# Gowanus Canal Corridor

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Columbia University MS Historic Preservation | Studio II: Spring 2008

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Historic Preservation
Studio II: Planning

Columbia University
New York, New York
May 2008

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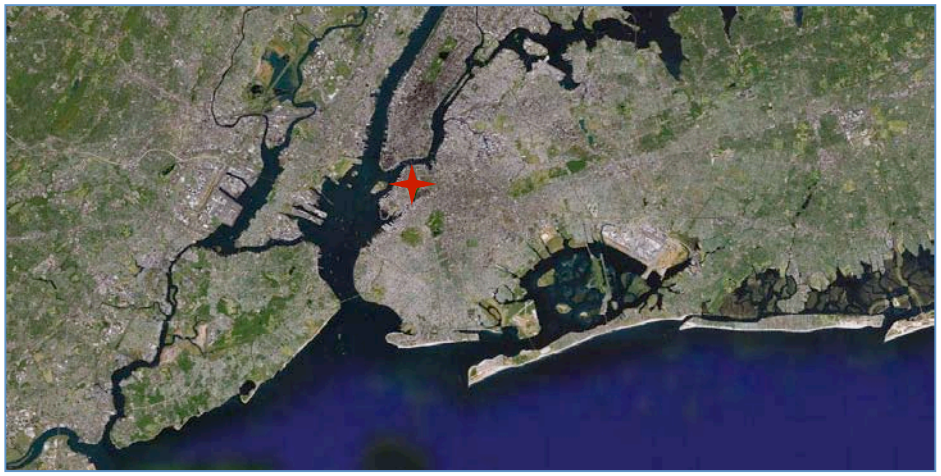
**all photos in the Gowanus Canal Corridor Survey area are taken by members of the study group unless otherwise noted.

# Introduction



In 2007 the National Trust for Historic Preservation's annual listing of America's 11 most endangered sites identified the Brooklyn Industrial Waterfront as a disappearing historic industrial site of national importance.

The Gowanus Canal Canal, located in the natural basin between Park Slope and Carroll Gardens, is part of the historic Brooklyn Industrial Waterfront currently under pressure from three primary concerns.

These are:

ground and water contamination
conflicting land use needs
community desire for public recreational space.

The combination of these complex issues has put the canal corridor's historic industrial resources at risk. In 2004, the United States Army Corps of Engineers initiated an ecosystem restoration study. Complying with section 106 of the federal review process which is designed to ensure that historic properties are considered during federal project planning and execution, identified as National Register eligible a historic district comprised of the canal and several adjacent buildings as well as structures of historic and archeological significance. In light of the Department of City Planning's Proposed Rezoning Framework, this study looks at these issues in the context of the historic cultural landscape along the canal corridor. After conducting a historic structures survey beyond that of the Army Corps, and synthesizing the various issues affecting these historic resources, we can propose recommendations for appropriate future development along the canal corridor and the best means of its growth and preservation to further a public understanding of Brooklyn Industrial heritage.

# History

The Canarsee Indian tribe were the first inhabitants of the area and remained even after the Dutch settled the area for farming. In 1636, Jacob Van Corlaer, an official in the Dutch colonial administration, made the first recorded purchase from Gowane, the chief of the Canarsee Indians for whom the area is named. The Gowanus Canal was originally the Gowanus Creek, a tidal creek surrounded by wetlands in a terminal moraine formed by the Wisconsinan ice sheet. A terminal moraine, or end moraine, is formed when material is picked up, transported, and deposited at the glaciers maximum advance. The terminal moraine in Brooklyn forms a basin that naturally drains the surrounding upland into the Gowanus Creek, which in turn drains into the East River. Early Dutch settlers were attracted by the rich soil of the Gowanus Creek shores and its access to water and oysters. These mammoth oysters were recorded as being nearly a foot long and were Brooklyn's first export. In 1645 the first tide-water gristmill in Brooklyn was patented on the Gowanus. By the mid 17th century, the Dutch had taken over all Native American land in Red Hook and Gowanus. The Dutch filled in many wetlands to create farm fields and built mills powered by the ebb and flow of tides. The English took over the Dutch settlements of New Amsterdam in the 1660s. As early as 1664 the residents of Brooklyn sought to dredge the creek at their own expense to increase the flow of water to the mills located along the creek.


*The Gowanus Creek is shown in this map from 1767. The wetlands surround the creek. Highlands of Park Slope and Carroll Gardens rim the wetland basin.*

*Map: Eco-Gowanus: Urban Remediation by Design, edited by Richard Plunz and Patricia Culligan, 2007*

# History

The area around the Gowanus played an important part in the Revolutionary War. On August 27, 1776, the British army captured the Old Stone House, built circa 1700 by the Dutch farmer, Nicholas Vechte. Maryland soldiers attacked the British army and suffered great losses in order to allow General Washington to escape across the Gowanus Creek and East River. The Old Stone House has been reconstructed and stands off of 4th Ave. near its original location. Once marked with a commemorative plaque, the cemetery of soldiers lost during the Revolutionary War is located near 3rd Ave. and 8th Street, but has since been built over.

By the mid 19th century, the City of Brooklyn was the third largest, and fastest growing city in America integrating the creek into its economic urban fabric. As residential building increased the property value along the creek, the need for greater navigability and limited drainage of the wetlands was proposed by Colonel Daniel Richards, a prominent landowner and representative for the 6th Ward in the Brooklyn Common Council. Richards created two different plans for a drainage canal in the Gowanus Creek area, including one which would have connected Gowanus Bay with Wallabout Bay allowing natural tidal flushing of the canal. Neither of these plans were deemed practical at the time; failing to take advantage of the natural creek channel both proposals required extensive excavation. NY State Legislature authorized funds for canal building in 1849 to supply the growing

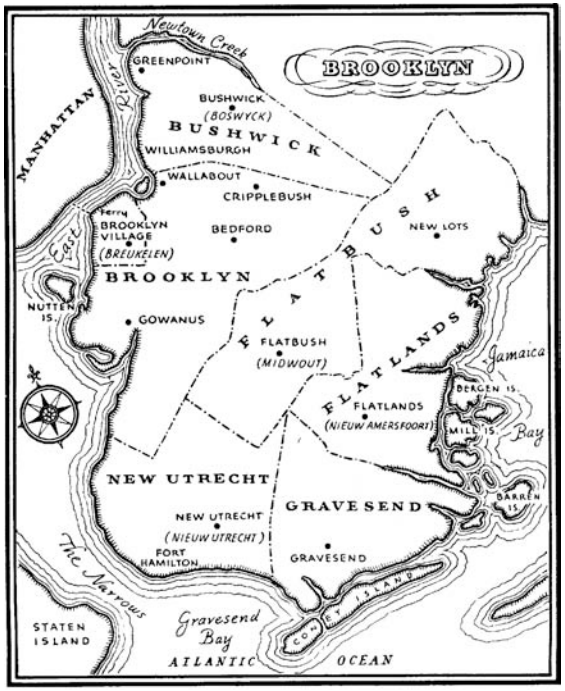
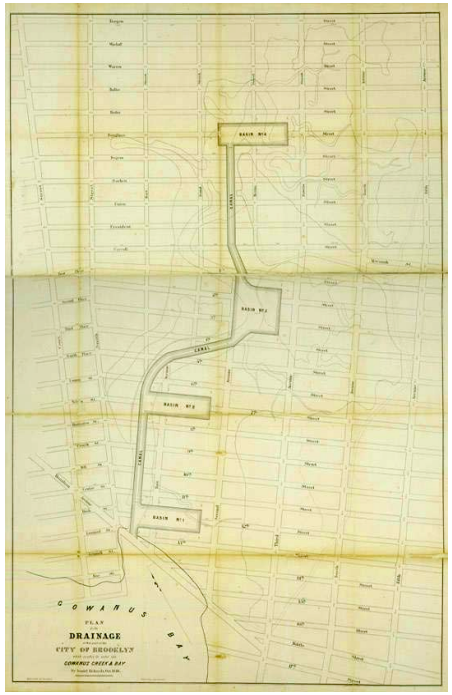



*Image:"Battle of Long Island: Retreat of the Americans under Gen. Stirling across Growanus Creek"*
*Engraving by James Simillie*
*New York Public Library*
*digital archive*
*Map: US Army Corps of Engineer, Final Report for the National Register of Historic Places Eligibility Evaluation and Cultural Resources Assessment for the Gowanus Canal, Borough of Brooklyn, Kings County, New York in connection with the proposed Ecosystem Restoration Study, May 2004*

# History

need for shore and docking facilities in New York. Assessments on the local residents of Brooklyn also contributed to the funding of the canal. Major David B. Douglass of the U.S. Army Corps of Engineers, was hired to design the Gowanus Canal. Douglass believed the canal should be a large navigable canal, from Gowanus Bay to Douglass street, "through the centre of the meadows, into which the sewers from the elevated ground should empty." The current canal was built in a very similar shape to the original proposed Douglass plan. The lower portion of the canal follows the tidal channel, while the upper portion is cut to adhere to the street grid that was being developed simultaneously. In preparation for the expected influx of industrial development along the new canal, the city undertook to grade roads and repave with durable Belgian block.

Initial construction on the Gowanus Canal began in 1853, although much of this construction amounted to little more than speculative dredging to stimulate development around the canal. The Gowanus Canal Improvement Commission, appointed by the City of Brooklyn, and Edwin Llitchfield's Brooklyn Improvement Company labored together to complete the canal by 1869. In 1855, although the canal had not been built, the street grid had been laid out. The few structures included in the 1855 land use map were residential, but by 1886, the entire area had undergone a massive transformation.


*Left: Satellite image of existing canal*
*Right: Colonel Danielichards' Original Plan for the Gowanus Canal, circa 1848*
*New York Public Library digital archive*

# History

One of few publicly funded port facilities of 19th century, the Gowanus Canal attracted many businesses to Red Hook and the Gowanus where industrial storage and manufacturing could benefit from easy transport along the canals waters. An explosion of residential developments in the area neighborhoods just outside the canal basin grew as industry expanded along the Southwest Brooklyn Industrial Waterfront.

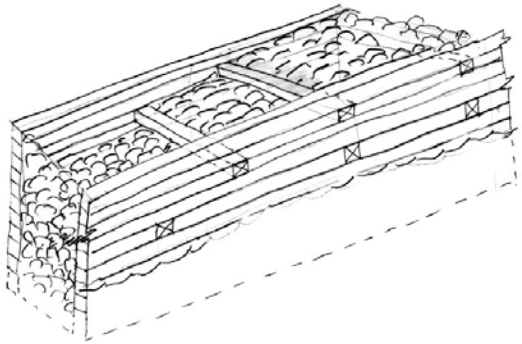
Before canal was even built, Edwin Litchfield began buying farmland around the creek and selling lots to shippers and manufacturers at great profit. In 1853 Litchfield began improving the upland streets and creating level graded streets closer to the canal. Between 1868 and 1874, Litchfield's Brooklyn Improvement Company privately constructed four 100-foot wide basins off the East side of the canal between 4th and 8th avenues. Elements of Richards' early canal basin design is seen in the existing shape with basins roughly in the same locations. The 5th Street Basin, the last of the basins built by the Brooklyn Improvement Company, was opposed due to drawbridge delays caused by barge traffic on other basins. The Brooklyn Improvement Company was required to build a fixed bridge to avoid these delays. This basin and bridge were completed in 1870. The 1st Street Basin was completed around 1874 by landowners along 1st Street. Constructed between 1880 and 1886, the 11th Street Basin was the last basin to be built and was partially filled between 1898 and 1904. Currently only a small 150-foot long basin remains of the original 11th Street Basin. The 1st and 5th street basins were filled between1953 and 1965.

*View towards the 4th Street Basin (the structure on the right is the Brooklyn Improvement Company's Office), Northwest of the 5th Street Basin and 3rd Ave.*

*Photo: Circa 1876, Brooklyn Public Library digital archives*

# History

One element of the canal that remains true to Col. Richards' original plan are the bulkheads. Richards had proposed that the canal bulkheads be built with timber sheet piling. Although the original timber sheet piling failed to separate the water from the bank, sheet piling bulkheads still exist along the canal. There are three types of bulkheads found along the canal: sheet piling of timber or steel and timber cribwork, and concrete bulkheads. A majority of bulkheads are currently timber cribbing. The use of timber cribwork began in 1866 and was popular until the 1930s. Roughly 70% of the mid-1860s timber cribbing still exists, however most of that is underwater and upper sections are now usually deteriorated, some replaced or covered with rip-rap. Any extant sheet piling was installed in the 20th century. Steel and concrete bulkheads completely replaced timber bulkheads after World War II and visible repairs have been made with concrete blocks and poured concrete.



*Timber Cribwork*

*Sheet Piling*

*Concrete bulkheads atop timber cribwork*

# History

The population of Brooklyn more than doubled between 1855 and 1880 from 205,250 to 566,663 inhabitants. By 1880 nearly 180,000 residents were foreign-born and many of them settled near the waterfronts, where work was available.

The surrounding neighborhoods of Park Slope and Carroll Gardens were built with material that was barged directly into the area along the canal. Red Hook developed as a neighborhood for workers in the area. Irish first came to the United States in the middle of the 19th century followed by German and Scandinavian immigrants hired to build and work on the docks and canal industries. Many of them lived in Red Hook and worked on the Gowanus Canal. The Gowanus Canal Corridor has historically been an area of mixed use manufacturing with affordable residential enclaves. Later in the 19th century, Italians also immigrated to the neighborhoods.


*Neighborhood Map, CB6 Community Plan*

*Carroll Gardens, left*
*Park Slope, right*

# History

Currently there are five bridges over the Gowanus Canal: the Hamilton Bridge, the 9th Street Bridge, the 3rd Street Bridge, the Carroll Street Bridge, and the Union Street Bridge. A sixth bridge on 3rd Avenue crosses over what used to be the 5th Street Basin, but it is difficult to see.

On Hamilton Avenue, the first bridge, a wooden swing bridge, was originally built in 1859 by the City of Brooklyn and then replaced with an iron swing bridge in 1877. The iron swing bridge was replaced with a new bascule bridge first in 1902 and then in 1942. A bascule bridge is a type of swing bridge that functions similarly to a see-saw. In 1889, a retractile steel-plate bridge with a timber deck and steel I-bar stays replaced the earlier iron swing bridge at Carroll Street. The last major replacement occurred in 1915, when new tracks and foundations were installed. A retractile bridge is a bridge that opens by sliding on a track. The bridge deteriorated over the years; between 1985 and 1989 the bridge was left open to allow barge traffic to continue. The 3rd Street and Carroll Street bridges, both privately financed, were built over the canal in the early 1860s. The original bridges on 3rd, 9th, and Union streets were all also replaced with bascule bridges in 1905. However, the 3rd and 9th street bridges were replaced in the 1980s.

*Photo: Union Street bascule Bridge,*
*Brooklyn Public Library digital archives, 1905*

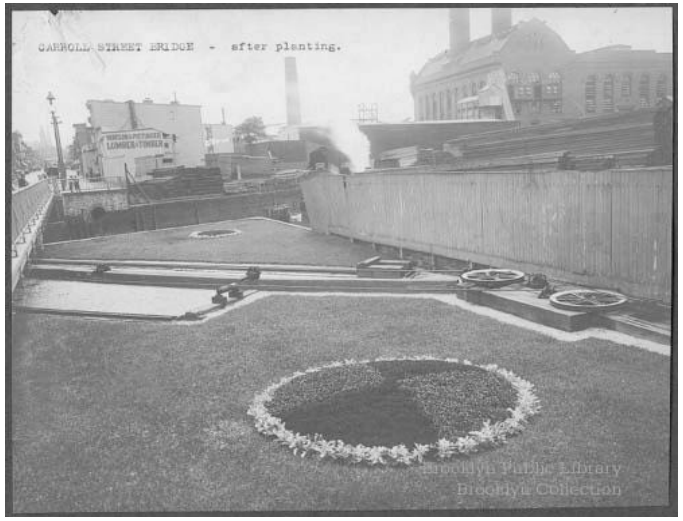
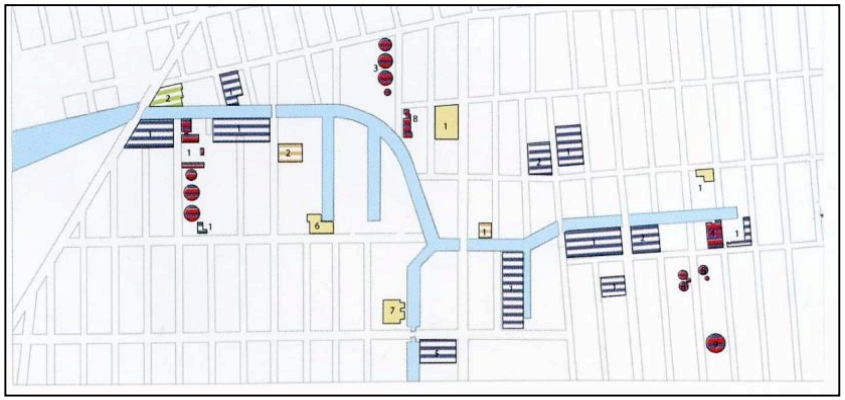



*Photo: Carroll Street Bridge Retractile tracks,*
*Brooklyn Public Library digital archives, 1912*

# History

In the first twenty years the land around the canal was developed at a rapid pace. The canal attracted a large number of bulk-product industries soon after it opened, even though the canal shorelines were not fully occupied until the late-19th century. The various industries along the canal included, gasworks, coal yards, oil depots, soap and paint factories among other industries. Most (if not all) of these industries emptied toxic wastes directly into the canal or indirectly through groundwater or run-off. With the low cost of land and access to barges, industry along the canal continued to rapidly grow.



