additionally, as the station remains in operation, WASA has a working set of current as-built drawings. These documents could easily be incorporated into the existing databases of the Historic American Engineering Record, without

126] The International Committee for the Conservation of the Industrial Heritage, *The Nizhny Tagil Charter for the Industrial Heritage*.

127] *Ibid.*
Hunter, 3.

128] Franklin, “Letter to Lee Murphy, re: Categorical Exclusion for DC WASA Bryant Street PS Rehabilitation.”

129] Sweeney, interview by the author.

limiting the station's functionality or WASA's ability to modify or upgrade the machinery.

Next, legal protection options should be considered, and appropriate action should be taken. This may include nominating the site to the National Register of Historic Places, designating the site as a local landmark, or expanding the boundaries of the McMillan Park Reservoir Historic District. While the former is a mostly honorific title, the latter offers much stronger protections from additions or alterations that may negatively impact the site's significance. In the District of Columbia, designation of a site as a historic landmark affects only the exterior of the building and its grounds, again offering WASA a great deal of flexibility in the interior of the Bryant Street Pumping Station where the priority remains the efficiency of the city's water system.¹³⁰ In addition to the McMillan Park Reservoir sites, the O Street Pumping Station, a functioning sewage pumping station also operated by WASA, is pending designation as a local historic landmark (as of March 1, 2009).¹³¹ However, designating the site would at the very least preserve the station's beautiful architecture and leave the site for future generations to appreciate. Other legal options do exist as well; for the McMillan Filtration Plant Site, the District Council has enumerated in the city-wide comprehensive plan five criteria for any and all development proposals on the site. Such proposals must:

- “Dedicate substantial contiguous portions of the site for recreation and open space” and visually connect the site to Soldiers’ Home;
- “Restore key above-ground elements of the site in a manner that is compatible with the original plan;”
- Mitigate re-use impacts such as parking, traffic, and noise, and make any new development architecturally compatible with the existing neighborhoods;
- “Be responsive to community needs and concerns in re-use planning;” and,
- “Consist of moderate- to medium-density housing, retail, and other compatible uses.”¹³²

Even if the station is not to be designated, it is the day-to-day maintenance of the site that will play the biggest role in the station's preservation. WASA has not publicly referred to the Bryant Street Pumping Station as a historic resource, but it is clear that they do value it as

130] Sellin, “E-mail to the author, re: Bryant Street Pump Station.”

131] District of Columbia Historic Preservation Office, “District of Columbia Inventory of Historic Sites,” March 2009, 18.

132] The Council of the District of Columbia, “Chapter 20: Mid-City Area Element,” in *The Comprehensive Plan for the National Capital: District Elements*, 21.

such. The recent renovation project repaired, rather than replaced, the station's original 1904 windows, and carefully repointed the façade. While these may seem minor, they are indicative of a philosophy favoring preservation when possible. The same project included a wholesale replacement of the 1954 pumping engines, but this was the result of the engines, which themselves had replaced the originals, reaching the end of their functional life.¹³³

Next, a series of training and educational programs can help to educate workers and facilities managers on best practices when it comes to operating historic public infrastructure sites. This training should apply not only to supervisors, but to the skilled laborers who do much of the site's day-to-day operations. Such training can help ensure that workers are aware of the site's historic significance, and understand what they can do to properly and safely maintain it.

Finally, interpretive strategies should be developed to help educate the public on the site's unique history, architecture and engineering, and role in the development of Washington. Even a gesture as small as an interpretive sign at the station's entrance can help greatly in raising the site's public awareness. The non-profit group Cultural Tourism DC has worked with the District's Historic Preservation Office to create a number of neighborhood walking trails, each highlighting local history.¹³⁴ A trail encompassing the McMillan Reservoir, the Filtration Plant, and Bryant Street Pumping Station could be developed; this area, especially around the reservoir, is already a favorite of local walkers and bicyclists, and a series of signs would help to educate them on the site's history. Likewise, a thematic tour on the district's industrial, infrastructural, and engineering heritage could be created featuring other sites across the city such as the Tidal Basin, historic trolley and streetcar lines, the former Washington City Canal, and the bridges over Rock Creek. Another easy solution is to simply make information about the existing McMillan Park Reservoir Historic District readily available to the public, through the HPO's website and other publications. Informational brochures have been developed for many other local historic districts, but there are currently no such resources for McMillan Park.¹³⁵ Other

133] Sweeney.

134] Cultural Tourism DC, *Tours and Trails*.

135] District of Columbia Historic Preservation Office, *Historic Preservation Brochures, Guides, and Publications*.

alternatives include walking tours of the site as part WalkingTown DC, or making the Bryant Street Pumping Station available for school field trips.¹³⁶ Presently the Blue Plains Advanced Wastewater Treatment Plant is available for such tours, and an easy to use online scheduling form is even available.¹³⁷ While the Bryant Street Pumping Station is near several schools, including H. D. Cooke Elementary across the street and the Howard University College of Engineering, Architecture, and Computer Sciences, such tours are not readily available. Other larger proposals could possibly include a museum or exhibit on the site, or even in the working pumping station as in the Baltimore Museum of Public Works (coincidentally, also designed by Henry Brauns). The National Capital Planning Commission and the Commission for Fine Arts, in their study of limited amount of remaining space on the National Mall, identified 20 available sites that could house “several small memorials, a memorial park, a major memorial, or a museum.” McMillan Park was selected as a “prime location” for a potential memorial or museum related to “Senator James McMillan and the McMillan Plan, to water resources, and the U.S. Army Corps of Engineers’ contributions to the District’s historic water supply.”¹³⁸

Using a framework such as this provides an easy to follow guide to support the preservation of historic public works and industrial sites, and can easily be applied to the Bryant Street Pumping Station. By virtue of its recent, multi-million dollar investment in the station WASA has shown their dedication to maintaining this “integral part of Washington’s water system,” and the District of Columbia has likewise recognized the importance of this water system to the city by designating McMillan Park as a local historic district.¹³⁹ However, the Bryant Street Pumping Station is not subjected to the same development pressures as the filtration plant site, and in fact the goals of WASA and of the historic preservation community overlap greatly. By creating a comprehensive preservation and management plan for the site today, we can ensure that this critical piece of infrastructural patrimony continues to serve its

136] Cultural Tourism DC, *WalkingTown, DC Spring Edition Highlights*.

137] District of Columbia Water and Sewer Authority, *Tours of Blue Plains*.

138] National Capital Planning Commission, *Memorials and Museums Master Plan*, 77.

139] Sweeney.

ABBREVIATIONS

ACHP	Advisory Council on Historic Preservation
EPA	United States Environmental Protection Agency
GSA	United States General Services Administration
HPO	District of Columbia Historic Preservation Office
HRR	Historic Resource Report
NCPC	National Capital Planning Commission
WASA	District of Columbia Water and Sewer Authority

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