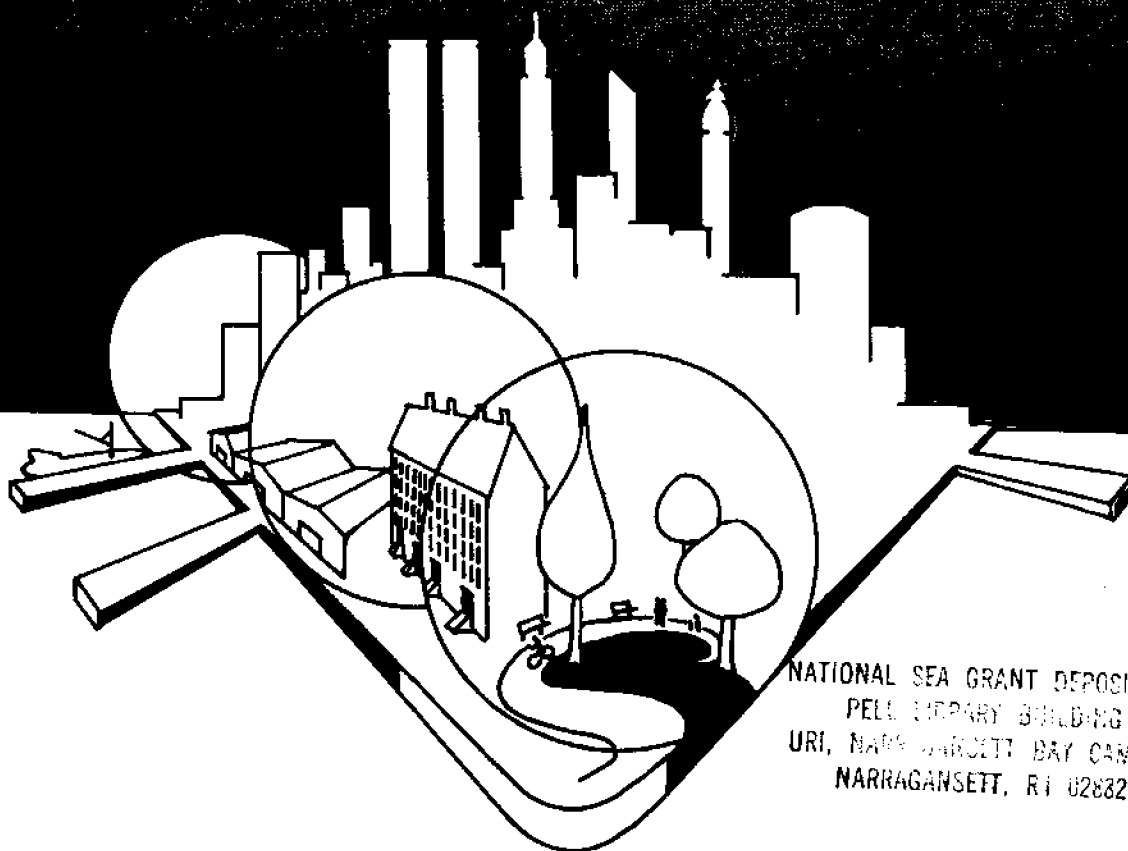


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The Urban Waterfront and the Low-Income Community:

Potential for Local Recreational Use

Warren Gran



New York Sea Grant Institute 411 State Street Albany, NY 12246

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**THE URBAN WATERFRONT AND THE LOW-INCOME COMMUNITY:
POTENTIAL FOR LOCAL RECREATIONAL USAGE**

**Warren Gran
School of Architecture,
Pratt Institute**

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1981

**New York Sea Grant Institute
of the State University of New York and Cornell University**

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ABSTRACT

With the changing pattern of New York City's role from a major shipping and industrial center to a commercial and administrative center, the historic use of the waterfront for docking, warehousing, and industry is also undergoing a major change. As these activities discontinue and move to more appropriate areas, the barrier they produced between the waterfront and the adjoining communities is removed. Thus, opportunities for reuse of many spectacular waterfront sites as links to the harbor and as recreational amenities generally lacking in the adjoining communities become available.

This report is a study of three different, but typical, waterfront sites that offer the opportunity to create unique recreational facilities for the adjoining communities. The study analyzes existing conditions, considers the general impressions local residents have of the sites, and provides design suggestions for the transformation of the three sites.

INTRODUCTION

In recent years architects, planners, and urban designers involved with the revitalization of our cities and towns have played the additional roles of project initiators and promoters. Through their visions, sites and areas have generated possibilities otherwise not always evident to clients and developers.

Abandoned, decaying, and underused waterfront areas are primary targets for revitalization. Generally on the periphery of central business districts or communities, these locations have rarely been primary areas for redevelopment efforts. Yet, because of their location and unique physical characteristics such as light, space, water, and views, they offer tremendous potential for a variety of recreational and residential uses.

In this study, the designer's and planner's role has been to act as catalyst by planning and illustrating three-dimensional possibilities for such sites so that residents, citizens groups, public agencies, and private developers may become more aware of the potential offered by the urban waterfront and aid in restoring its value to the community through innovative reuse.

This study examines three cases and each uses a deteriorated waterfront site for community recreational purposes. The three proposals differ in scope and form, yet each is specifically designed to serve the needs of adjacent residential communities, both lower income and other.

ECONOMIC FACTORS IN WATERFRONT GROWTH AND DECLINE

Historical Background

Urban economic history explains the deterioration of properties along most of New York City's waterfront. As with many similar ports in older northeastern cities, New York City's harbor, once the cornerstone of the city's economy, has shifted to a comparatively minor role.

The inner harbor, adjacent to the central business district, was once the center of the American economy. To this center, ships brought goods from abroad and also brought immigrants. These vessels required shipyards for their construction and maintenance. Shipping depended on the availability of overland transportation and warehousing facilities, as well as legal, accounting, insurance, and banking services. These services, in turn, required manufacturers, food stores, bars, restaurants, housing, and everything one would expect to find in a city.