1893 Industry Locations

1915 Industry Locations

*Images: Eco-Gowanus: Urban Remediation by Design, edited by Richard Plunz and Patricia Culligan*

# History

Images from the turn-of-the-twentieth-century show how the canal and its industries worked together. Traffic on the busy canal as well as cranes used for loading and unloading the imports and exports seen in historic images. The canal was most heavily used between about 1900-1930 when 50-60 different manufacturers used the canal for transportation of goods. The peak period occurred in the 1920s, when there were about 26,000 barge passages a year. By 1920, 6 million tons of cargo traveled through the canal, "which makes the canal the nations busiest and most polluted commercial waterway."

Although the canal was a success as a navigable waterway, the tidal waters did not adequately move water through the canal. Population influx and development created stormwater run off and sewage system problems on the canal soon after it was completed. Even though the canal was designed to flush the sewage out with the tide, it never worked as it was intended. Toxic soil and water, sewage was collected by the basin and dumped into the canal. During this time the canal became stagnant and toxic earning the nickname "Lavender Lake". Although a flushing tunnel was built by the city in 1911 circulated stagnant water alleviating some of the odor problems, the remedy was shorted lived. By the early 1960s, the propeller that allowed the flushing tunnel to suck water out of the canal broke leaving the waters stagnant. The flushing tunnel was repaired in 1999, nearly 40 years later, and water conditions greatly improved however, underlying sediment remains heavily contaminated.


*Left: Brooklyn Public Library digital archives, Brooklyn Eagle, 1940*
*Center: Brooklyn Public Library digital archives, Brooklyn Eagle, 1940*
*Right: DEC Flushing Tunnel Map*

# History

During World War II the industrial use of the canal began to decline. By 1965 traffic was down to less than 5000 barge passages and is even less today. While barge traffic has declined, much of the industrial uses in the area still exists. The advent of cars and trucks greatly effected the industries along the Gowanus Canal. Trucks could access industries that did not lie directly on the canal. The Gowanus Expressway was opened in 1964. The completion of this expressway made the use of trucks for transportation even easier. The decline in use of coal and the cessation of regular dredging in the canal may have also lead to the increase of transportation via trucks.

1939 Industry Locations

1942 Industry Locations

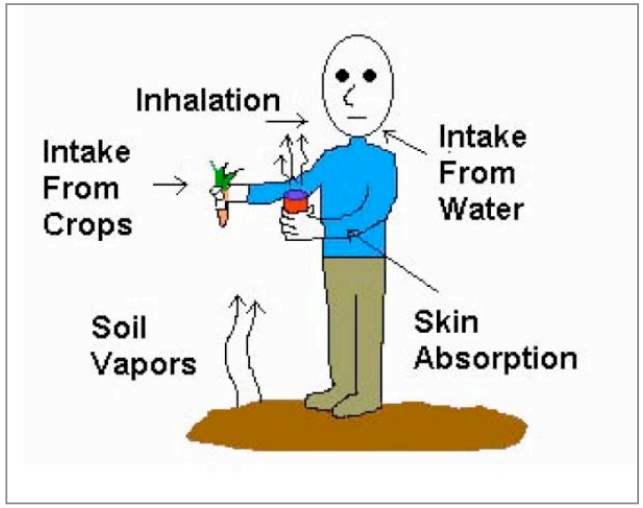
*Images:*
*Eco-Gowanus: Urban Remediation by Design*
*Richard Plunz and Patricia Culligan*

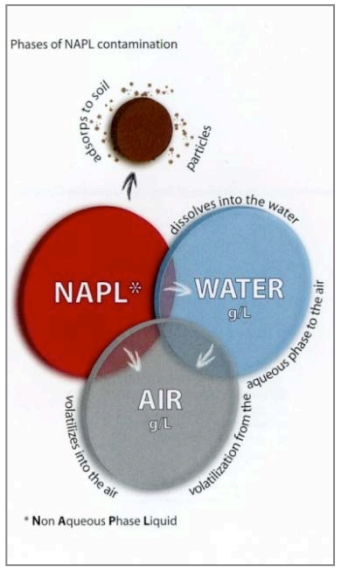
# Environment

The years of continuous industry on the canal has left its mark. The entire canal corridor is surrounded by potential brownfields sites. As a result of the coal, railway, and material manufacturing industries to name a few, a number of pollutants can be found in the soil around the canal. The most common pollutants include: heavy metals, fuels, arsenic, oil, copper and lead.

Heavy metals are a byproduct of any industries using metal. Any industry involved in the production of crude or refined oil could have left behind light non-aqueous phase liquids, such as oil. Any industry that incompletely burned coal, oil, gas, or garbage may have produced dense non-aqueous phase liquids. Food storage, packing or production could have left behind salts, fertilizers, or any other dissolved contaminant.

Non Aqueous Phase Liquids can dissolve into water, release toxic vapors, or be absorbed into soil and are potentially the most dangerous to humans.. Humans can be exposed to these toxins in a number of ways: from inhaling toxic vapors, drinking contaminated water, ingesting soil or crops grown in contaminated soil, or through direct skin contact. The result of industry are brownfields. Although the industry around the Gowanus Canal continues to provide good jobs, the current industries sit on polluted ground. Traditionally the remediation efforts have followed a "cap and pave" strategy. However, if the soil is not removed, the pollutants still seep into the canal and pollute the water.




*Images: Eco-Gowanus: Urban Remediation by Design, edited by Richard Plunz and Patricia Culligan*

In addition to pollutants leaking from the soil, the water is further compromised by previous industry dumping into the canal, which has led to the build-up of toxic sedimentation of the canal. Moreover, the canal is continuously contaminated by combined sewer outfalls (CSOs). The CSOs are the result of an over-taxed and out-dated sewage system that is designed to dump sewage directly into the canal during severe storms. Full remediation can only happen if the soil and water are cleaned simultaneously.

The Department of Environmental Protection (DEP), a city-wide government agency, in coordination with state Department Environmental of Conservation (DEC) has 8 projects around New York in the CSO Long Term Control Plan, costing roughly $1.5 billion. By 2013 the NYC DEP *Gowanus Canal Waterbody/Watershed Facility Plan* will seek to reduce the volume of CSOs discharged into the Gowanus Canal by 34% and the amount of "floatables by 78%. The Flushing Tunnel connects the canal to Buttermilk Channel forcing water out and into the Gowanus Bay. Due to recent repairs on the tunnel, the awful smells emanating from the canal have largely lessened, which is encouraging to some developers, but the tunnel still is not doing enough. The Gowanus Canal water quality is currently classed below the SD Class. Many different interests are involved in the remediation of the area; some community members want useable water and open space (i.e. a park and water walk), while others are more interested in bringing back the wildlife. The water quality has to improve to do any of these.

| CLASS | BEST USAGE OF WATERS | FECAL COLIFORM | DISSOLVED OXYGEN (never less than) |
|---|---|---|---|
| SA | Shelfishing and all other recreational use | No Standard | 5.0 mg/L |
| SB | Bathing and other recreational use | Monthly geometric mean less than or equal to 200 cells/100mL from 5 or more samples | 5.0 mg/L |
| I | Fishing or boating | Monthly geometric mean less than or equal to 2000 cells/100mL from 5 or more samples | 4.0 mg/L |
| SD | Fish survival | No standard | 3.0 mg/L |

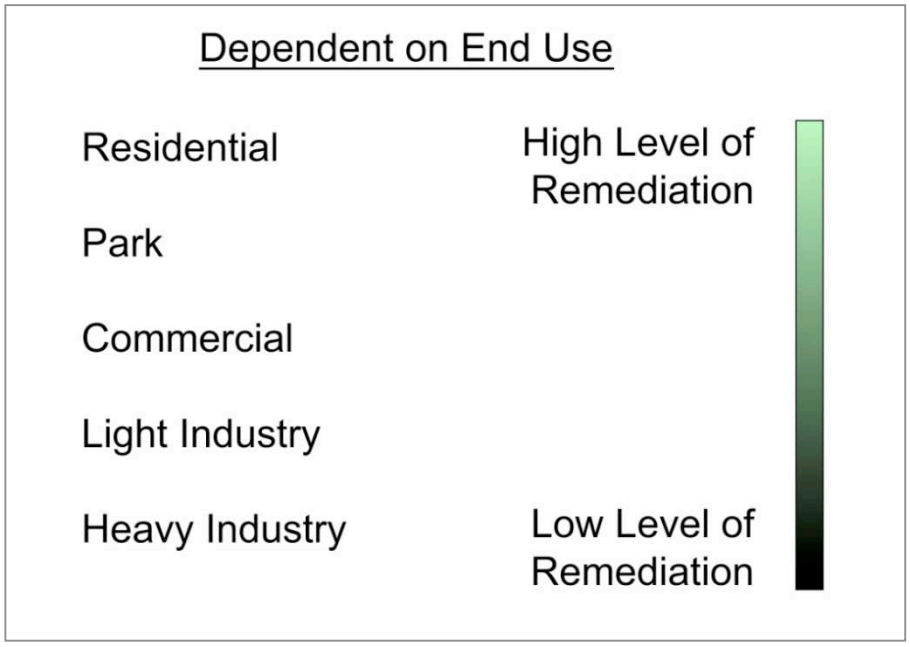
*Image and chart: NY DEP Gowanus Canal Waterbody/Watershed Facility Plan Report, September 2007*

# Environment

The current remediation plans for the canal are the renovation of the flushing tunnel and pumping station systems carried out by the DEP, a Feasibility Study for Ecosystem Restoration currently being carried out by the US Army Corps of Engineers, and soil remediation by owners of past contaminating use parties, generally land owners and developers. The amount of remediation is dependent on the end use. A low level of remediation is needed for industrial uses, while a high amount remediation is needed for residential use. Some members of the community want public access, while others support the environmental improvements for either reestablishing wildlife or building residential developments. The New York City Department of City Planning has recognized these community goals and thus has included them in their framework for a proposed rezoning of the area immediately around the Gowanus Canal.

Organizations in the community focus on different aspects of life around the Gowanus Canal: recreational, developmental, and environmental. Some of these organizations include: The Gowanus Dredgers, Friends and Residents Of the Greater Gowanus (*FROGG*), the Gowanus Conservancy, and The Brooklyn Center for the Urban Environment. While all residents in the area are advocating for a cleaner canal, some of the organizations are acting as if the water were clean already by canoeing in the canal.

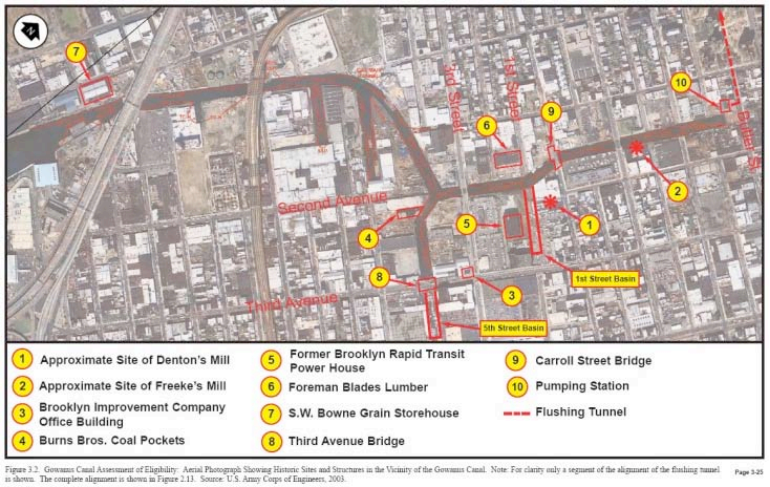
In 2004 the US Army Corps of Engineers was called in to do an Ecosystem Restoration Feasibility Study due to the toxicity in the soil and water.



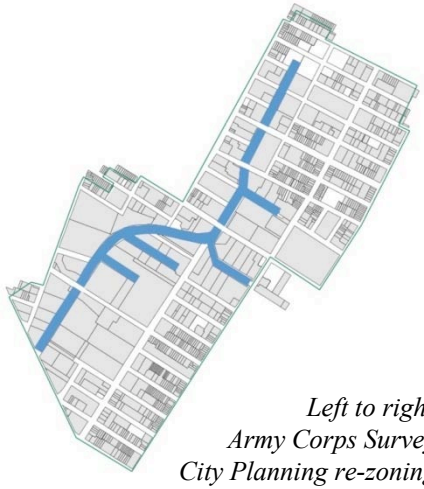
## Boundaries & Methodology

As part of our research, we conducted a survey of the historical resources in the Gowanus Canal Corridor. Our first task was to determine our survey boundaries. We first looked at a section 106 survey the Army Corps of Engineers completed in 2004 as a part of their proposed ecosystem restoration study. This survey was undertaken to examine the possible impact on historic resources by environmental remediation. The boundaries of the study included the canal and canal-side structures with a minimum of 20 feet adjacent to the canal. Second, we examined the Gowanus Canal Corridor in light of City Planning's proposed re-zoning framework.

After examining these two surveys and taking over-view tours of the area, we established boundaries that included all of the lots within City Planning's re-zoning framework. Our goal was to extend the Army Corps survey to include all the resources that could potentially be affected by re-zoning. For our survey we recorded each lot's use, address, block / lot number, current owner, type of industry using the space, occupancy, stories, materials and other pertinent information. We then created a photo album connecting an image of each resource to the database.







*Left to right:*
*Army Corps Survey,*
*City Planning re-zoning,*
*Our survey boundaries.*

# Survey

Our survey served to highlight general trends in height and use patterns surrounding the Gowanus Canal.

***Heights***

Revealed by our survey are the concentrations of building heights. The majority of the buildings are 15-45 feet, with a smattering of buildings reaching 60 feet in height.

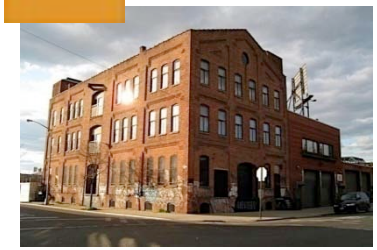
***Construction Dates***

The majority of construction in the area between 1842 and 1899 occurred in residential lots outside of the Gowanus Canal Corridor. Many of the lots within our study are saw construction during the years of 1900 to 1959. A small amount of building occurred between 1960 and 1999 and only a few buildings were added during the 2000 to 2005 period.

***Land Use***

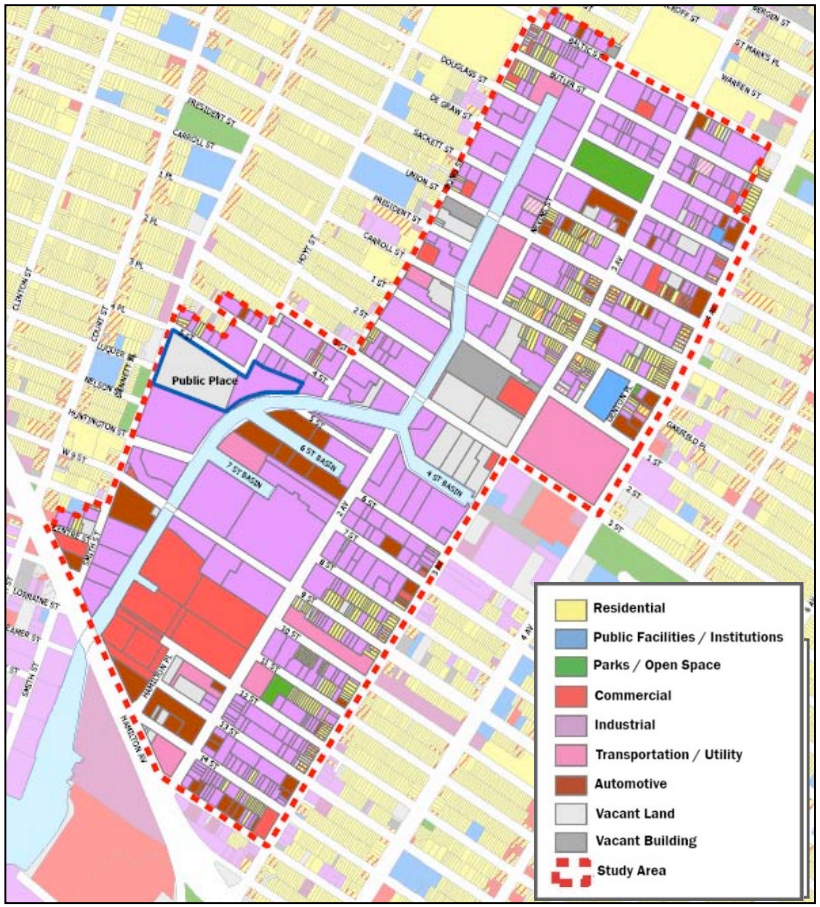
Nearly 3/4 of the building lots in the Gowanus Canal Corridor are used for industrial purposes. Mixed-use properties take up 13% of our survey area including both mixed-use residential/commercial and mixed-use residential/industrial. **Seven percent** of the area is comprised of lots that are actively used for parking, storage, and services such as truck repair. Parking is mandated in the current zoning and the storage lots are a vital part of the area's industry. Vacant residential and industrial sized lots are found in 3.5% of the lots. The smallest contributors to our area include purely residential lots, commercial buildings such as Lowe's and institutional spaces such as churches, schools and public parks. Other important historic resources in the Gowanus are the industrial structures including signage, coal pockets, and bridges.


*Building Heights, 2006*



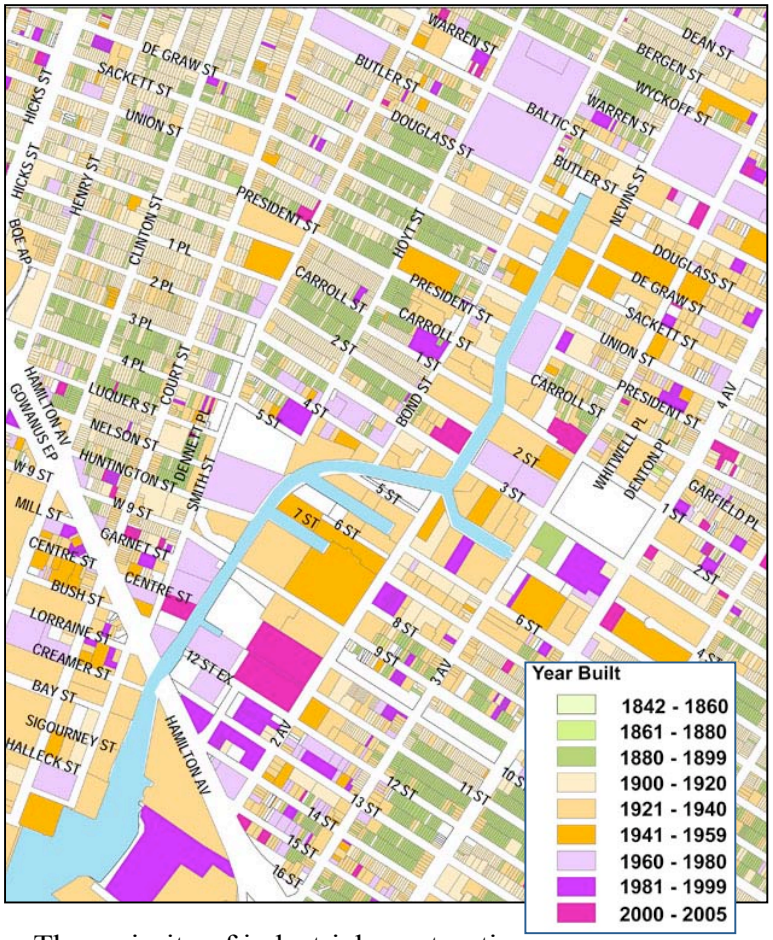
# Survey

Land Use




The high concentration of purple on City Planning's use map heavy industrial use. The yellow is indicative of small residential clusters spaced throughout our district.

Building Heights




The majority of industrial construction happened between 1900-1960.

# Survey

**Army Corps Survey Results**
The following structures are those that the US Army Corps of Engineers identified as a National Register Eligible Historic District in the Section 106 review for the ecosystem restoration study.

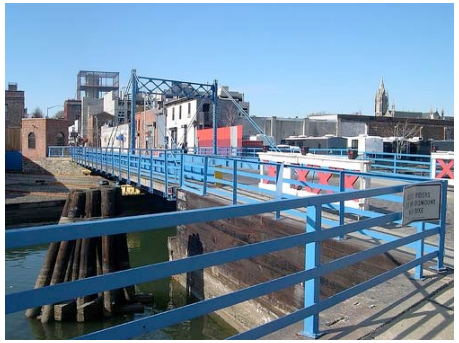
***Canal, Turning Basins, Bulkheads***
The canal, turning basins, and bulkheads were found as contributing resources due to 90% of the original channel design being intact in terms of location, width, and design. 100% of the original main channel exists and 2/3 of the channel walls are constructed of the original timber design.

***Pumping House and Flushing Tunnel***
The pumping house and flushing tunnel are part of system built between 1905 and 1911 to flush the canal and household waste and industrial toxins. Today, most of the original brick tunnel is still intact, minus repair portions built of concrete. The flushing system has only had sporadic success during its years of operation, but it still an important part of the canal and the communities reaction to environmental concerns.

***Carroll Street Bridge***
The Carroll Street Bridge was built in 1888-1889 by New Jersey Iron and Steel Comp. Due to its status as the oldest of 3 surviving retractile bridges in the US, in 1987 it was designated as a NYC Landmark.

***Third Avenue Bridge***
The 3rd Avenue Bridge was built in 1870 and rebuilt in 1889. It crosses the canal between the 4th street basin and the filled 5th street basin. The roadway and deck supports have possibly been replaced, but the abutments date to the 1889 reconstruction.

*Pumping House*



*Carroll Street Bridge*

*Third Avenue Bridge*

***Coignet Stone Company***
This building was built in 1873 to house the New York and Long Island Coignet Stone Company. It later became the office of Edwin C. Litchfield, head of the Brooklyn Improvement Company. This company developed much of the area around the Gowanus. Designated a NYC landmark in 2006, this building is one of NYC's earliest concrete structures.

***Brooklyn Rapid Transit Power House***
The 1902 Brooklyn Rapid Transit Power House was a part of a complex that powered mass transit in Brooklyn. The company was formed in 1896 and by 1900 owned all of the steam railroad, elevated lines, and streetcars in Brooklyn sans one. They were incorporated into the city's subway system in 1940.

***The S.W. Bowne Grain Storage***
The S.W. Bowne Grain Storage was built in 1886 and made use of the canal for local distributions. The company made its fortune as part of the urban hay, feed and grain processing industry.

Coignet Stone Company


Brooklyn Rapid Transit Power House

Bowne Grain Storage

# Survey

***Foreman Blades Lumber***

Foreman Blades Lumber was built in two sections in 1918 and 1921. It served as lumber storage warehouse. Along with coal, lumber was one of the major commodities shipped on the canal was used to build the neighborhoods surrounding the Gowanus. The building has been demolished since being identified as contributing and National Register Eligible Historic District by the Army Corps.

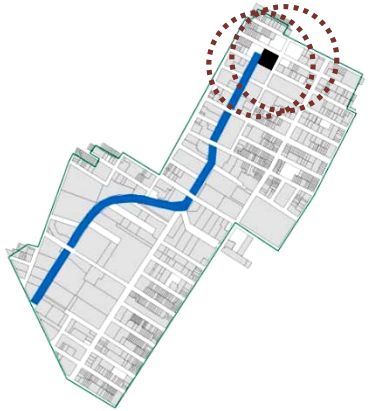
***Burns Brothers Coal Pockets***

Burns Brothers built 8 coal pockets between 1915 and 1924 and an additional 10 were built between 1932 and 1938. While the majority of coal pockets in the United States were used for loading railcars, these structures were used to move coal from canal barges to trucks and wagons. Coal was one of the most heavily shipped commodities on the canal; the majority of coal that left these pockets was used to serve local Brooklyn businesses.

*Foreman Blades Lumber*

*Burns Brothers Coal Pockets*

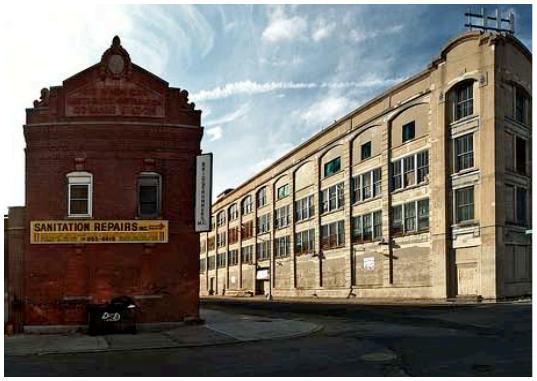
**Department of Water Supply**
**1911**
239-57 Butler St./ 206 Nevins Street



As far back as the 1880s the Gowanus Canal had gained notoriety as a result of the filthy, coal-fume-ladden air compounded with the stench of raw sewage eminating from the canal. With pressure from the residential neighborhoods surrounding the canal, in 1905 engineers proposed to install a flushing tunnel, completed in 1911 at the head of the canal, forcing polluted water out of the canal into the Buttermilk channel which runs underground for twelve miles until the water is emptied into the east river. At the same time as water was pumped out of the canal, cleaner water was pumped back into the canal.

The flushing tunnel stopped working in the 1960s and remained inoperable for three decades before it would be repaired. In the interim, the odors of the Gowanus Canal returned, and the water quality regressed to its original unpleasant state. The flush pump was repaired in May of 1999, which further enabled the water to circulate and the stench to weaken.

*Identified by the U.S. Army Corp. of Engineers and determined eligible for the National Register as a contributing building in the Gowanus Canal Historic District.*


## Brooklyn Central Power Station, Power House, 1902

323 3rd Ave.

Founded in 1896, the Brooklyn Rapid Transit Corporation was an attempt by the city to consolidate all the steam railroads and elevated and streetcar lines in Brooklyn. This Romanesque Revival, brick Central Power Station was built in 1902 to fashionably support this newly consolidated system. The power system pioneered a new kind of powering technology called alternating current to replace the generated direct current used in power stations built in the previous century such as the Eastern Power House in Williamsburg built for the Brooklyn City Railroad. Alternating current was a technological advancement since this kind of system was better able to transmit power over long distances, with the advantage that power stations could be spaced at greater distances apart, compared to the closer spacing necessary for direct current power systems to operate.

The plant was located adjacent to the Gowanus Canal, giving it easy access to barges carrying the coal needed to fuel its boilers. At one time a coal elevator stood along side the canal and fed coal from the barges to a conveyor that carried it through a tunnel directly into one of two boiler buildings in the power plant. Workers within this building were repeatedly injured and burned as a result of bursting steam boilers, according to the historic New York City Police Report. The generating equipment was in a separate dynamo building. By 1938, the boiler buildings were gone and the dynamo building was empty. It was later used as a warehouse by another owner while the MTA placed electrical equipment in the nearby yard and a new building. By 1977, the dynamo building was the lone remnant of the site's power-generating past.

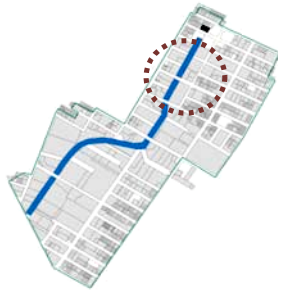
*Identified by the U.S. Army Corp. of Engineers and determined eligible for the National Register as a contributing building in the Gowanus Canal Historic District.*

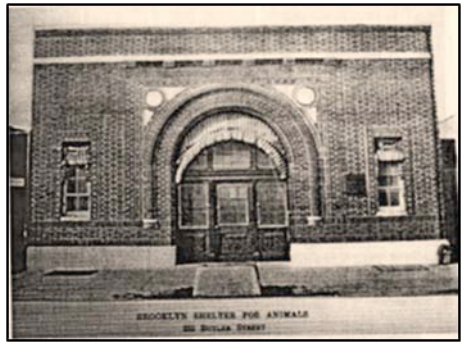
# Findings

In face of progress, many of the remarkable industrial structures within the Gowanus Canal Corridor are at risk as community organizations and governmental agencies have so far neglected to consider these historic resources when envisioning the future of the Gowanus area. Early remnants of the city's industrial past are witnessed throughout the area, including not only the shipping and barging activity directly occurring on or relating to the canal, but also the development of warehouses and industrial infrastructure, which has played -and continues to serve- a fundamental role in providing necessary services and industries that complement activities occurring directly on and adjacent to the canal. Additional low rise vernacular residential housing, perhaps once serving canal industry,  can be found scattered among industrial usee buildings throughout the corridor.

The Gowanus Canal has an undeniable historic legacy and this guide will provide building histories and photographs in order to make a case for preservation of the industrial cultural landscape of the Gowanus Canal Corridor located within a radius of two to three blocks from the Gowanus Canal, south of Butler Street down to Hamilton Avenue.

# Findings





**American Society for the Prevention of Cruelty to Animals , 1913**

## Renwick, Aspinwall & Tucker

233 Butler Street

This eclectic Romanesque Revival-style building was designed in 1912 and extended in 1922 by the well-known architectural firm of Renwick, Aspinwall & Tucker for the new Brooklyn headquarters for the American Society for the Prevention of Cruelty to Animals. The Society was founded in 1866 by Henry Berg, known as *The Great Meddler* in order to prevent the widespread mistreatment of horses in the city of New York. The first Brooklyn shelter was located in a basement on 114 Lawrence Street and raised enough money as a result of donations from wealthy philanthropists including the Bowdoin and Schermerhorn families to purchase two lots on Butler Street, directly across from the recently-opened canal pumping station.

Upon completion, the society claimed in their Annual Report in 1913 that this new building to was "the most modern establishment of its kind in existence. It is even larger and more complete than the Manhattan shelter …" The building occupies nearly the full footprint of the two lots, measuring 58'6" by 100" facing Butler street. The building included a formal lobby space and reception area, and specialty spaces and kennels in the back and basement-level. The roof design included a terrace-level to function as a dog run area.

# Findings

By 1961 the facility was reported by the *Times* to "handle more animals than any shelter in the country." As a result, it was necessary to install more dog kennels in 1962 on the west side of the main building in a "U" shaped 1-story structure designed by Renwick, Aspinwall & Guard.

The Society Operated in this location until 1979 when the cost of operating this building became too high. A new , smaller and more efficient shelter was opened on Linden Boulevard that same year. The shelter was sold to Lawrence Trupiano who had been operating a musical instrument repair and antiquities shop in SoHo, and decided to leave Manhattan in search of lower rents in the Gowanus area.

Converting the shelter into a musical instrument repair shop required the installation of heavy woodworking machinery, high interior spaces for organ repairs, and separate areas for the repair of more delicate instruments and for the display and sale of musical antiquities. Mr. Trupiano and his partner, Steve Uhrick continue to operate their musical instrument repair shop in this location.


Findings

**R.G. Dun & Co., 1914**
**Moyer Engineering and Construction Company**
239-57 Butler St./ 206 Nevins Street

R.G. Dun & Co. was founded in 1841 by Lewis Tappan as the *Mercantile Agency*, which was the first commercial reporting agency in America. According to the *Brooklyn Daily Eagle* in 1877, the agency was founded to provide "reliable, consistent, and objective credit information for merchants." The lots located on the corner of Butler and Nevins was purchased around 1900 by Robert Graham Dun to house his printing house operation. There were two pre-existing buildings located on this site that had operated as part of the once-profitable lumber yard owned by John Halstead. Mr. Dun applied to demolish the existing buildings in 1914 in order to begin construction of the new building. The firm of Moyer Engineering and Construction was hired to build a four-story, 100x200 sq.ft. fireproof building at the cost of $90,000 in 1914. The architects designed a concrete reinforced masonry building with 4-6 terracotta partitions in the interior with cement-finished floors, fireproof windows and doors, and a tar and gravel roof. The style of the building, industrial art deco, used blue terracotta tile ornament, which was a fashionable style during this time.

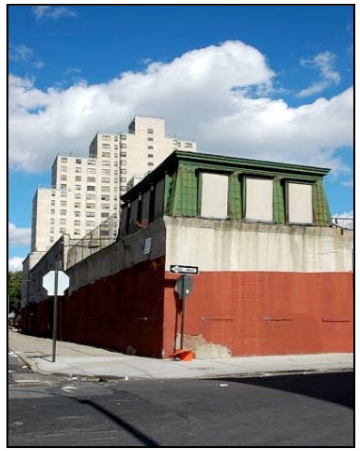
In 1933, Dun merged with the Bradstreet Company to form *Bradstreet and Dun*.Improvements made to the building as a result of this this merger included the installation of an elevator. By the 1960s, the printing operation was no longer profitable and the building was sold to *Cee Bee Manufacturing Company*, which produced plastic products. However, this company did not occupy the building for long since the building lacked adequate shipping and receiving facilities, which was an indication of the changing times and the greater reliance on truck-based shipping and transportation. The factory remained vacant for several years until it was purchased with the help of the Industrial Development Agency in 1996 by its current owners, Nathan and Benjamin Akkad. The co-owners relocated from New Jersey when they were looking to expand their company, *Idea Nuova*, that specializes in women's accessories and novelty items. In 2005, Community Board 6 approved the conversion of the building to residential use.

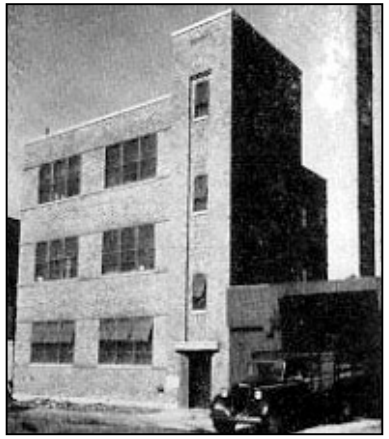
**Commonwealth Color & Chemical Company**
**1922**
259-75 Butler Street

The area north of the Gowanus Canal around Butler and Nevins Streets was originally farmland, but was developed into a thriving commercial lumber center by the 1880s . Nevins street was paved in 1888 as part of a City-sponsored paving of this area at a cumulative cost of $300,000.

This lot was owned in the late 19th and early 20th centuries by John S. Loomis who "owned almost half of the two blocks on Butler Street between Nevins and Third Avenue. Theodore, James and Sylvestor Ross also owned lumber companies in this area.

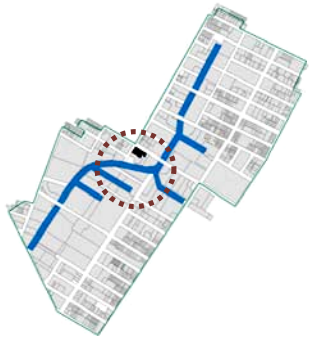
This plant was founded in 1911 established at Nevins, Butler and Baltic Streets in Brooklyn when the company outgrew its original location due to the high demand for its products by the textile, leather, paint and varnish industries. Several building expansions were made over the years as the company expanded until 1949 when the company could not expand the facility any further and moved to a modern, streamlined plant in the Bronx. The former Nevins Street site in Brooklyn was sold to an office furniture manufacturing business that same year.





*New York City Department of Buildings, 1940 Tax Photo*

# Findings



**Former Site of New York Vitrified Tile Works, International Tile Co.**
(1898) 1934
130 3rd Street

Part of the nascent tile industry in Brooklyn, New York Vitrified Tile Works, which later became the International Tile Co. opened operations in 1880 along the Gowanus. Citing the *Daily Eagle*, the Brooklyn company made both tiles to hang on the ceiling and tiles to walk on , called "low tiles," which are far more difficult to make due to the moulded clay surface where a necessarily thick, often colored glazing is applied. The terracotta building that currently occupies the site was built in 1934 and is awaiting speculative redevelopment.