As the United States became economically self-sufficient and less dependent on European imports, the importance of the harbor fell. By the mid-twentieth century, the declining port function together with the changes in shipping technology further accelerated this obsolescence. Bulk cargo, such as petroleum, grain, and gravel was shipped in containers directly to where it was being used. Sites needed to deal with containerized shipping were fewer and larger and these were seldom available at the inner harbor.

The result of these changes has been deterioration and abandonment of sites and facilities that had constituted the port-related economy—piers, railyards, storage facilities, factories, stores, bars, restaurants, and so on. Unfortunately, until recently few northeastern cities capitalized on this decline. These deteriorating structures have generally been precluded from residential or recreational use until land values are low enough to induce redevelopment. Public intervention, however, can both expedite this transition and assure coordinated redevelopment.

The Future

Economists predict that for the foreseeable future, the United States will continue to be the world's leading exporter of technology, primarily in the form of software, and in some sophisticated hardware. In return, the nation will probably increase its import of labor-intensive goods that can be produced more cheaply elsewhere. The result of this will be a slight increase in the quantity of goods imported, but, as cargo-handling technology improves with larger bulk carriers and increased containerization, less land will be necessary to handle shipment.

There is nothing within the nature of manufacturing or international shipping that indicates a future need for using more than a small proportion

of the urban waterfront lands previously needed for these activities. The development of offshore bulk cargo terminals and the increase in direct shipments to the user will further cut down harbor needs and related manufacturing activities.

Waterfront Redevelopment

The waterfront can and will regain an integral position in the social and economic fabric of our cities. Opportunities for alternative uses for waterfront property exist and will continue to increase. The very nature of waterfront land, especially when proximate to densely developed areas, affords extraordinary residential and recreational opportunities. Since much waterfront property no longer plays a vital part in the city's neighborhood life or business activities, the disruption caused by redevelopment can be minimal; and because much waterfront property is often owned or controlled by the city or privately held in large parcels, assemblage can be accomplished with relative ease.

The problem, however, is how to encourage the transition and ensure a quality of development that meets acceptable standards. At present, the prime sites for waterfront redevelopment in New York are either too distant from residential neighborhoods and their services, or too small for projects large enough to provide their own services. The notable exceptions have already been targeted: Waterside, Battery Park City, and Manhattan Landing residential developments.

As catalyst for related development, waterfront sites are particularly important. Recreational uses, if properly designed and located, provide amenities for the surrounding communities. In many instances, this can influence the renovation, restoration, and redevelopment of surrounding neighborhoods, and can make this land use more attractive to business. While true in general of any recreational site this is especially true for waterfront sites in New York at this time in the city's development.

SELECTING THE SITES

The first task the study team had to deal with was selecting three typical sites from New York City's more than 575 miles of coastline. The team developed a set of criteria with which to evaluate potential sites and it was agreed that the three chosen should present different circumstances and scales so that the completed design proposals would provide prototypes for various urban conditions.

The criteria used for the selection process were the following:

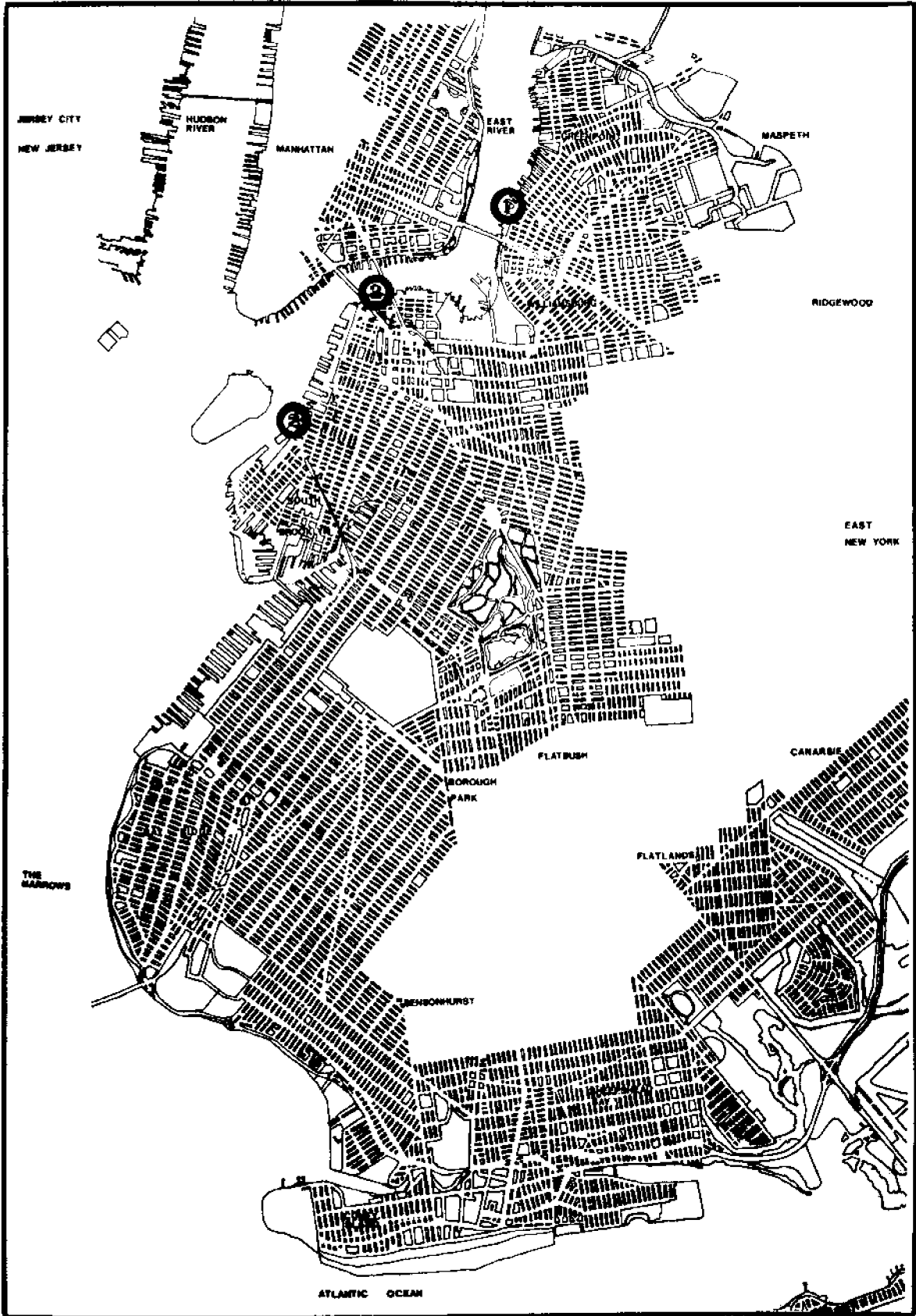
- Each site must be located in a deteriorating or unused waterfront area.
- A statistically defined low-income population must reside within close proximity to each site.
- Each site should provide a positive physical environment for recreational uses with a minimum of adverse environmental conditions.
- Each site should be within easy reach of the study team's home base thus permitting quick access for investigation.

Once the selection criteria were established, the team compiled a list of potential sites. This process included the following steps:

1. Meetings with New York City agency representatives, interested groups, and individuals to discuss the study, seek site recommendations, and collect information on environmental conditions and public programs that might influence eventual project designs.
2. A review of relevant maps, reports, and demographic information.
3. Specific demographic research on those neighborhoods that contained possible study sites identified while performing the above.
4. Visits to sites that appeared to meet the selection criteria.

All three sites selected are in Brooklyn. Each meets the selection criteria and, while they vary in type, they provide prototypical characteristics. The variety of physical characteristics and potential usage ensures that a range of design possibilities is provided within the study context.

Map 1: Site Locations



The sites chosen are as follows:

Williamsburg: Site No. 1

A one-fourth-acre site on the East River at the foot of Grand Street in the mixed industrial-residential community of Williamsburg, five blocks north of the Williamsburg Bridge.

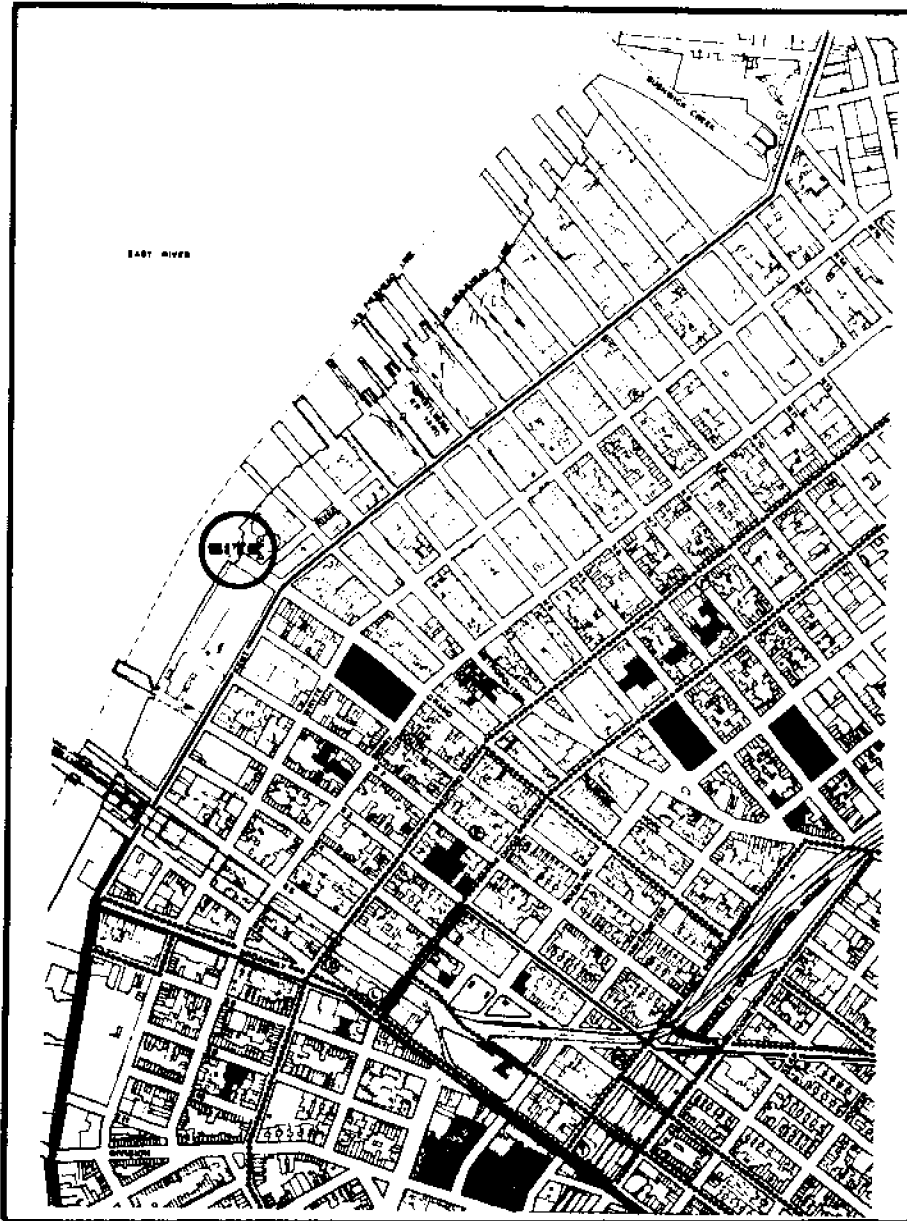
Red Hook: Site No. 2

A four-acre site on Buttermilk Channel at the foot of Hamilton Avenue in South Brooklyn, within a proposed Port Authority containerport, and surrounded by active piers, warehouses, and both deteriorated and well-maintained residential districts; north of the site is the residential community of Carroll Gardens, and south of Hamilton Avenue is more industrial Red Hook.