**National Packing Box Factory**
**1922**
543 Union St.

James H. Dykeman hired the architect Robert Dixon to construct a new building for the "National Packing Box Factory" in 1889 after his original downtown Brooklyn location caught fire. The factory was built in a spare, unornamented style with a the company name originally painted on both sides of the building. The factory grew to include a complex of five buildings, but by 1903 the business was not as thriving as it had once been and Dyckman leased portions of the factory out to three other tenants including the "Brass Goods Manufacturing Company," and the "Nightingale Cabinet Company."

In 1932, the rear portion of this building caught on fire, and in 1936 the company declared Bankruptcy. Multiple tenants occupied the building until the 1980s when the building's interior was partitioned into working studio space for artists. The building continues to house working studio spaces, now owned by independent artists.

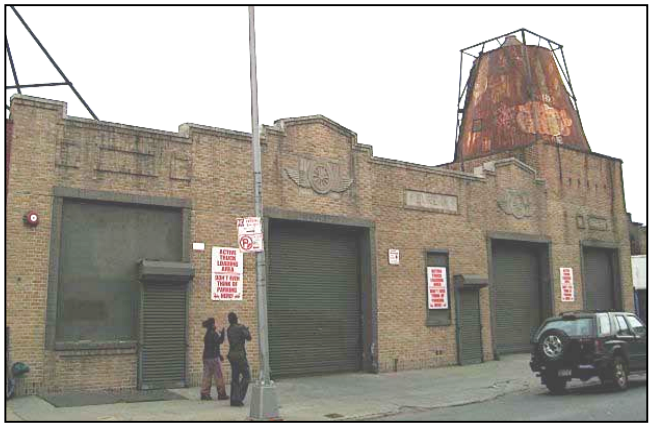

*New York City Department of Buildings, 1940 Tax Photo*

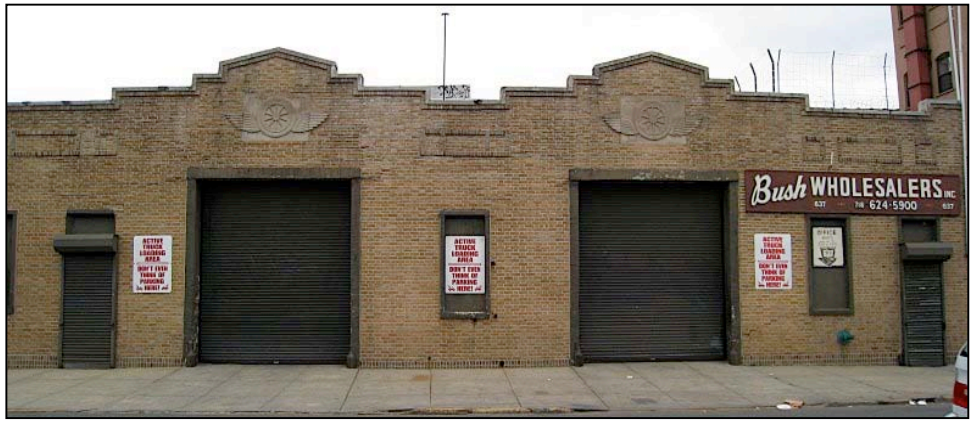
# Findings

**“Eureka” Garage**
**1923**
638-44 Degraw St., 637-641 Sackett St.

The auto industry had a significant presence on this block during the 1920s with the rise of the automobile, and this 1923 garage stands as one of the early examples. Notable features on the façade of this building include cast stone medallions of a winged wheel and the carved “Eureka” sign, which associates the building with a chain of other historic auto repair shops of the same name.

The building was converted in 1956 to a woodworking shop, which required extensive interior alterations, however, the building’s façade was not altered with the exception of the installation of a “large dust collector in the buildings northwest corner, which is seen in the photograph to the right.” The woodworking company sold the building in the 1970s to the current occupant, Bush Wholesalers.

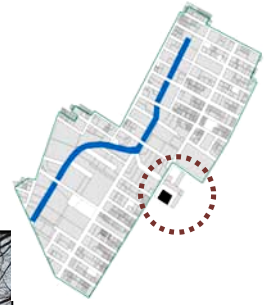




**Brooklyn News, 1919**
209-215 3rd Ave.

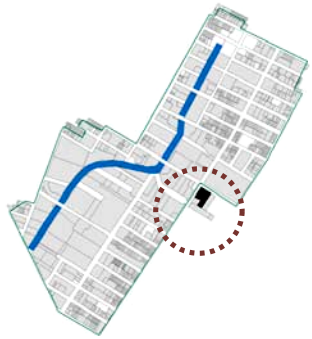

The Brooklyn News printing and distribution garage, with its distinctive neon signage, was built in 1919. The Daily News was known as "New Yorks Picture Newspaper," and this building operated from 1919 until it closed in the 1970s. Look at the symbol between "The" and "News" - it is camera. This building was purchased in 2008 by Elo Realty that plans to demolish the building and build a bank and retail in this location.

**Eagle Clothing Factory, 1951**
209-215 3rd Ave.



The Eagle Clothing company, was founded in 1919 in Manhattan and moved to Brooklyn in 1951 to expand their operations. In an interview in the NYX, the owner stated, "We have long dreamed of the ideal factory, in which are combined the most comfortable and healthful working conditions and the most scientific production methods." And, "Among the features are air conditioning, lighting, special devices to cut down machine vibration and arrangements to give each worker double the normal amount of space yet to keep him constantly within a few inches of his source of work supply, and a recreational roof garden. Yet, in 1977, the company filed bankruptcy, and in 1989 sold their land and factory building to the U-haul corporation, who continues to operate in this location and has altered the factory in order to convert it into storage units.

# Findings




**Somers Bros. Tin Box Factory,**

**(American Can Factory), 1891**

232 3rd Street

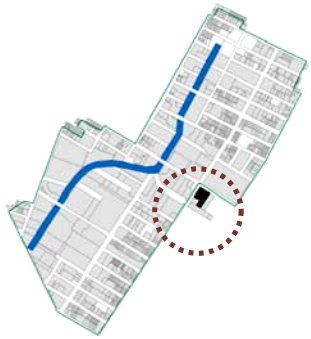
The Somers brothers Guy, Joseph, and Daniel, had already opened the Somer Tin Plate Works in 1891. By the next year the company was making 1,800 tin boxes/wk and within a decade grew to have over 150 employees. They developed their own form of early lithography, which replaced paper labels on tin packaging. The design on the packaging was often quite elaborate.

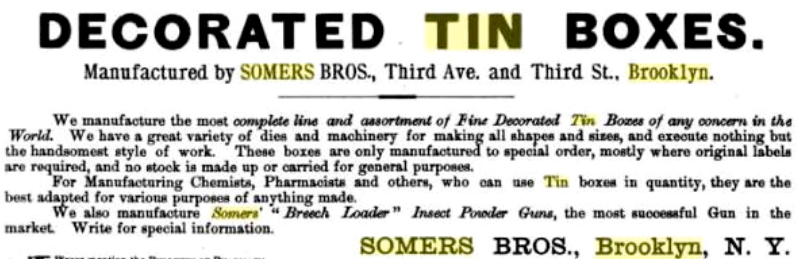
Oil was exclusively used to power the mill, which was pumped from iron tank boats on the adjacent 4th St basin (now partly filled) off the Gowanus canal. Operations closed temporarily from 1896 until a tin plate trust was formed between the only other two such enterprises in the country located in Pittsburgh and Chicago, and adopted the name, "American Tin Plate Company," in 1898. Forming a trust had the advantage of "increasing the efficiency of shipments and doing away with middlemen." When they sold the business to the American Can Company in 1901, it became "one of the principle centers of manufacturing in the country," since its location was ideal for shipping, and there was plenty of room for expansion and enlargement of the plant on this corner lot.

# Findings

By 1903, according to the *New York Times*, “Special care has been taken to strictly adhere to its policy in expending its earnings in the concentration and development of its plants, with the result that each of the factories is a modern, up-to-date establishment.”

Today, the facility is operated by “XO Projects Inc.,” as “an arts and manufacturing community [for] the design, arts and culture industry. Current tenants include a wide range of designers, visual, performing & literary artists and companies as well as manufacturing businesses.”



**DECORATED TIN BOXES.**

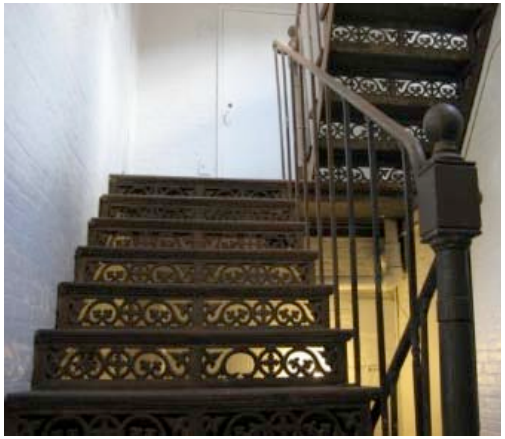
Manufactured by SOMERS BROS., Third Ave. and Third St., Brooklyn.

We manufacture the most *complete line and assortment of Fine Decorated Tin Boxes of any concern in the World.* We have a great variety of dies and machinery for making all shapes and sizes, and execute nothing but the handsomest style of work. These boxes are only manufactured to special order, mostly where original labels are required, and no stock is made up or carried for general purposes.

For Manufacturing Chemists, Pharmacists and others, who can use Tin boxes in quantity, they are the best adapted for various purposes of anything made.

We also manufacture *Somers' "Breech Loader" Insect Powder Guns*, the most successful Gun in the market. Write for special information.

SOMERS BROS., Brooklyn, N. Y.



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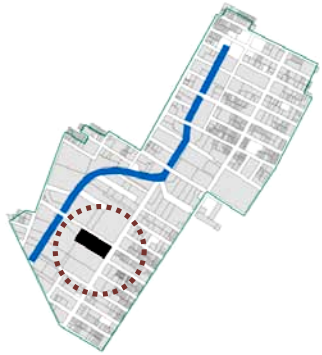


**T.H. Roulston Inc.**
**1904**
209-215 3rd Ave.

This lot which stands a block from the Gowanus canal on 9th St. was purchased in 1890 for the construction of a large warehouse for a growing grocery enterprise. Thomas Roulston was the son of an Irish immigrant who had worked as a grocery clerk in a Brooklyn and came to purchase that store and two others in 1888.

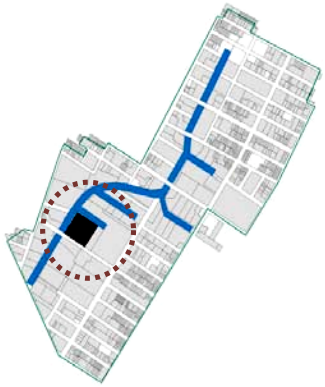
During this time, grocery stores operated in a way that when an order was placed with the store the goods were delivered from a central warehouse the following day. This building was the central warehouse for the Roulston Company. Although the orders were delivered to customers by carts, and eventually delivery trucks, wholesale goods were delivered to the company on the canal.

The business grew to over 300 stores throughout the 5 boroughs, according to Roulston's 1946 obituary. After his death, the Warehouse and company was sold by his son in 1951.

**Kentile Floors**
**1949**
58 2nd Ave.

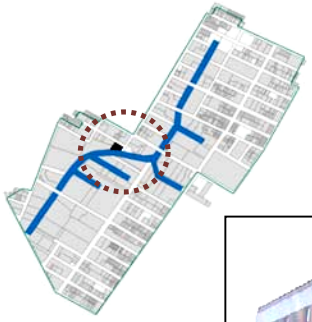
With its distinctive looming neon sign, the Kentile Floors factory can been seen from many points in the Gowanus area. Kentile Floors was founded by Arthur Kennedy in 1898 and once billed itself as "America's largest manufacturers of super-resilient (asphalt) floor tile. With plants in both Long Island and Queens, the Kentile Company opened up a third plant in this location in 1949. Kentile was part of the growing "do-it-yourself industry" sweeping the nation which advertised finely dressed suburban housewives installing a new kitchen floor.

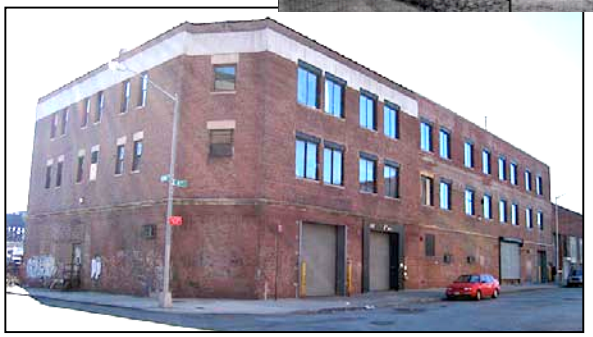
The Kentile operation closed operations in the 90s ago following a series of labor strikes in the 1960s and costly asbestos lawsuits the building is currently shared by a clothing manufacturing company and an import company.





# Findings



## Lorraine Fiber Mills
## 1915
98 4th Street

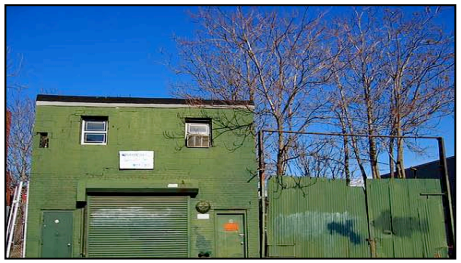
In 1948, Lorraine Fiber Mills, moved into a building built in 1915 that the Knickerboxer Ice Company had once occupied. Reflecting the transformation of the areas industry to a thriving center for textile manufacturing, the company added the third story to the building in the 1940s and removed a pre-existing decorative cornice.

The company operated here until the 1970s. Now the buildings 2nd and third stories are used for artist studios.

## Wesley Lacquer Co., 1880
95 4th Street

This building was originally built as a residential frame dwelling in 1880. Wesley lacquer, a wholesale manufacturer of lacquer thinners, purchased the building in 1929. As you can see from the tax photo, in 1938, a second story was added and the original parapet was removed. It is now the property of the New York Industrial Development Corporation that leases it to a small manufacturer of electronic equipment and novelty products.

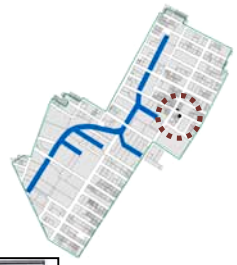

*New York City Department of Buildings, 1940 Tax Photo*

# Findings

**Carroll Street Rowhouses and Tenement, 1872**
Geo. F. Roosen
471, 500-504 Carroll

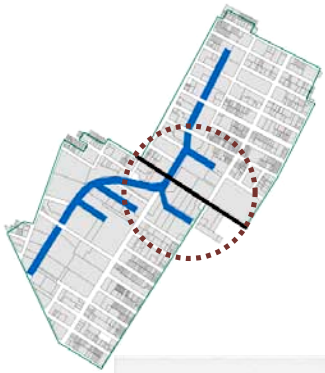
This block of Carroll Street, built in 1872 once supported a working-to-middle class Italian community, defined by the lack of exuberant decoration on the façade. Each building originally housed three families; two on the top and one on the bottom. But by 1900, the first house on the left housed five families with a total of 13 children between them. Now, the buildings are currently divided into townhouses for two tenants



**Historic Residence of Owen Nolan, Distance Measuring Company, 1878**
215 Butler Street

215 Butler Street was built in 1878 by the real estate developer Owen Nolan as a tenement with a stable in the back of the lot, In 1926, the building was converted into a furniture store with a storefront window. In 1969 The Department of City Planning re-zoned the Gowanus, the building was sold its current owner, Eugene Wada, who opened a machine shop.

# Findings



**9th Street Subway Viaduct**
**1931**
34 9th Street

The **9th Subway Viaduct** is the City's tallest subway viaduct and reaches 87.5 feet above the Gowanus Canal. It was built in **1931** as an extension of the "F" line and has been altered several times over the last 75 years. The MTA has scheduled to entirely renovate the Viaduct by 2012.

# Gowanus Industrial Cultural Landscape

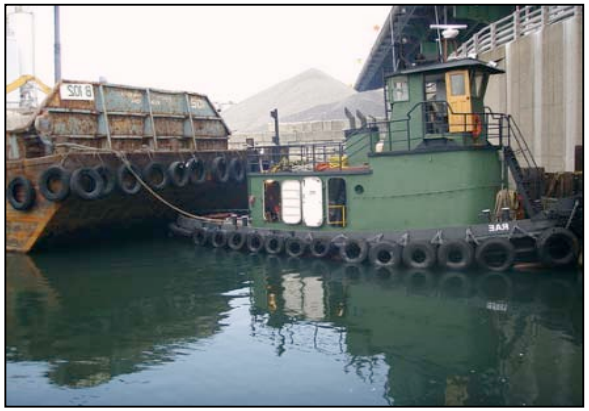
The Gowanus Canal  industrial landscape evolved through complex patterns of development, and successive modifications. Partly because of this complexity and the lack of visual unity,this  industrial landscapes is  often poorly appreciated and understood. Interpretation of this landscape must consider the complex spatial interrelationships that have been established over time. The National Register of Historic Places defines a Historic, Vernacular Landscape as one which:

- Evolved through use by the activities or occupancy of people
- The landscape reflects the physical and cultural character of everyday life
- Function plays a significant role in vernacular landscapes
- Examples include rural villages, industrial complexes, and agricultural landscapes

The landscape boundaries of the Gowanus's heritage corridor are determined in relation to the surviving features of patterns of interrelated industrial and cultural activity.  Particular patterns of activity, such as the use of the canal for barging, help organize the space through establishing functional interrelationships between the canal, and the buildings and activities that grew around it.

# Findings

Yet, certain histories and uses are less apparent and will remain literally invisible without detailed research that looks at the people, uses, and products associated with a site.  Early remnants of the city's industrial past are witnessed throughout the area, including not only activities occurring directly on the canal, but also the development of warehouses and industrial structures. A single site has a context in relation to other sites of the same or similar type, dramatizing rarity or typicality. Interpretive strategies need to develop detailed analysis not only of the resource itself, in this case the Carroll Street Bridge, but also of the possible contexts in which it can be understood.