Fulton Ferry: Site No. 3

A 16-acre tract bounded by Cadman Plaza West, Water, Main, and Plymouth streets, and the Manhattan Bridge in a warehouse and industrial district, known as Fulton Ferry, framed by the Brooklyn and Manhattan bridges.

Map 2: Williamsburg



WILLIAMSBURG: SITE NO. 1

Site Location

The Williamsburg site is located at the terminus of Grand Street, a cobblestone street that slopes down toward the East River. Grand Street gets wider as it approaches the water's edge and is thus trapezoidal in shape. The site is tucked between the Amstar sugar refinery and Pfizer Chemical Company bulk storage tanks; both abut the shoreline with concrete wharves. An old brick sugar company building rises about 50 feet to form an enclosed southern edge, while on the opposite side of Grand Street, 40-foot steel storage tanks are set behind a chain-link fence, like some huge geometric sculpture.

History of the Area

Williamsburg was first settled by Dutch farmers in the seventeenth century. It was included in the territory of Bushwick chartered by Peter Stuyvesant in 1661. The first village settlement was organized at the point of land that existed at the foot of present-day South Fourth Street.

The community received its first economic stimulus in 1792 when ferry service was established to Manhattan from the foot of present-day Grand Street at the site. The operation terminated at the Corlears Hook food market, located at Grand Street in Manhattan, and it thus provided a convenient outlet for the grain and produce of Williamsburg's many farms.

Around 1800 the improved ferry access prompted competitive speculation by two gentlemen who purchased farmland for the purpose of laying out and selling building lots. Richard M. Woodhull bought 13 acres of farmland from Charles Titus and had it surveyed by his friend Colonel Jonathan Williams. Woodhull named the area Williamsburg in tribute to his surveyor friend. Thomas Morrell bought 28 acres of farmland south of Woodhull's and demarcated the boundary between the two by a new roadway bearing the name of Grand Street.

Neither of the two subdivisions prospered, possibly because of destructive rivalries between the two. In 1814 Williamsburg had only 759 inhabitants. A distillery was established in 1819 at the foot of South Second Street and other distilleries and rope walks soon followed. In 1827 Williamsburg was incorporated as a village.

New and improved ferry service was inaugurated in 1836 between Peck Slip in downtown New York and the foot of South Seventh Street. This new access to New York's commercial district set off a speculative land boom, and in 1840 Williamsburg's population stood at 5,094.

Between 1840 and 1845 Williamsburg's population more than doubled and by 1851 it stood at around 35,000. The population was swollen by the arrival of numerous immigrants, notably Germans and Irish, as well as by the community's

status as a fashionable suburb for New York's wealthy. Williamsburg prospered as an independently chartered city between 1851 and 1855, before it was consolidated with the City of Brooklyn.

During the latter half of the nineteenth century the community grew rapidly, although industry did not develop as quickly here as in Greenpoint. Jews from Germany and Alsace were joined by Eastern European and Russian Jews after 1880. By the 1890s the Germans who had settled in Williamsburg moved to Bushwick and were replaced by Polish and Russian Jews. Also in the 1890s Italians settled north of Grand Street, east of Union Avenue.

It was not until after 1873 that the waterfront became industrially developed. In that year a manufacturer conceived of floating railroad boxcars across the harbor from New Jersey terminals. The success of this operation evolved into the Brooklyn Eastern District Terminal Railroad, which continues to operate carfloat service to a railyard between North Third and Tenth streets. Activities that depended on rail and waterborne access clustered near the shore, while other industries extended inland, mingling with housing in many areas. Today, only certain waterfront industries continue to rely on waterborne shipments, including the huge Amstar sugar refinery between Grand Street and the Williamsburg Bridge.

With the opening of the Williamsburg Bridge in 1903 a tremendous influx of poor Jews and other Europeans from the Lower East Side of Manhattan occurred. It was spurred by the initiation of elevated train service over the bridge in 1908. By 1920 those who could afford it had left and Williamsburg became one of the more congested parts of Brooklyn. Population declined after 1920 largely as a result of displacement of housing by expanding industries. The slum conditions that developed led to construction of Williamsburg Houses in the mid-1930s, one of the nation's early large-scale redevelopment efforts.

Present Conditions and Appearance of the Site

Today, Williamsburg is plagued by deterioration, exacerbated by land use conflicts between housing and industry.

The housing stock north of Metropolitan Avenue is generally in better condition than that to the south. The portion of Williamsburg immediately surrounding the Grand Street site is a mixed industrial-residential area with two distinctive population groups and housing types. The heaviest concentrations of industry are located in the waterfront blocks west of Wythe Avenue, with inland intrusions between Metropolitan Avenue and North Sixth Street west of Bedford Avenue, and under the Manhattan Bridge west of Roebling Street. Many blocks contain light industry interspersed with residential properties especially in the Northside neighborhood above Grand Street.

The residential building stock consists largely of two- and three-family attached frame dwellings, with four- and five-story tenement buildings predominant along residential avenues and on many blocks south of Grand Street. Much of the housing in Northside, above Grand, is owner occupied and well maintained. Multiple-family tenements south of Grand Street have fared less well, with a high proportion of deteriorated and abandoned structures. There are few tenements in Northside.

Grand Street east of Bedford Avenue was once a vibrant commercial strip, but has declined to a point where storefront vacancies threaten its viability. Other local convenience shopping facilities are scattered along north-south avenues and along Havenmeyer Street south of Grand.

Transit access to the study site is fairly poor. Service is provided by the BMT 14th Street Canarsie Line (LL train), with a stop at Bedford Avenue and North Seventh Street (one-half mile from the site). The BMT Jamaica and Ridgewood lines (J and M trains) operate over the Williamsburg Bridge to Broadway, with a stop at Broadway and Marcy Avenue (three-fourths of a mile from the site). Buses operate along Bedford and Driggs avenues, as well as along Broadway to Kent Avenue. The closest stop is more than a third of a mile away.

Existing recreation facilities in the project's vicinity are limited. A schoolyard exists at P.S. 84 on Grand Street, two blocks from the site. Another play area is located under the Williamsburg Bridge five blocks south of Grand Street. The closest major recreation facility is 36-acre McCarren Park, located more than three-fourths of a mile northeast of the site.

Socioeconomic Characteristics

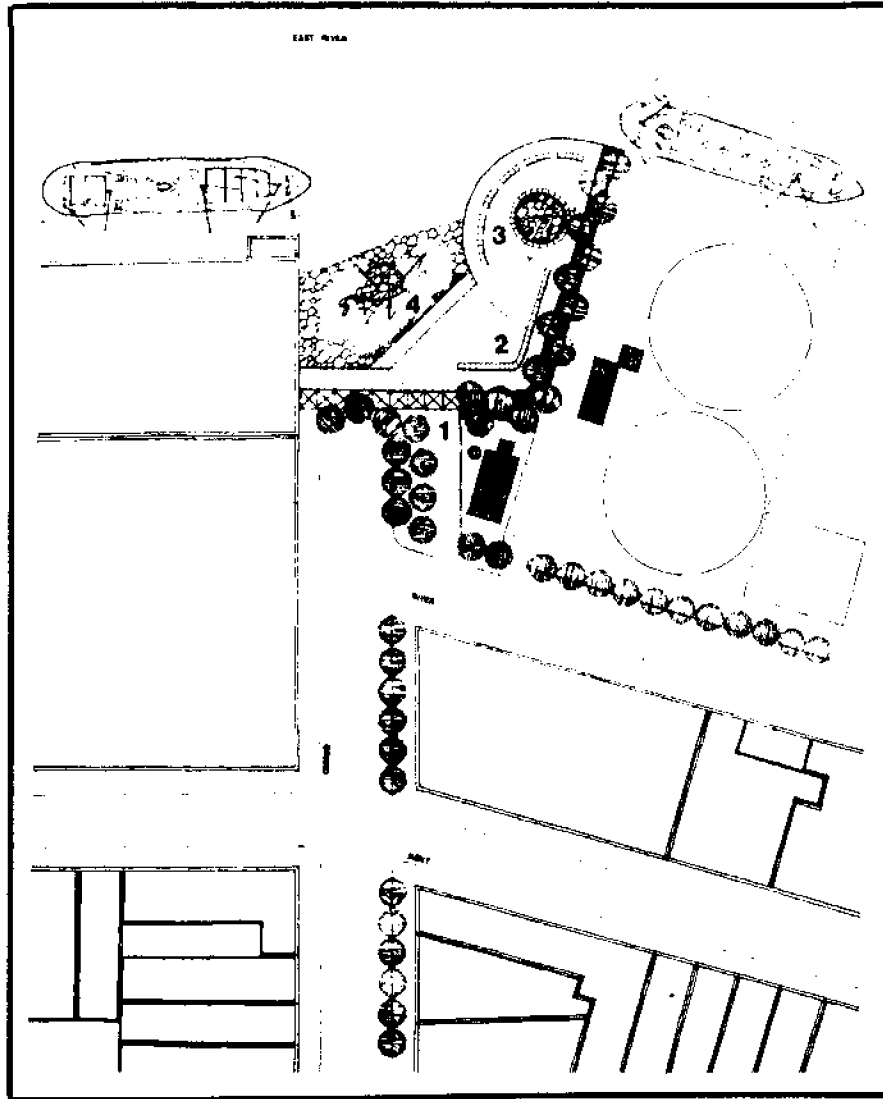
By the 1940s many of the Jews and Italians had moved out of Williamsburg and were replaced by Puerto Ricans and Hassidic Jews. Hispanics dominate most mixed-use areas close to the waterfront, while Williamsburg's large Hassidic population is concentrated in the area south of Division Avenue, centered on Bedford Avenue.

Population characteristics near the site, like housing stock, differ widely north and south of Grand Street. Approximately 20,000 people lived within three-fifths of a mile from the waterfront site in 1970. Only about 1,100 were black. The 7,500 living in Northside were predominantly Poles and Slavs with a median family income of around \$7,500 per year. About 75 percent of the residents of the area south of Grand Street were Hispanic with a median family income of around \$5,100. These medians compare with \$8,859 for Brooklyn as a whole and \$9,682 for New York City. Thirty-four percent of the families south of Grand Street had annual incomes below the official poverty level, while only 14 percent of Northside families, the same proportion as for Brooklyn, fell into the poverty category.

The age structure of the population north of Grand Street is also comparable to Brooklyn's, while residents of the blocks to the south tend to be younger than average. Nearly 45 percent are under 18 years of age in the Hispanic neighborhood, versus 31 percent for Brooklyn. At the other end of the spectrum, only 5 percent are over 65, while 11 percent in Brooklyn fall into that category.

These statistics are significant in terms of the population that can be expected to use the proposed recreation site. The proportion of Hispanics, who are generally young and have larger families, is expected to increase in the future. When possible, younger whites are leaving the district for better homes and jobs elsewhere. These trends will result in larger populations of

Map 3: Williamsburg Design Proposal



Hispanic youth and white elderly persons, which would tend to exacerbate existing social tensions.

Local Residents' Impressions

The Williamsburg waterfront is perceived negatively or indifferently by most of the area residents questioned. A typical observation suggests that the industrial uses create a barrier to the river: "Some people who live here don't know there's a river there."

Because of its isolation from the familiar "turf" of residents' home blocks, the Williamsburg waterfront is also perceived as a somewhat hazardous "no-man's-land." It is not strongly identified with any one user group and evokes no sense of allegiance among residents. As a result, there is fear for personal safety, and use is minimal.