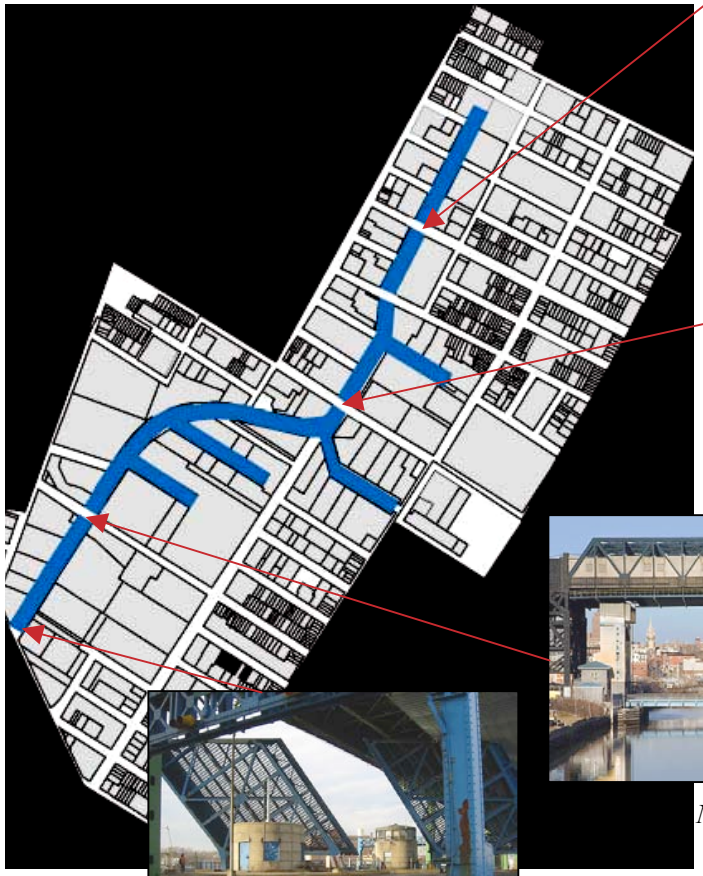


# Findings

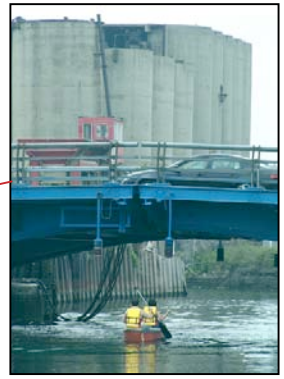
There are four other bridges that cross the main Gowanus canal. But unlike the 19th Century Carroll Street Bridge, most of these have replaced earlier bridges that were built in the same location at various points since the 1900s.

Whether we are attempting to interpret a simple workshop, as seen here, or understanding a larger industrial complex, all sites exist in complex systems. Not even the simplest can be fully understood in isolation.

Industrial sites are often characterized by complex sequences of change over time in response to wear, the introduction of new technology, or in accommodating entirely new uses. In sites which are no longer in use, the state of survival and visibility of purpose are important.



*Union Street Bridge*



*Third Street Bridge*

*Ninth Street Bridge*

*Hamilton Avenue Bridge*

# Findings

## PRECEDENT: Industrial Cultural Landscapes

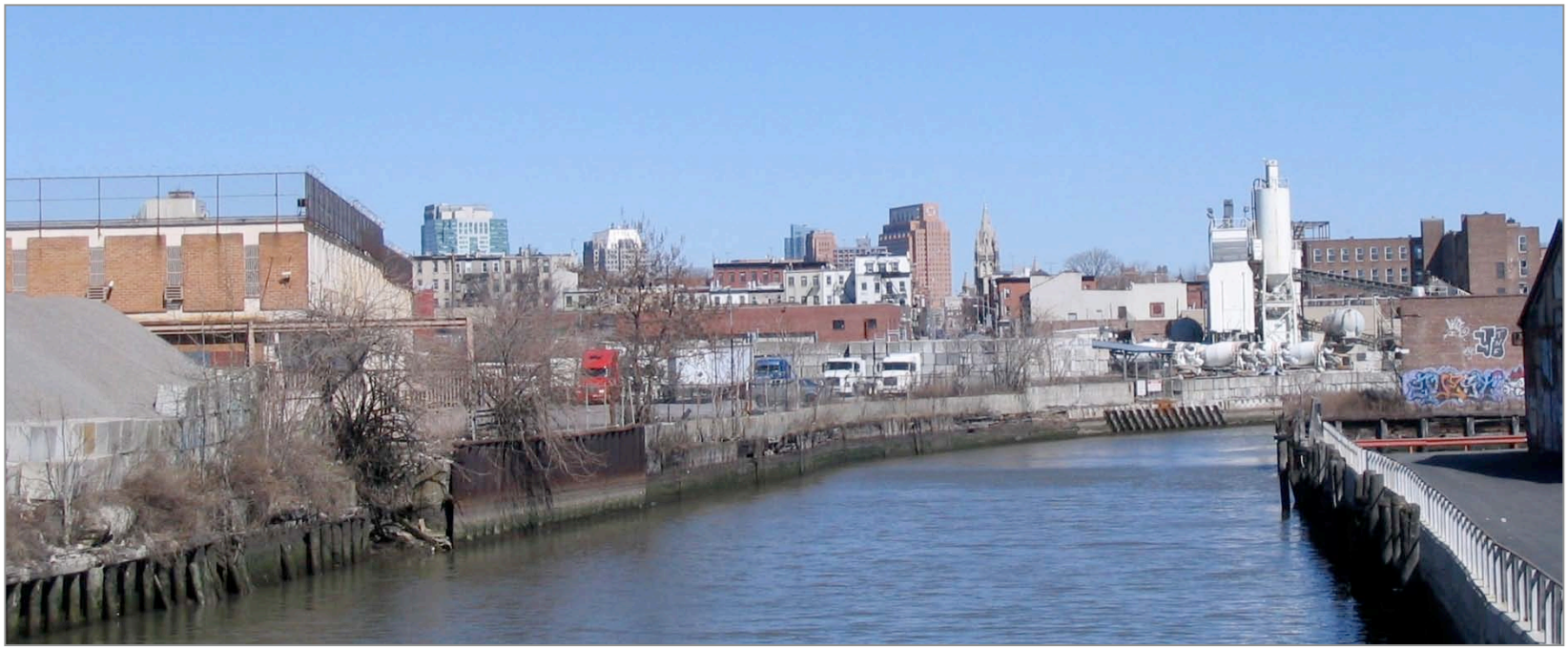
The Gowanus Canal Industrial Landscape is not an isolated case. The field of cultural landscapes studies, or the study of "everyday, ordinary landscapes," has only "officially" been around since 1951. and gained recognition through the writings of J.B. Jackson, who later founded Landscapes Magazine in the 1970s.

This new discipline helped to raise an awareness of American industrial heritage, and for historic preservation, some of the earliest efforts to preserve industrial landscapes included the designation of New York's Erie Canal as a National Historic Landmark in 1960, followed by the Illinois AND Michigan Canal Locks and Towpath in 1964. Activity culminated in the designation of the Chesapeake and Ohio Canal as a National Monument by President Eisenhower when urban renewal schemes proposed to turn the 184.5 miles of the canal into a parkway. In 1971 the entire length of the canal was established as a National Historical Park by congress.

This was followed by a community-based effort to save the industrial heritage of Lowell, Massachusetts which had been the major site of textile manufacturing in America during the Industrial Revolution. Escaping a similar proposal to convert the canal into a highway, Lowell was designated a National Historic District in 1977 and in 1978 the Lowell National Historical Park in was established by congress.

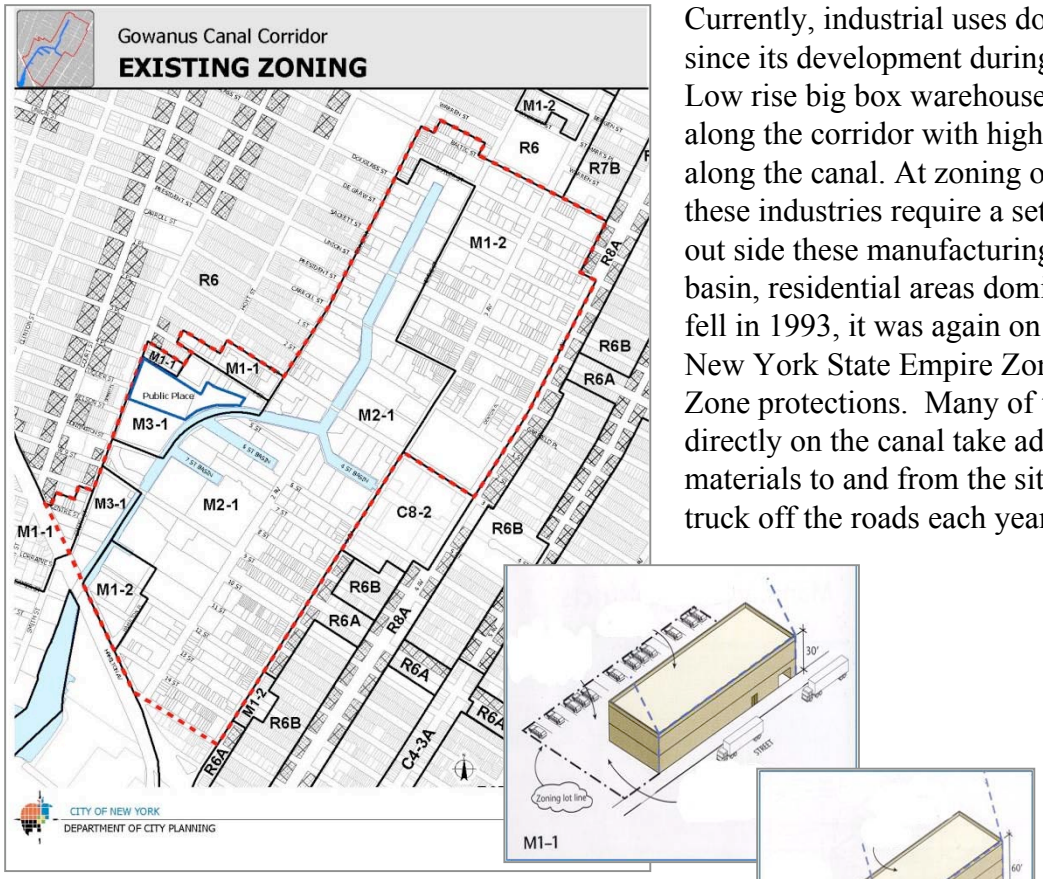
There are now 41 National Historical Parks in the US. These parks are "historical" rather than "historic" since it is the history of and development of the resources that are historic, such as the canal, rather than the park itself. This effort evolved into the establishment of Heritage Corridors, the first of which was the Illinois and Michigan Canal Heritage Corridor in 1984. Today there are 37 National Heritage Corridors in the United States. Unlike national parks, these areas are locally-managed although the National Park Service connects the project to federal financial assistance, as well as ongoing planning and interpretation assistance and expertise.

# Zoning



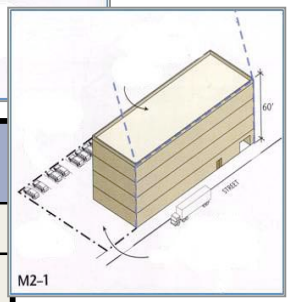
The Brooklyn Industrial Waterfront was identified on the National Trust's annual 11 most endangered sites list in 2007. Zoning changes in this historically manufacturing corridor is of great influence on its future development. As PLANYC 2030 looks toward new development and infrastructure in 2030 for the influx of over one million people to the region, transition to mixed use or residential zoning come with the potential for erosion of the cultural landscape of the Brooklyn Industrial Waterfront. As we have already seen the changes undergone in Red Hook, the city Economic Development Corperation is now preparing to defend Sunset Park's industrial port activities. With a focus on sustainability in PLANYC, the Economic Development Corporation of New York City is looking to revive water transport as a means of reducing traffic carbon emissions. Historically industrial Gowanus Canal is not prioritized in the city's maritime future. A protected Industrial Business Zone (IBZ) with tax benefits and zoning protections, as well as a State Empire Zone, the canal corridor shelters over 450 small businesses ranging from light to heavy industry, including art space, and specialized manufacturing in many early 20$^{th}$ century industrial facilities.

# Zoning
## Existing Manufacturing







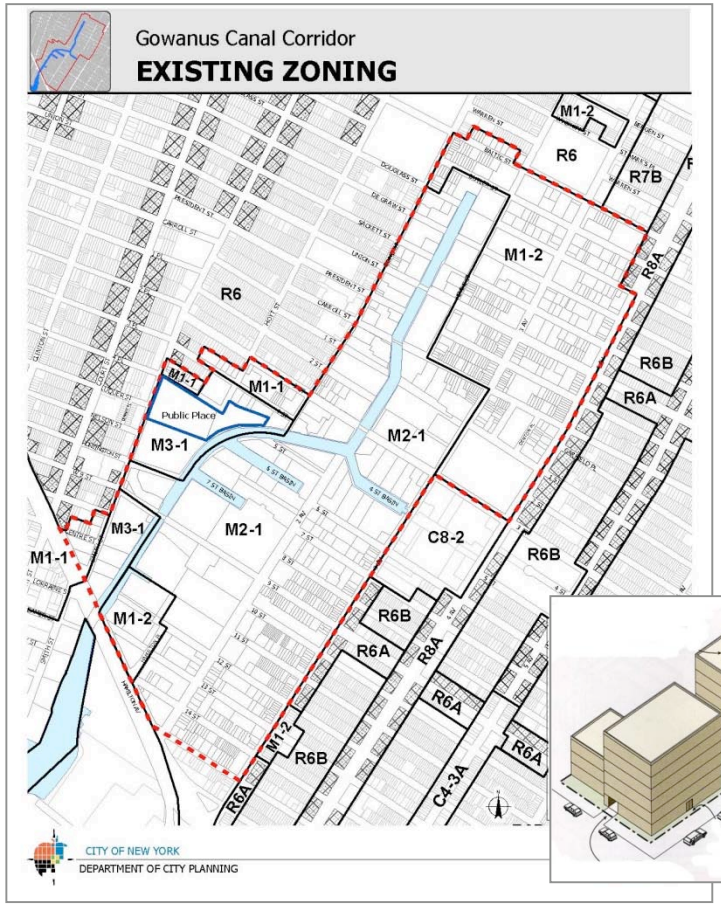


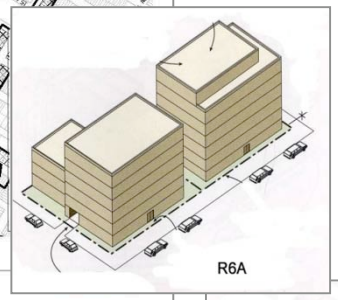

Currently, industrial uses dominate the canal corridor as they have since its development during the post-Civil War industrial boom. Low rise big box warehouses characterize the past and current uses along the corridor with higher mid-range massing located directly along the canal. At zoning of M1-2, M2-1, and M3-1, many of these industries require a setback as well as parking on site. Just out side these manufacturing zoned areas surrounding the canal basin, residential areas dominate. While the number of industries fell in 1993, it was again on the rise in 1997 with the support of New York State Empire Zone incentives and Industrial Business Zone protections. Many of the heavy industry businesses located directly on the canal take advantage of the ability to barge raw materials to and from the site effectively removing nearly 200,000 truck off the roads each year.

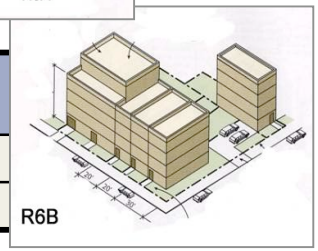
| | FAR | Base Height | Building Height Max | Required Parking |
|---|---|---|---|---|
| M1-2 | 2.0 | 1-2 story | | REQUIRED |
| M2-1 | 2.0 | 5 story + | 60ft setback | REQUIRED |
| M3-1 | 2.0 | Heavy industry | 60ft setback | REQUIRED |

# Zoning

## Existing Residential



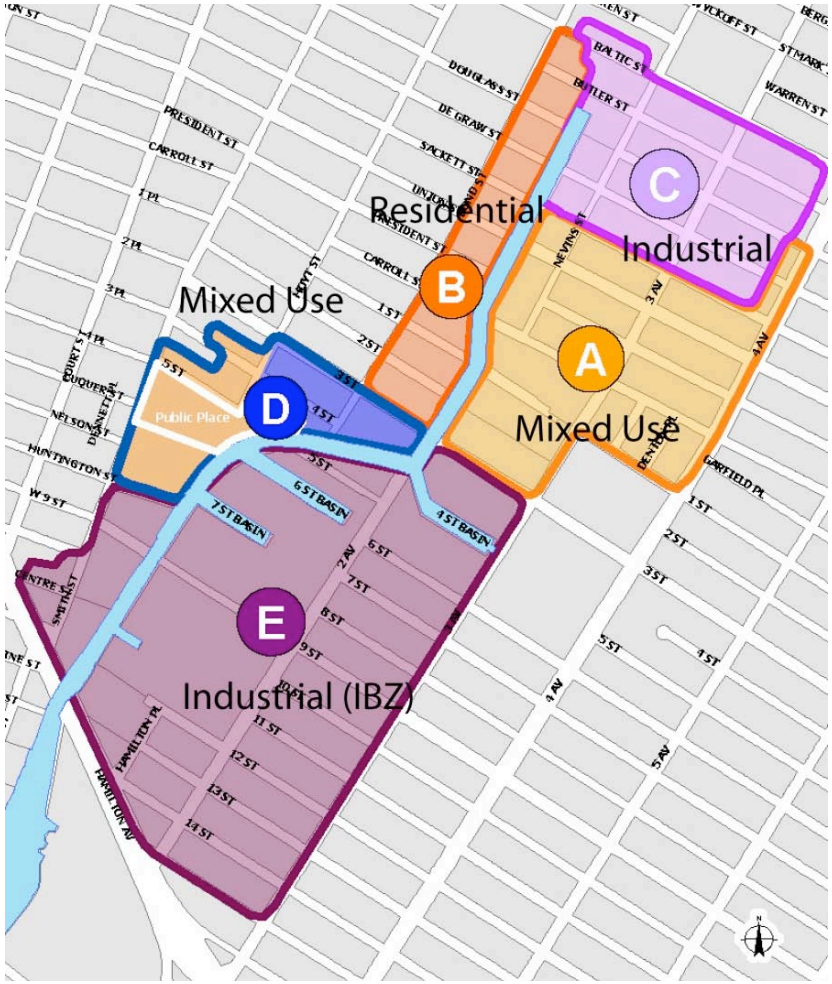

| | FAR | Lot Coverage | Base Height | Building Height Max | Required Parking |
|---|---|---|---|---|---|
| A | 3.0 | 80 - 65% | 40-60ft | 70ft | 50% |
| B | 2.0 | 80-60% | 30-40ft | 50ft | 50% |

The Gowanus Canal Corridor is bounded by the popular residential districts of Park Slope and Carroll Gardens. Immediately outside the study area are residential areas zoned R6A and R6B. Italianate brownstone row houses and 4 story tenement buildings are reminders of the neighborhood that once housed the working immigrants linked to canal industries. At a scale sympathetic to the existing warehouse structures in the area, this zoning allows for a gradual transition into the Brooklyn basin rim.The popularity and growth of these neighborhood has put residential development pressures on the historic industrial Gowanus Canal Corridor.