Part of the waterfront's negative image results from its deteriorated and esthetically unattractive condition. Decayed and rotting structures litter much of its length and the water is murky and putrid much of the time. Industrial uses generally dominate residents' perceptions of the waterfront, and there is little mention of natural qualities or its recreation potential.

The most frequent users of the few available points of waterfront access in Williamsburg are area youth, who generally possess a more positive impression of the waterfront. The emphasis among this user group is on spontaneous, informal forms of recreation: "messaging around" and "throwing things for the fun of it." Other comments from youth included: "We go down there to hang out...The river is fresh...No people around to bug us."

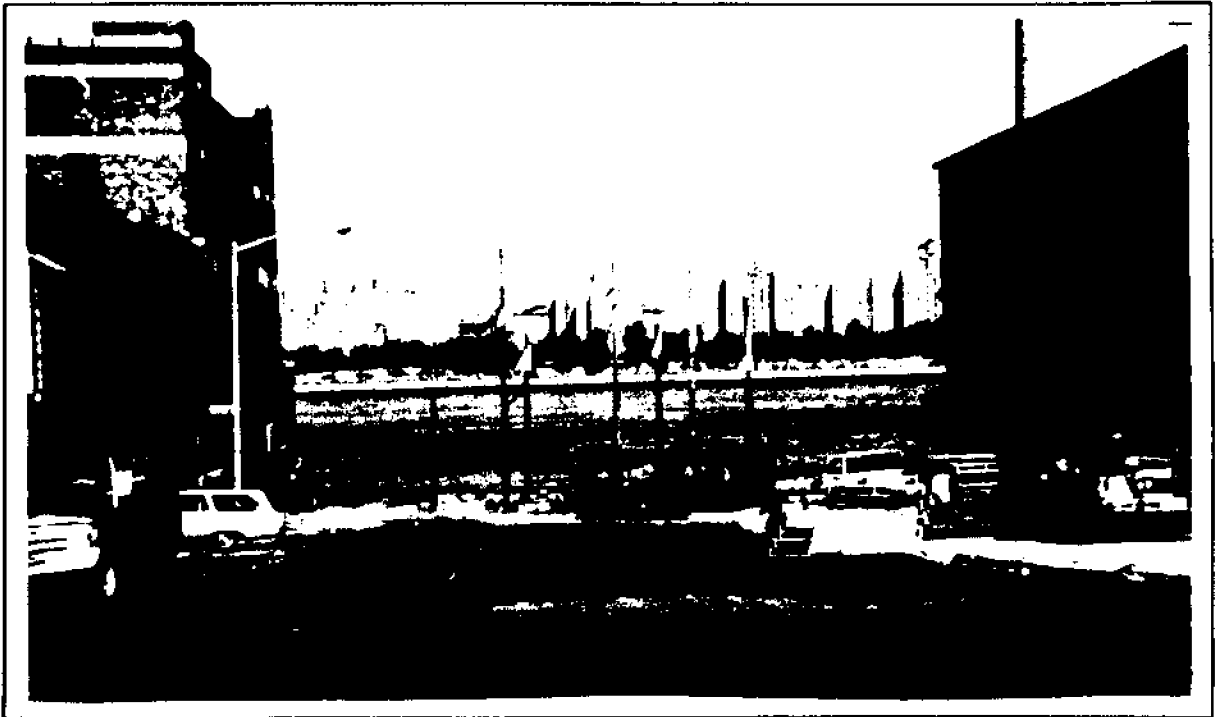
The most active periods are summer evenings and weekends. Older adolescents generally use the waterfront less than younger children. This seems to be because the older boys, "the big guys," tend to monopolize the limited formal recreation facilities in the neighborhood, leaving the kids to seek out alternatives, like the river.

The elderly might be users of the waterfront if it weren't for the high degree of fear and lack of safety there. As one older Williamsburg resident explained, "Old people don't go to the isolated areas. Old men who want to fish, go, but are afraid." Unfortunately, the problem of security is heightened by the fact that fishing is best during early morning and in early evening when the tides are high.

Families with younger children may visit the waterfront on summer weekends and evenings. Shipping activities are seen as a source of entertainment, especially for younger children. One youngster mentioned, "I take my camera and take pictures of the boats...and the unloading at the foot of Grand Street." Ethnically, the majority of Williamsburg recreational waterfront users are Hispanic, with the exception of some old and young from nearby Northside.

In general, waterfront activities mentioned were passive. This includes fishing and, although the East River is polluted, children often tend to use it for swimming. Although the feelings of many young people questioned were

Figure 1: Williamsburg



that there were many things about the area they disliked, notably the shortage of recreational facilities, they generally considered the waterfront as a great asset and release. It seemed to "balance things off."

Design Proposal

The Williamsburg site, at the terminus of Grand Street, was little more than a weed-grown garbage dump when the New York City Parks Council (a private, nonprofit group devoted to creating and improving park space in New York) identified it as a potential park site. The city transferred ownership of the site to the council for development in cooperation with local neighborhood organizations. It was intended that the site be developed by the local community with the assistance of labor and equipment from the Department of Ports and Terminals.

The design proposal, developed in conjunction with the Parks Council, was based on a review of site constraints as well as on assessment of the facilities needed by the potential users. One of the most crucial design tasks was that of changing the site's unsafe and threatening character.

The proposal thus focuses on the provision of a few simple recreational facilities having relatively modest construction requirements. Three objectives guided the design process: to provide the site with a clear and attractive entrance point that announces that something special and positive is occurring; to provide a sense of release from the intense, compressed physical environment of the surrounding blocks, capitalizing on the expanse of water at the street's end; and to provide recreational possibilities in a neighborhood where few exist.

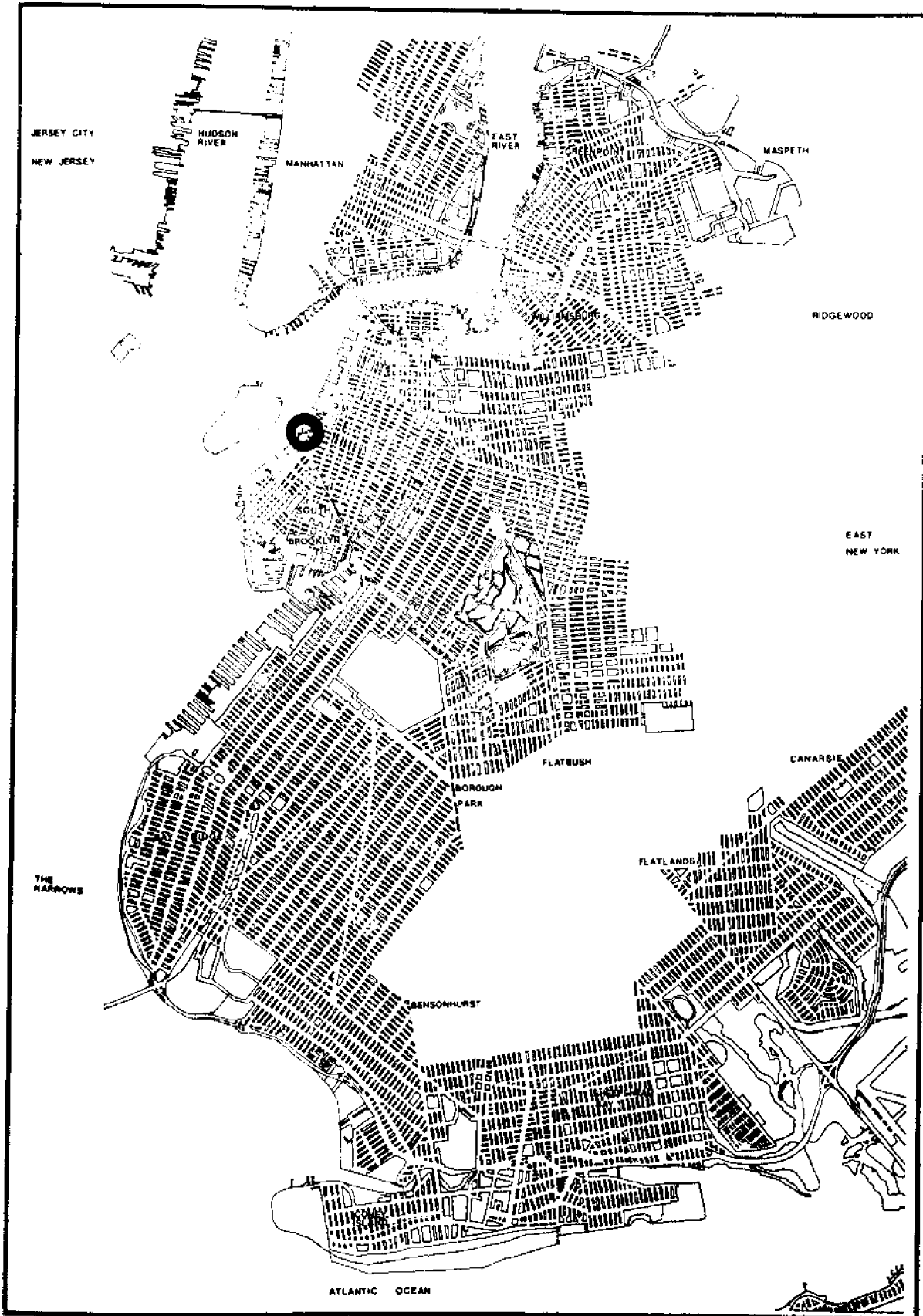
The major design elements for the site are the following: (1) a large arrival area and trellis to define the entrance to the park; (2) a quiet sitting area from which to observe the water and related activities; (3) a pier to reinforce the element of water and provide an outward thrust and release from the urban enclosure of the adjoining streets.

The pier should be an ideal place for fishing as well as providing an excellent position for viewing the Manhattan skyline. As an attraction for many people, the pier should help in providing a greater surveillance during evening hours. The continuous flow of elderly residents, young people, workers from nearby factories, and families would naturally provide an informal observation and self-policing system.

Connection with the water is further enhanced by steps down to a rocky area and the waterline edge. The image of an urban oasis would be promoted by trees and planting along the park's edge.

The elements described above, together with a greater sense of security, comprise a vest-pocket park that would make a positive esthetic and social impact on the surrounding environment and neighborhood.

Map 4: Red Hook



RED HOOK: SITE NO. 2

Site Location

The Red Hook site is located on a currently unused rubble-strewn lot with a large paved area (Ferry Place) where buses turn and wait their next runs. The site is bordered on the east by industrial buildings and Van Brunt Avenue and on the south by Hamilton Avenue. Several vacant structures exist on the site, including an original inn that operated from the foot of the Hamilton Avenue ferry years ago. Remnants of the pilings that formed the ferry slip remain standing in rows a few feet offshore.

History of the Area

Red Hook was the Dutch name for the peninsula south of Brooklyn Heights between the Gowanus Creek and Buttermilk Channel. Together with the surrounding communities its history extends back to the Dutch purchase of a large tract of land from the Mohawk Indians in 1636.

Much of Red Hook was a sandy, marshy wasteland, unsuited for development. The area, therefore, remained essentially rural until after 1840.