# Pressures

The reason for completing an extensive survey of the historic resources in the Gowanus Canal Corridor is because of increasing pressures that will diminish, or eliminate all together, the integrity of this cultural industrial landscape. The most urgent issue, of course, is demolition, which can happen for a number of different reasons. The four most immediate pressures identified that put the historic resources at risk for demolition and other forms of debasement are: industrial displacement, new construction, community demands, and environmental issues.

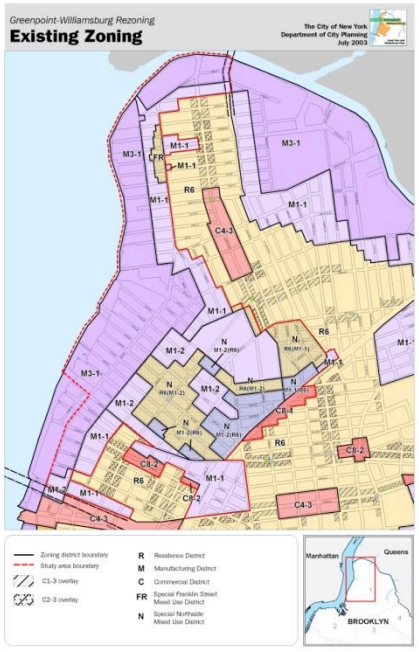
The proposed rezoning framework will change the Gowanus Canal Corridor from being zoned entirely manufacturing, to only partially manufacturing. In the map on the right, the proposed framework shows the primary changes to be in areas A, B, and D, which will be rezoned mixed-use or purely residential. Currently, 38%, the plurality, of the Gowanus Canal Corridor's population works in construction, manufacturing, transportation and warehousing industries. Rezoning that will decrease manufacturing will cost many jobs. Fewer manufacturing jobs will not only hurt the economy, but it will also take a toll on many historic resources. New infiltrating uses will require different types of spaces and existing structures will either be altered or demolished in response to the new real estate market.

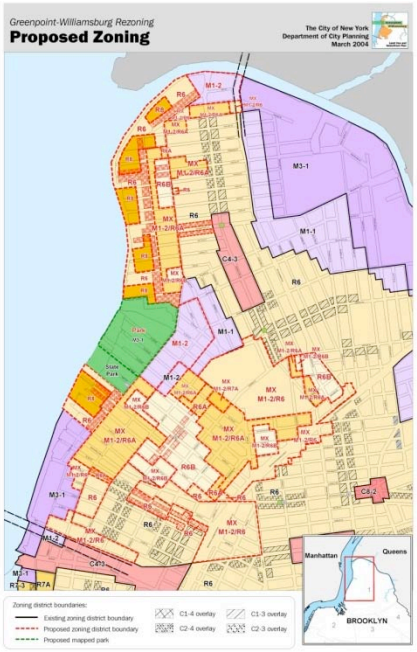


# Pressures

While we support adaptive use of spaces, the example of Greenpoint-Williamsburg suggests that historic resources will be more at risk for demolition than reused. Until 2005, the waterfront in Greenpoint-Williamsburg, like in the Gowanus Canal Corridor, was zoned manufacturing. In 2005, the waterfront was rezoned mixed use and areas zoned manufacturing were greatly reduced to make room for the influx of mixed-use and residential, as can be seen in the diminished purple areas in the March 2004 map.

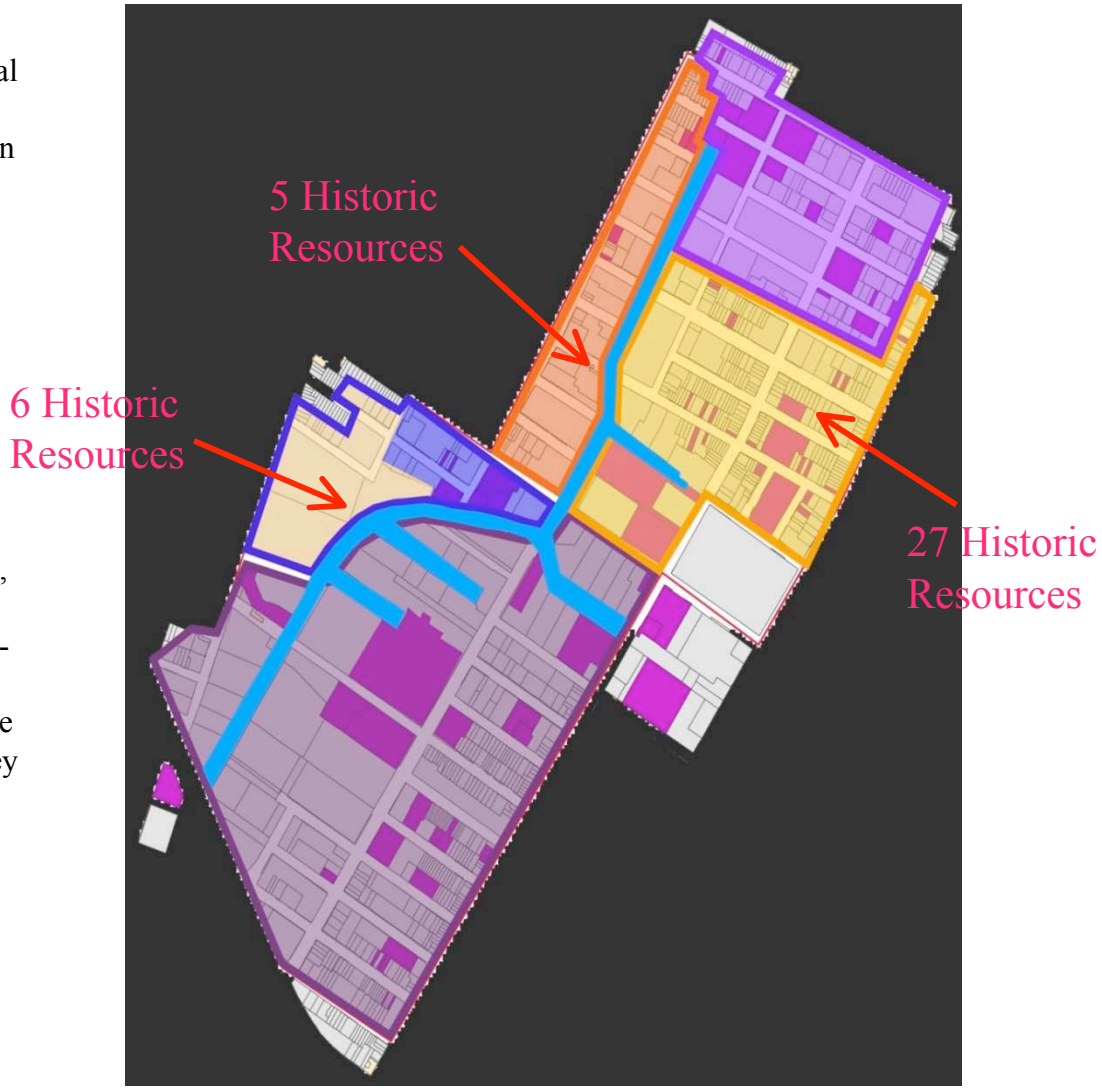
After being rezoned, Greenpoint-Williamsburg saw an influx of new residential construction. Here, the differing sizes of the blue dots indicate locations of new construction as well as the heights of the new construction, indicated through varying diameters. An alarming number are between 6 and 16 stories, the tallest being 51 stories, heights neither conducive to the character of Historic Greenpoint-Williamsburg nor the Gowanus Canal Corridor.



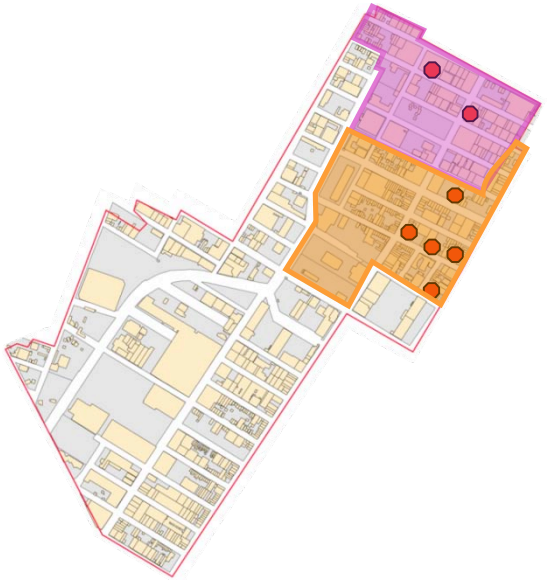




# Pressures

The second pressure the Gowanus Canal Corridor cultural industrial landscape faces is from new construction. As seen in the example of Greenpoint-Williamsburg, rezoning allowing mixed-use and residential encourages new construction. In order for new construction to happen, existing structures must be demolished. This map shows how nearly half of the historic resources previously identified will be placed at increased risk of demolition as a result of the proposed rezoning framework. At the same time, note how new construction will occur not only within the newly zoned mixed-use and residential areas but also in the zones that remain manufacturing. Since residential buildings accrue more money per square foot than do industrial buildings, owners of buildings in areas zoned manufacturing face pressure for building within the zoning but later flipping for residential use.



# Pressures



In readiness for the proposed zoning changes, a sharp rise in the number of Boutique Hotels within our Gowanus corridor survey area is identified by the red dots on the map to the right. At 7 hotels, this is the highest concentration of hotels in Brooklyn, second only to Long Island City which is also undergoing the effects of Mixed-Use zoning in a former waterfront industrial area.

Hotels can be built in manufacturing zones as of right and this new construction can easily be converted into condo units as soon as mixed use zoning is passed. Note how many are located in maintained manufacturing area C (seen in purple) in addition to the proposed MX center region (seen in orange). By introducing and legalizing residential uses, which generally bring higher land prices and rents, MX can force industry out in these areas as well as adjacent manufacturing zones. The garage building in the center is currently being raised to accommodate the 9 story Fairfield Hotel to the left.

# Pressures


However, new construction threatens these historic resources with or without approval of the proposed rezoning framework. The three developments that have received the most press, Public Place, Toll Brothers, and Whole Foods, are expected to begin construction before the proposed rezoning. Public Place is a city-owned property being developed pursuant to a Request for Proposal procedure. Toll Brothers is a privately-owned property that is pushing forward with an application to receive individual rezoning and has already had a public scoping meeting. Whole Foods will be constructed on a privately-owned property in an area that will remain manufacturing.

# Pressures

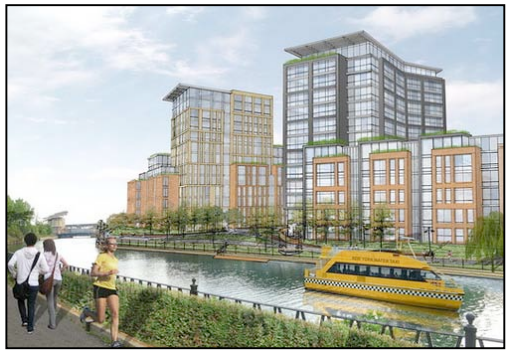
*Toll Brothers*

*Foreman Blades, US Army Corps*
*National Register Historic District Contributing*

*Silos adaptively used as artists' residence*

New construction has a number of affects on historic resources. Again, at the most extreme end is demolition. On the site that Toll Brothers is under contract to purchase, demolition has already occurred. The Foreman Blades Lumber warehouse was identified by the Army Corps as National Register Contributing but was demolished approximately one year ago. Silos that have been adaptively used as artists' residents will be demolished, as well.

*Historic Timber Cribbing*



*Toll Brothers Esplanade*

*Public Place Esplanade*

New construction will not only cause demolition of buildings but also of the Canal itself. Both of the residential developments, as well as Whole Foods, incorporate 40 foot wide public esplanades in their designs. This construction requires new recovery walls for environmental and structural purposes that will replace the historic timber bulkheads, many of which are original to the 1860s construction of the Canal. The Army Corps identified them as National Register contributing structures.

# Pressures

With or without demolition, new construction will change the character of the Gowanus Canal Corridor. The current character of the canal edge can be seen in the image on the right. Industrial buildings abut and since it is not a pastoral waterfront for recreational activity, empty space is used for storage. New residential construction will change this landscape by inserting pastoral esplanades sporadically in its midst.

*Current Canal Edge*

*Public Place Residential Streetscape*

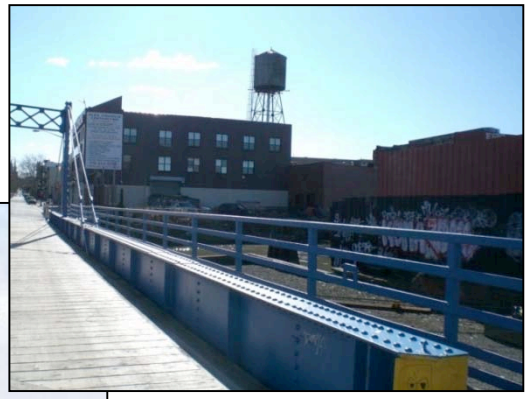
*Gowanus Residential Streetscape*

New construction will also alter the low-scale character of the Gowanus Canal Corridor. In the photos aove depicts a typical residential street in the Corridor. Residences are typically three-stories in height, and are interspersed amongst even lower-scale industrial buildings. Soon, these types of streetscapes will run into the residential streetscape as seen in a rendering of the Public Place residential development project, in the photos seen here.

# Pressures

*Ferrara Bros.*
*Cement, to be demolished and relocated*

*Toll Brothers*

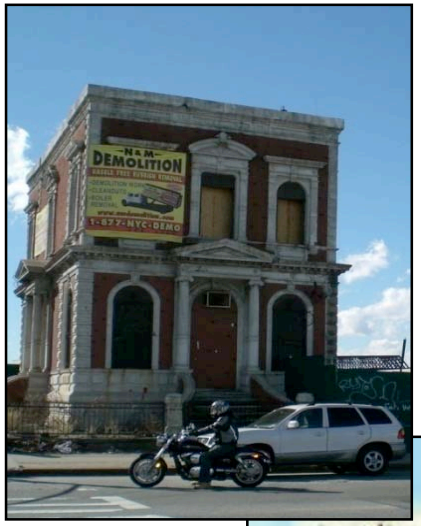


*Carroll St Bridge,*
*NYC Landmark*

The series of photos above suggests how Toll Brothers will fit into the cultural industrial landscape. On one side, its neighbors will include industrial businesses, and on the other side, its neighbor is the 1879 Carroll Street Bridge, a NYC landmark. One can see how Toll Brothers will integrate (or not) with the historic resources across the canal. Height is reflected in utility structures like a water tower, not high-rise residential developments. Density is reflected in low-scale warehouse structures.

New construction will bring in thousands of new residents and with them, hundreds of additional cars. The pressure these cars will place on the historic resources, namely the bridges, is of great concern. Toll Brothers, alone, includes parking spaces for 260 cars in its plans. Built in 1889, the adjacent Carroll Street Bridge was not intended to withstand such vehicular use. When the Carroll Street Bridge was restored in the 1980s, wood decking was reinstalled. It seems inevitable, then, that alterations will have to be made through either structural reinforcement or even widening to support increased use.

# Pressures




*Coignet,*
*NYC Landmark*

*Coal Pockets,*
*NR Eligible*

*Whole Foods*

At the same time, new construction that is not residential will also change the character of the Gowanus Canal Corridor. On one end of its lot, Whole Foods will incorporate the Coignet building, as it is an NYC landmark and cannot be demolished, unless hardship can be shown. On the other side, Whole Foods will become neighbors with the third street bridge and Coal Pockets, National Register contributing structures. While Whole Foods will not be demolishing these structures, the sprawling new building, parking garage, below grade construction, and esplanade will dwarf these historic resources, diminishing their integrity.

# Pressures

Third, the Gowanus Canal Corridor faces pressures from community demands. Some members of the community favor the Department of City Planning's proposed rezoning framework as increased residential land use will increase property values. In addition, some encourage increased affordable housing, which both Public Place and Toll Brothers plan to provide. Finally, residential development is encouraged by NYC, as a whole, as stipulated in Mayor Bloomberg's plan for 2030.

At the same time, some community members see the Gowanus Canal as having potential for open and green space, spaces which NYC is sorely lacking. Some, then, encourage new residential development as designs include community space as well as green space. Other "green" ideas have surfaced including a comprehensive landscaping scheme over the entire canal, softening the canal's edge to include sponge parks. While Plan 2030 also stipulates the need for increased open and green space, in the Gowanus Canal Corridor such projects could have detrimental effects on the historic resources, including bulkheads and cribbing, and the cultural industrial character in general.

Finally, some community members want the canal itself to be more accessible for recreational uses. The DEP currently has warnings posted indicating the canal water and soil is not safe for even secondary contact. Groups like the Gowanus Dredgers use the canal despite the warnings; however, they would like to see the water and soil remediate so their activities can be a little less risky.

*Public Place Community Space*

*Sponge Park, dlandstudio*

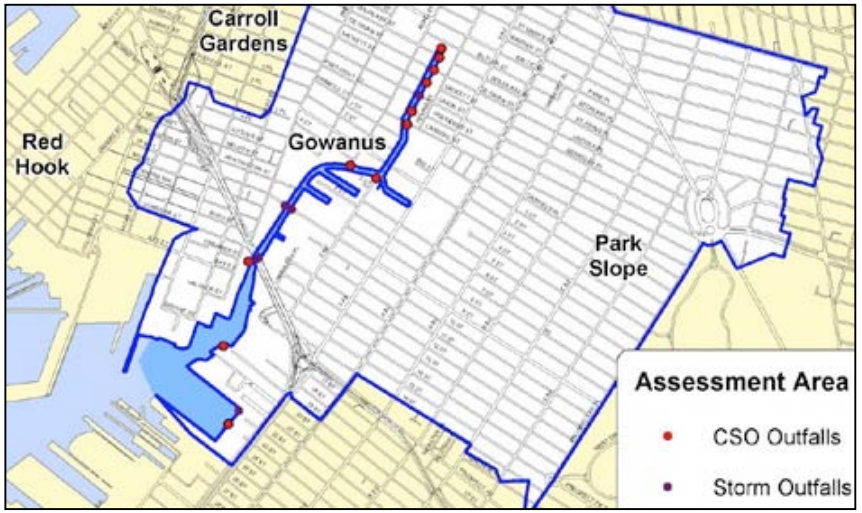
*Gowanus Dredgers*

# Pressures

The fourth pressure that the Gowanus Canal Corridor faces is environmental issues. While the historical uses of the Canal created the cultural industrial landscape we appreciate and are aiming to preserve, they also provided for the noxious smells and contaminated water and soil these historic resources sit on. Indeed almost all of the land in the Gowanus Canal Corridor has been determined to be potential brownfield sites. After only two inches of rainfall, highly visible CSO's (combined sewage outflows) inundate the canal water.

*CSOs*

In order for any type of development to occur, with either old or new construction, the soil must be remediated. Public Place, Toll Brothers, and Whole Foods sites will all be undergoing remediation. While this is necessary for residents and beneficial to neighboring communities, it comes with a cost to the historic resources. The monetary cost is that remediation is very expensive; the physical cost includes demolition of historic cribbing and bulkheads along the canal. In properties not adjacent to the canal, the cost of remediating soil while retaining the existing building will be cost-prohibitive to many owners and, consequently, demolition will likely be most appropriate for their needs.




*NY DEP Map of Combined Sewage Outfalls (CSOs)*

# Recommendations

- Alternative Zoning Framework
- Industrial Retention
- Contextual Design: Building and Landscape
- Protection of Historic Resources

We have explored with you the historical research, survey findings, and our investigation of the conflicting needs and desires of the community in terms of housing, economy, environment, as well as public recreational needs. Now we look toward recommendations for the future of the Gowanus Canal Corridor with a concern for the cultural landscape and the historic resources indicative of its industrial fabric. Our proposal includes recommendations for an Alternative Zoning Framework which addresses the existing character, the benefits of industrial retention, the need for contextual design in the wake of proposed development tools for the protection of historic resources that support an understanding of this historic industrial landscape.

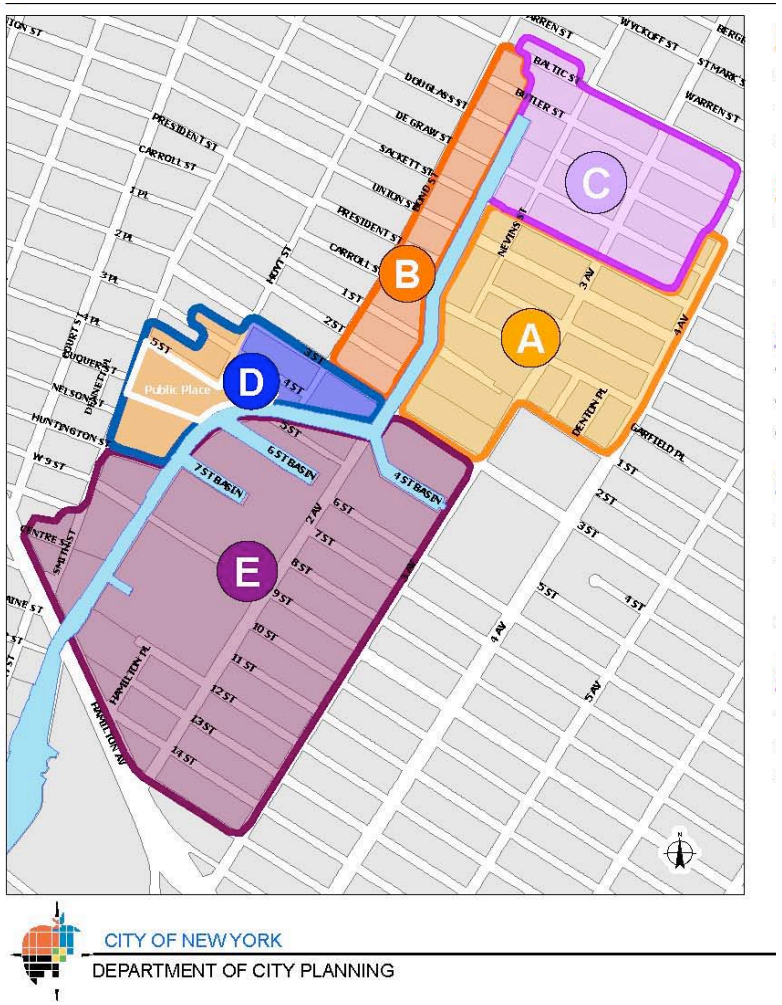
The need to assess the historic resources of the industrial landscape has by and large been overlooked by city agencies and community groups. Thus far only the U.S. Army Corps has taken steps to consider the significance the Gowanus Canal and other historic resources. In furthering their area of study, our goal is to stimulate an educated understanding of the industrial heritage at risk along the Gowanus Canal Corridor. An artery of Brooklyn economic growth, the canal's history should not be lightly dismissed in favor of new development.

# Recommendations

While in theory, MX allows industries in these zones to continue indefinitely, we have see the effects of MX in other waterfront industrial areas like Greenpoint/Williamsburg erode the industrial core and its historic resources in favor of more lucrative speculative residential housing.

As an Industrial Business Zone, Section E of this map is protected by the city from re-zoning thus allowing for increased investment in manufacturing endeavors. This area also offers tax incentives to those who move into the district. It is important to note that many significant historic structures were identified in this area in use and well maintained.

Area C, only categorized as an Ombudsman area, is noted for its manufacturing use, however the industrial uses here are not protected as is the IBZ in Area E. Unprotected, we can forecast the potential for transition to residential uses.



# Alternative Zoning Framework

A recent study by a new commercial brokerage, TerraCRG, found that with industrial availability becoming more limited in the metro area, price per sq/ft had increased by 15% from 2006 to 2007. Properties in Gowanus/Park Slope, Williamsburg, and Sunset Park fetched the highest prices last year, between $200-250. This property at the corner of 3rd and Douglass rents to several light manufacturing industries. Speaking with one of the tenants we learned that their leases were now month to month as the building owner awaited rezoning that would allow him to sell to a residential developer.

In order to afford these local manufacturing industries an opportunity to survive the influx of residential housing, an alternative zoning proposal that seeks to create a balanced mixed use zoning is necessary. With the highest industrial buildings at 5 stories, maintaining contextual medium to low rise FAR of no more than R7B would support the historic industrial fabric of the area while appropriately developing underutilized space. An exploration of mandated mixed use *buildings*, with residential above and manufacturing below, rather than mixed use *areas* would also encourage diversity over displacement along the Gowanus Canal Corridor.


*3rd Avenue and Douglass Street*

Average price per square foot in different sections of the Brooklyn market shows the strength of these three neighborhoods.

**Average Price per Square Foot**

| | 2006 | 2007 |
|---|---|---|
| Gowanus/Park Slope | $ 258 | $ 243 |
| Williamsburg | $ 141 | $ 217 |
| Sunset Park | $ 190 | $ 205 |
| Greenpoint | $ 179 | $ 198 |
| All others | $ 180 | $ 173 |
| Bed-Stuy/Brownsville | $ 115 | $ 91 |

# Recommendations

Water more and more is cast as a recreational or aesthetic resource, a leisure activity. Proposed containerization of Sunset Park by the NYC EDC would increase use of the canal as a canal for industrial product transport. Moving toward sustainable development, reviving maritime uses along the water front would replace trucks with barges mitigating traffic on the Brooklyn Queens Expressway and Gowanus Expressway while reducing carbon emissions. In this map we can see the position of the Gowanus within the South Brooklyn Industrial Business Area and understand its potential to be rejuvenated as an artery of industrial manufacture and transport.

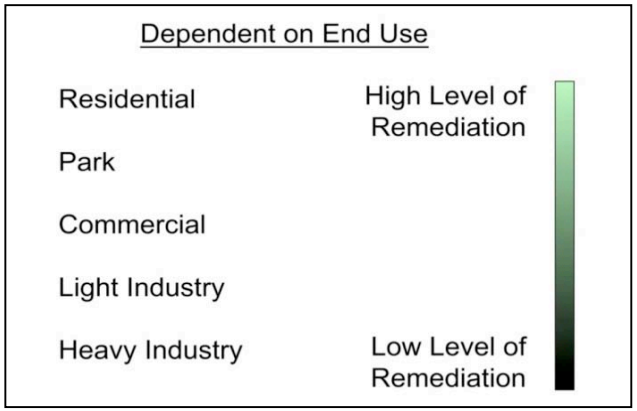
In effect, by maintaining the canal's traditional use as a navigable waterway, the existing industry as well as the industrial landscape and historic resources would be supported indefinitely.

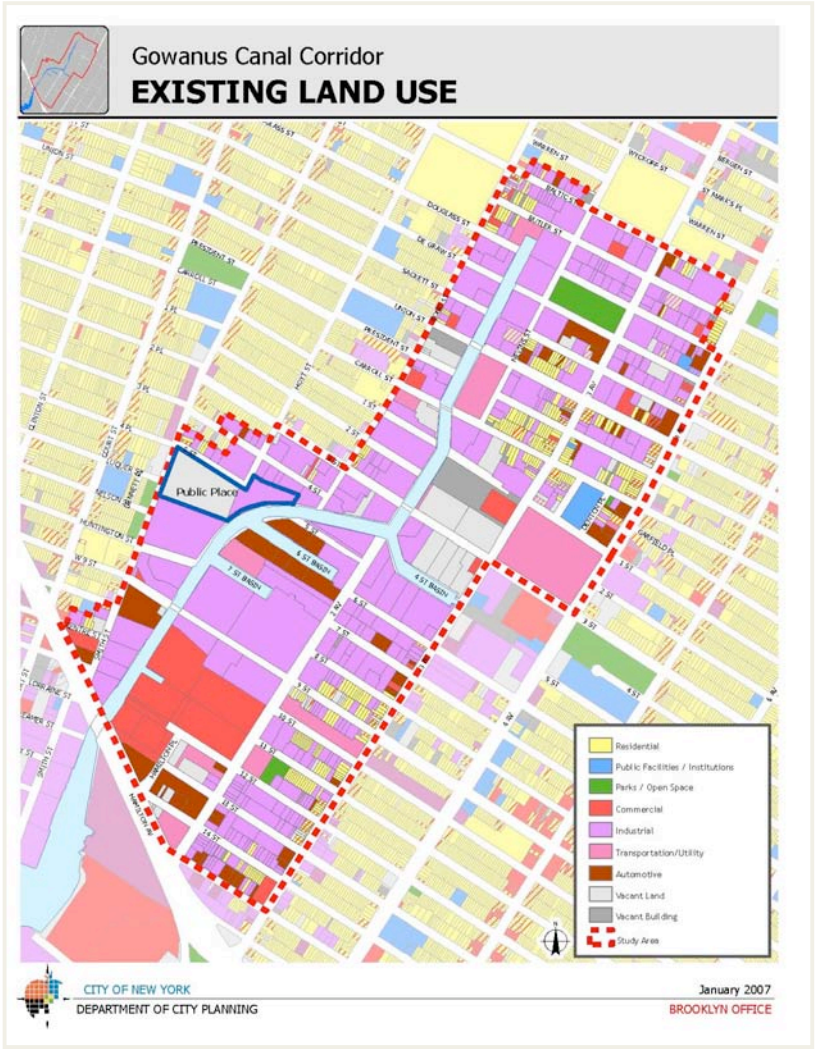
# Industrial Retention

The current City Planning Re-Zoning Framework proposal puts at risk the industrial heritage and extant manufacturing uses along the canal corridor. Protecting and encouraging industrial retention on the Gowanus supports historic uses and their structures, as well as promoting social and economic diversity in Brooklyn as well as the NYMetro area.

- Approximately 500 Existing Manufacturing Businesses
- 2,274 Jobs
- 20% Walk to Work Rate

Because the cost of remediation is so great on residential and publicly used land, developers are forced to increase housing units in new construction. By supporting industrial retention the cost of remediation can be limited, again protecting structures by protecting manufacturing uses.

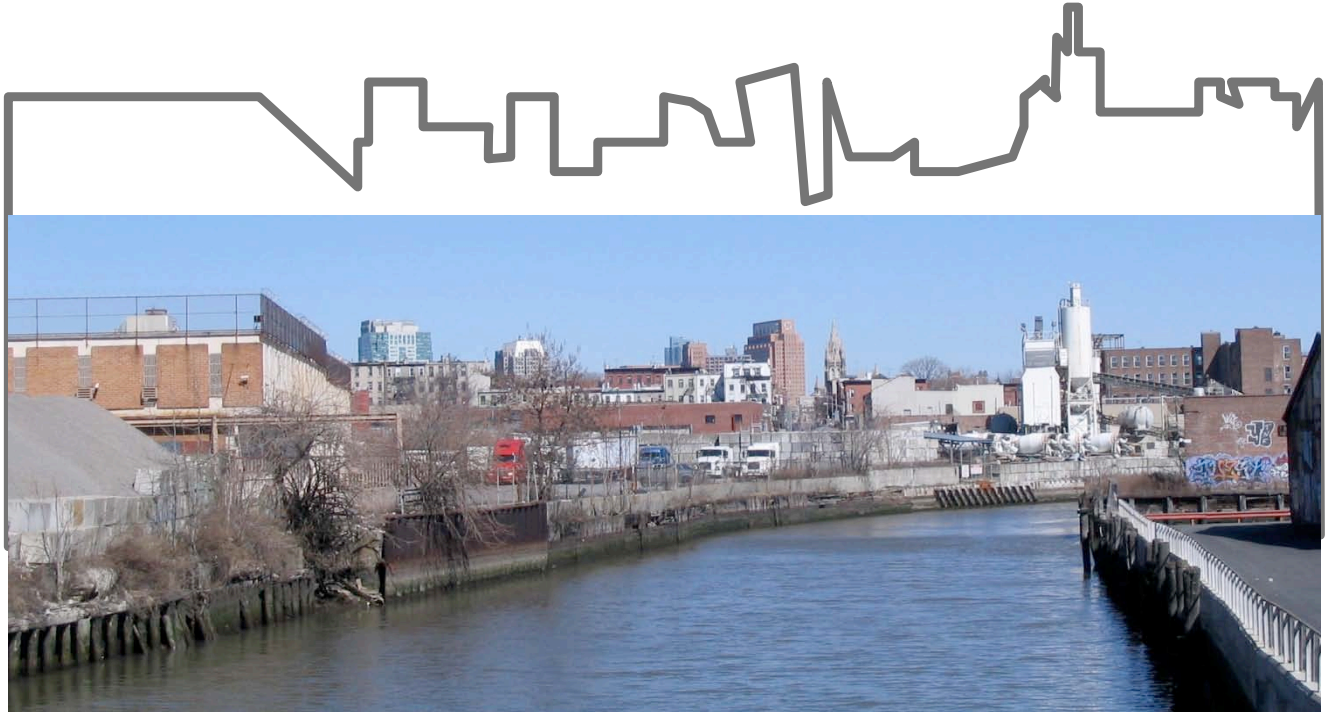


# Recommendations

With the implementation of PlaNYC, development is bound to happen. Contextual design especially in the areas adjacent to the canal is necessary to maintain the historic industrial character of an area that has been a driving force in the growth of the city of Brooklyn. An area of traditionally mixed land use, residential development can and should be introduced with sensitivity toward the existing landscape. We have seen the proposed renderings of city driven Public Place and private developer Toll Bros. We find these proposals, while addressing many community needs, do not appropriately address the issue of the historic preservation and contextual design in a National Register Eligible Historic District.

This view of the Gowanus Canal Corridor shows us the Ferrara Brothers Concrete with its white tower, which is to be relocated to another site with the construction of HPD Public Place. Public Place has proposed 12 story buildings of nearly 500 units and grassy esplanades are soon to begin construction.



# Contextual Design

From the building footprint map below, we see that the industrial buildings on the Gowanus combine elements of mass and void within a given lot in part because manufacturing zones require parking on site. We also see that massings tend to be pulled all the way to the lot line. Low rise high density with deeply articulated features underscoring the existing urban fabric can support the existing industrial character of the area. Looking at an example along Amsterdam's Eastern Docklands, though the scale it larger due to the size of the waterway, we can see that it is possible to have residential development together with active industrial uses. Void spaces are used as opportunities for public recreational space in courtyards set back from the water. Here is an example of re-use on the Gowanus as well as new construction in Williamsburg. Massing and materials compliment the character without compromising design.

*Prieus, 1989Architect: Kollhoff, Hans &Christian Rapp*
*Oostelijk Havengebied, Amsterdam*


*3rd Avenue and DeGraw Street, Gowanus, left.*
*320 Bedford Avenue and S. 2nd Street, Williamsburg, right.*

# Recommendations

Members of the community has expressed a strong desire for park land and access to the canal for recreational sport. The “Sponge Park” developed for the Gowanus by dlandstudio for the Gowanus Conservancy addresses the need for storm water run off mitigation by returning the canal to its wetland origins. Absorbing up to one acre of water, like a sponge, the landscape also deals with potential toxins by choosing flora that can help purify incoming water run off. Because individual developers would ultimately be responsible for their own waterfront access, the plan has the most teeth at city owned street-end access points. While this proposal addresses many problems of the Gowanus Canal Corridor, it does not take into consideration the historic structures and industrial nature of the canal. Because of lack of accessibility to a comprehensive historic resource survey, we notice that parks have been put in place over structures like the Pump House identified by the Army Corps as National Register Eligible. Transformed into recreational area, the southern end of the canal does not consider existing industrial use. Many industries are still dependent on the canal for the barging of materials.

This thoughtful park proposal, transforms the canal into a recreational waterway. It is important to remember that the canal will still receive CSO’s with more than 2 inches of rainfall. The DEP has pledged to reduce CSO’s by 37% by 2013, but even then would not recommend primary or secondary contact with the water.

# Industrial Landscape

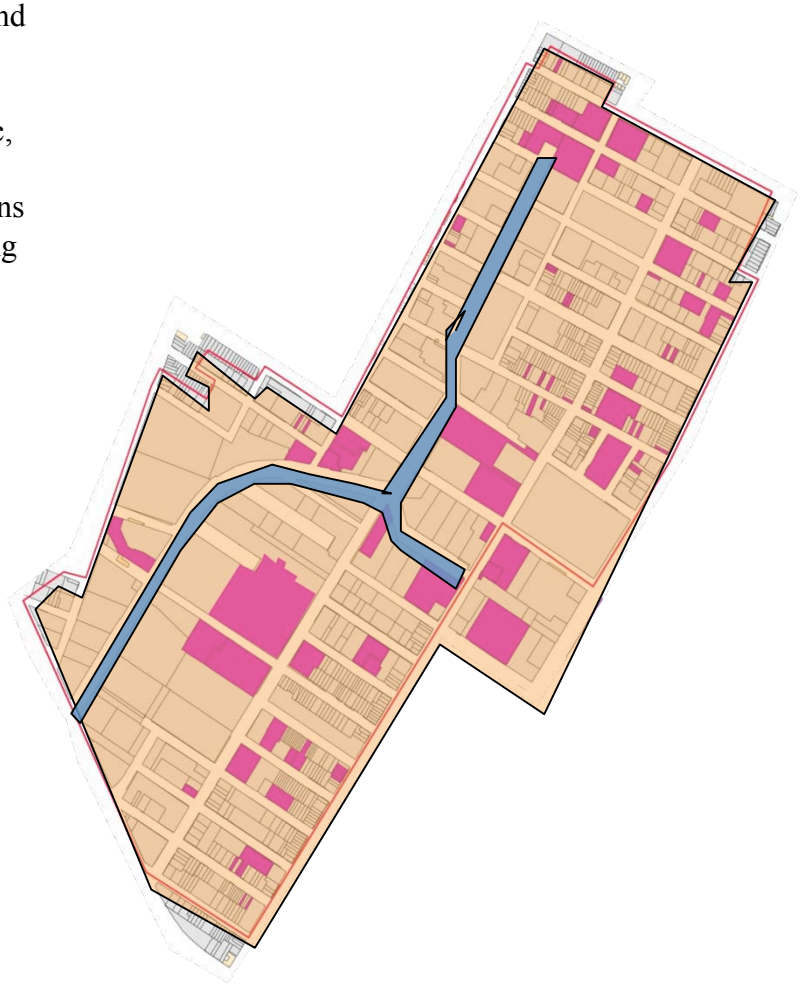
Alternatives can include water permeable hardcapes, skate parks, or bike paths combining an industrial feel with public recreation. The proposed 40ft esplanades implemented along much of New York City's Hudson and East River waterfronts, so called "emerald necklace" waterfronts, would be unsuitable to the size of the canal as well as the memory of its industrial past as well as it current barging on the portion south of the Hamilton Bridge. Unification of diverse active uses with existing industry is important to the future of this historic industrial landscape. Protection of the man-made 19th century cribbing as well as the semblance of canal versus creek is key to public understanding of the areas historic significance. In Europe and throughout the United Kingdom, we can find many examples of recreational public use landscaping as well as private industrial uses along active industrial canal waterways.

*Clockwise From Left:*
*Eastern Docklands, Amsterdam*
*Ashton Canal, Manchester UK*
*Leeds-Liverpool Canal, Vauxhall, UK*

# Recommendations

U.S. Army Corps' recognition of a proposed historic district was concurred in by the State Historic Preservation Office, and we would seek to expand the industrial historic district to comprise the entirety of the survey area likely to undergo development in the near future. As National Register Historic, Vernacular Industrial Historic Landscape the full survey area including its contributing fabric, 89 significant buildings, signs and structures. While unprotected from demolition, by earning National Register status for the canal corridor, tax incentives and benefits would become available to support the reuse of existing structures mitigating property value pressures on industrial business if mixed use zoning is passed.

Nation Register Status would also bring to light the historic value of this area creating an awareness and the need to educated the surrounding community of its past industrial legacy and its current industrial importance to the New York City metropolitan area.



# Preservation Protection

More limited, but more powerful NYC Historic District designation is proposed for the immediate canal area including the canal itself and structures relating directly to its current and historic use as a navigable waterway. A NYC Gowanus Canal Historic District would protect the most noteworthy structures from demolition. This would include the U.S. Army Corps Identified: Canal Structure, Basins, Cribbing and Bulkheads, Pump Station, 2 Bridges, IRT Powerhouse, Burns Coal Pockets. In addition four significant structures identified by our survey would be included; Sommer's Tin, Roulston Grocery, R.G. Dun, and the ASPCA. All of the structures mentioned here lie on or adjacent to the canal itself, our most important historic structure. A man made waterway, the canal and the uses that extended from it have been pivotal to the shaping of Brooklyn today.

# Conclusions

As preservationists it is often difficult for us to value the remnants of an area of industry where we cannot find the architectural gems the caliber of those found in DUMBO and Williamsburg. Yet we would like for you to consider this historic vernacular industrial landscape as an area of particular character with a significant history and built fabric. The Gowanus Canal Corridor is a symbol of Brooklyn's Industrial Waterfront and a living corridor of manufacturing activity. The area reminds us of the industry that built a nation, immigrants who found opportunity there, and importance of water access in NYC. As one of the National Trust's identified most endangered sites, by earning a National Register designation we hope to promote reuse over demolition and create incentives for contextual development. In the past the National Parks Services has acknowledged a variety of canal structures, heritage landscapes, and industrial complexes as reviewed in our findings.

NYC Landmark protection of the narrow Gowanus district and its most significant structures would maintain the integrity of these industrial structures and protect them from demolition. Integral to the preservation of the industrial quality of the canal corridor is education. With our research and databased buildings survey, we hope to expand awareness of this cultural industrial landscape reflective of past history and with potential for future creative urban industry. Using historic preservation protections we hope to develop an understanding within the community and throughout the city of the value of this historic vernacular industrial landscape.

# Thank You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Jen Posner,
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*Community Liason*
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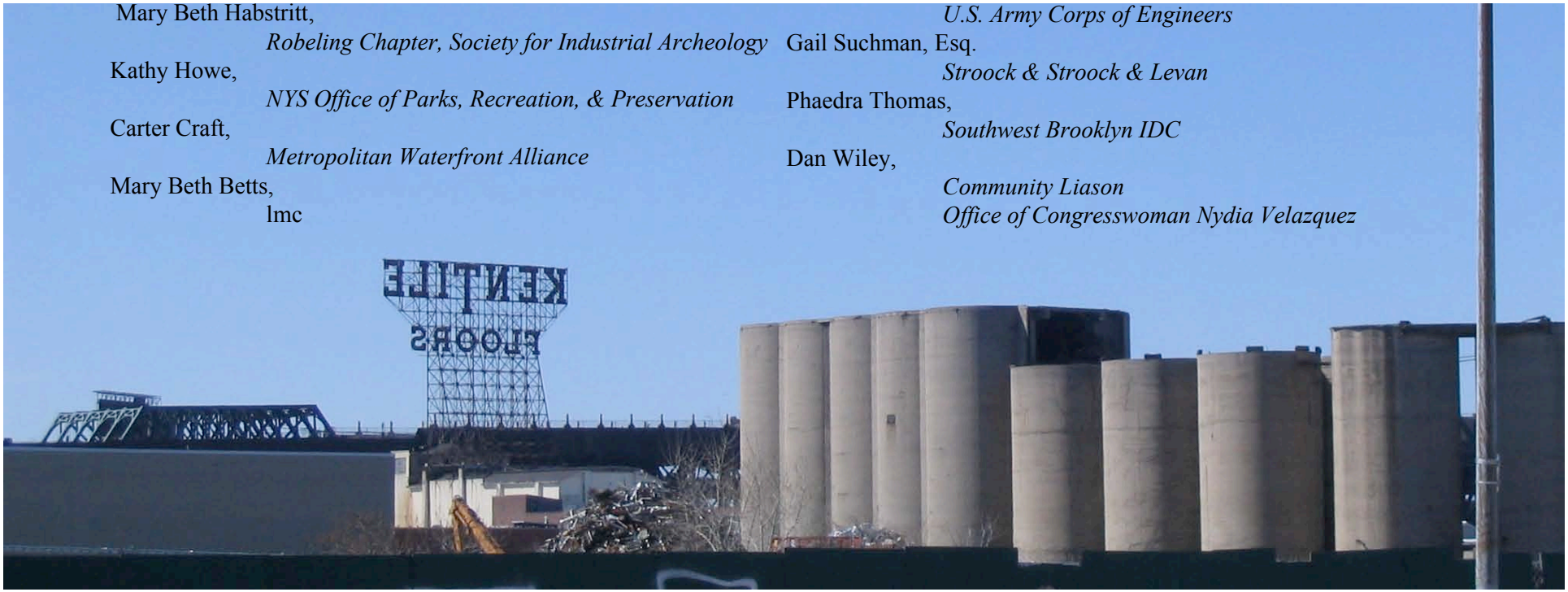
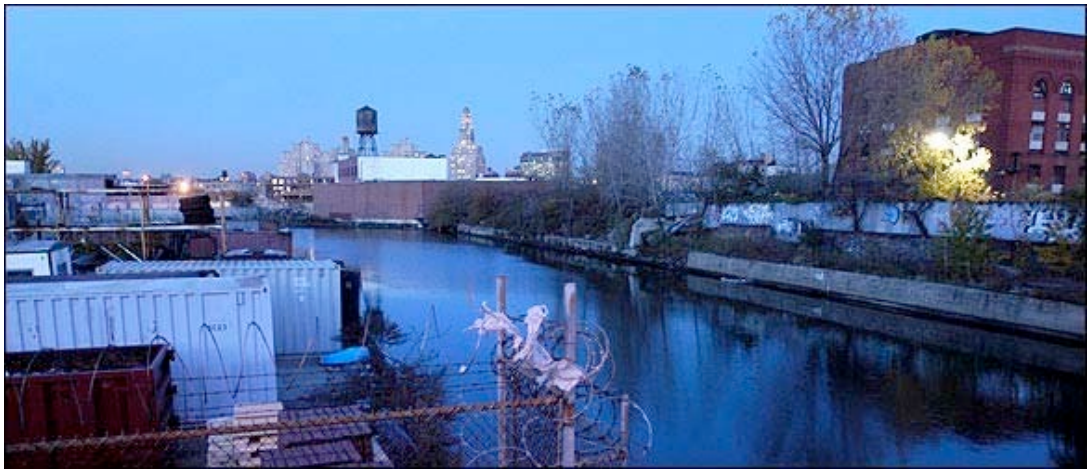


# Appendix A.

## Historic Resource Guide



In face of progress, many of the glorious industrial structures within the Gowanus Canal Corridor are at risk as community groups and governmental organizations have so far neglected to consider these historic resources when envisioning the future of the Gowanus area. Early remnants of the city's industrial past are witnessed throughout the area, including not only the shipping and barging activity directly occurring on or relating to the canal, but also the development of warehouses and industrial infrastructure, which has played – and continues to serve a fundamental role in providing necessary services and industries that complement activities occurring directly on and adjacent to the canal.

The Gowanus Canal has an undeniable historic legacy and this guide will provide building histories and photographs in order to make a case for preservation of the industrial cultural landscape of the Gowanus Canal Corridor located within a radius of two to three blocks from the Gowanus Canal, south of Butler Street down to Hamilton Avenue.

## List of Gowanus Canal Corridor Buildings of Historic and Architectural Significance:

*Industrial*

1. 233 Butler Street, American Society for the Prevention of Cruelty to Animals, Brooklyn
2. 239-57 Butler Street/ 206 Nevins Street, R.G. Dun & Co.
3. 259-75 Butler Street, Warehouse
4. 195-99 Douglas, Pumping Station
5. 130 3rd Street, Terracotta warehouse
6. 421 Bond Street, Cold Storage Building
7. 421 Bond Street, Warehouse next to Public Place site
8. 234 Butler Street, Dept. of Sanitation
9. 233 Nevins. Mansard Copper Roof
10. 267 Douglass Street, R.R. Gaver Building
11. 267 Butler, Beagal Tiles
12. 543 Union Street, National Packing Box Factory
13. 323 3rd Ave., Power House
14. 232 3rd Street, American Can Factory
15. 360 3rd Avenue, Coignet Stone
16. 173 6th Street, Burns Brothers Coal Pockets
17. 168 7th Street
18. Smith Street Station
19. 58 2nd Avenue
20. 69 2nd Avenue
21. 302 Butler St
22. 184 4th Avenue
23. 638-44 Degraw St, Sackett St. 637 - 641
24. 530 President Street
25. 126 13th Street
26. 170 2nd Avenue
27. 95 4th Street
28. 124 9th Street
29. 70 9th St
30. 191 3rd Ave
31. 209-215 3rd Avenue
32. 543 President Street
33. 201 3rd Street
34. 400 3rd Avenue
35. 213 6th Street
36. 131 8th Street
37. 129 2nd Avenue
38. 137 12th Street
39. 135-145 11th Street
40. 129 11th Street
41. 124 10th Street
42. 398 Smith Street
43. 98 4th Street
44. 621-25 Degraw St.

*Residential*

1. 291 Bond Street, tenement
2. 285 Nevins, mixed-use
3. 287 Nevins Street, tenement
4. 639 Union Street
5. 633 Union Street
6. 569 Union Street
7. 567 Union Street
8. 565 Union Street
9. 443 Carroll Street
10. 462 Carroll Street
11. 459 Carroll Street
12. 289 3rd Avenue, 479 Carroll Street
13. 472 Carroll Street
14. 459 Baltic
15. 215 & 217 Butler Street
16. 118 14th Street
17. 116 14th Street
18. 99 14th Street
19. 101 14th
20. 490 3rd Street
21. 486 3rd Avenue
22. 484-480 3rd Avenue Street
23. 215 & 217 Butler Street
24. 305 Bond St.
25. 101 4th Street
26. 638-44 Degraw St, SACKETT STREET 637 - 641
27. 11 Denton Place
28. 13 Denton Place
29. 504 Carroll Street (mixed-use)
30. 502 Carroll
31. 500 Carroll

*Church/ School*

1. 512 Carroll Street (RC Church), 219 1st Street (PS 372)

1. 233 Butler Street, American Society for the Prevention of Cruelty to Animals, Brooklyn

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3. 259-75 Butler Street, Warehouse

4. 195-99 Douglas, Pumping Station

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7. 421 Bond Street, Warehouse next to Public Place site

8. 234 Butler Street, Dept. of Sanitation

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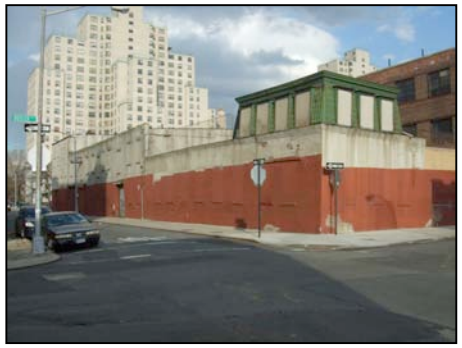

10. 267 Douglass Street, R.R. Gaver Building


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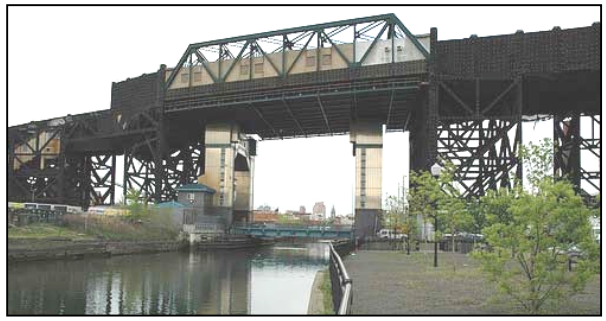

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