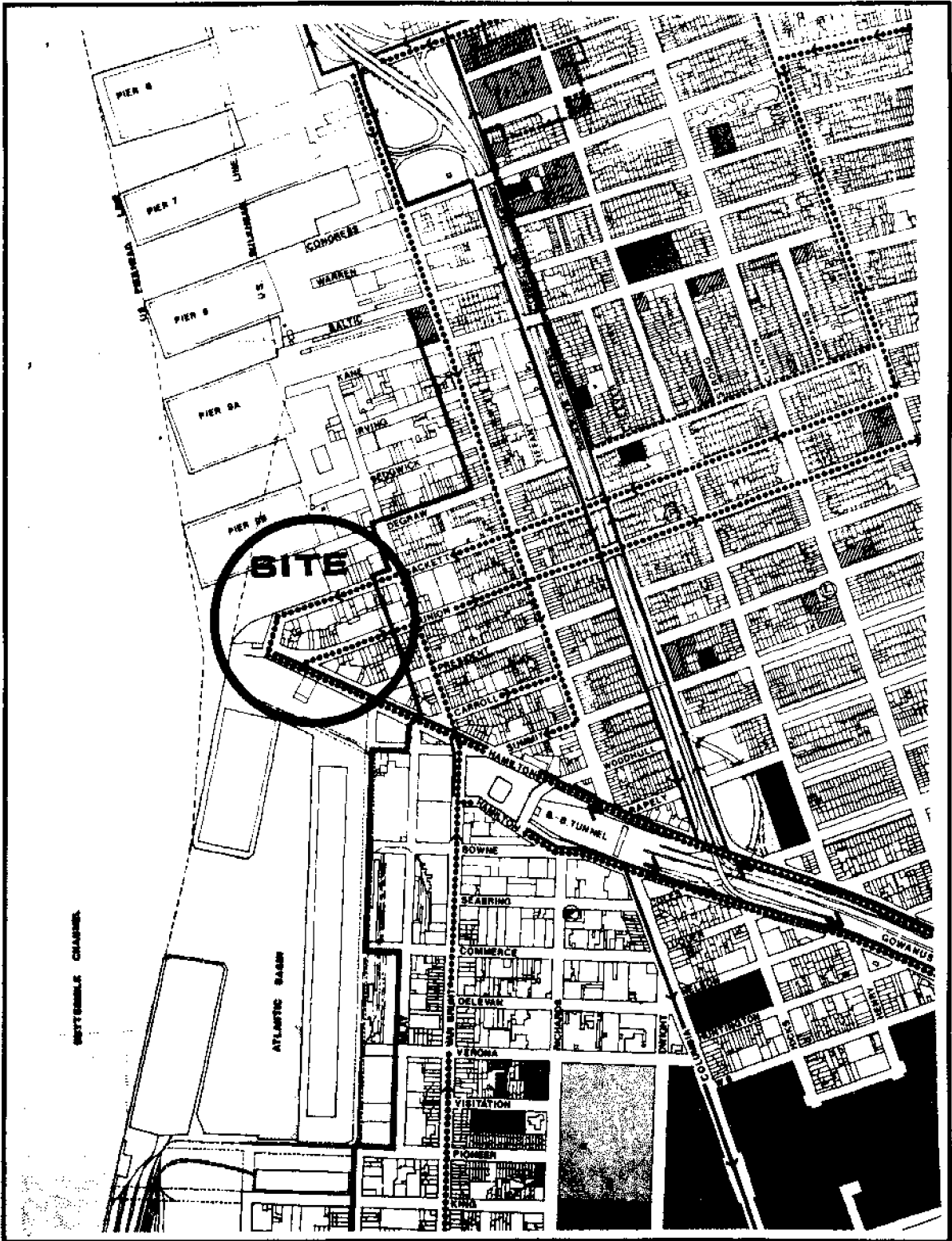
As a result of dredging and filling in the latter nineteenth century, the peninsula underwent extensive change and is now much larger than it was originally.

A tremendous increase in waterborne trade at the port of New York occurred after the opening of the Erie Canal in 1852. By 1840 Manhattan's shipping facilities had been strained to capacity and the Brooklyn waterfront was the next logical area for development.

Colonel Daniel Richardson built a large shipping and warehousing center in Red Hook around an enclosed boat basin. Construction of Atlantic Basin began in 1841 and by 1847 business activity began to thrive. In 1848 Richardson petitioned the Common Council for permission to open 35 streets near his docks. Shortly after, in 1856 or 1857, construction of Erie Basin began. Ten years later it opened, containing extensive dry docks as well as shipping facilities. An array of ship-related industries soon sprang up in the blocks surrounding the two basins and so too did a variety of other industries.

In 1846 ferry service to Manhattan was established from the foot of Hamilton Avenue at the study site. By this time residential development of Brooklyn Heights had spilled below Atlantic Avenue, in the area now known as Cobble Hill. In addition, housing for dockworkers was built near the waterfront and Red Hook's population swelled with the arrival of German and later Irish immigrants.

Map 5: Red Hook Detail



Throughout the latter half of the nineteenth century the area prospered as a center for shipping and industry. As early as 1853 the Burtis shipbuilding yard at Beard and Conover streets employed more than 500 persons. From the 1860s to the 1880s the brownstone houses presently found in Carroll Gardens were built.

A succession of immigrant groups was attracted to the area by the waterfront jobs available there. In the mid-nineteenth century the Irish first settled on Columbia Street--the western edge of the district--followed by Norwegians after 1875 and then after 1900 the Italians. Today, Italians still dominate Carroll Gardens. Puerto Ricans also began arriving on Columbia Street during the 1920s.

By the 1890s many attempts to consolidate waterfront facilities from the Brooklyn Bridge to Erie Basin were being made. The eventual controller was the New York Dock Company which operated this huge complex from 1901 until it was sold to the New York Port Authority in 1955. Since 1910 there has been little industrial expansion in Red Hook; and population in the district has declined since 1920.

During the late 1940s the Brooklyn-Queens Expressway (BQE) was built through the neighborhood, isolating the areas south of Hamilton Avenue and west of Hicks Street. Columbia Street, once known as the Little Italy of Brooklyn because of its lively Italian shops, began to lose its vitality. Since 1965 plans to construct a containerport and boost industry in the industrial renewal area west of Columbia Street (which includes the study site) have created uncertainty, disinvestment, and decline along this waterfront corridor.

Because of the Port Authority's modernization program, implemented in 1956, the piers along this stretch of the Brooklyn waterfront remain quite active. Even today, many local residents work as stevedores and belong to the International Longshoremen's Association headquartered in Carroll Gardens.

Present Conditions and Appearance of the Site

The South Brooklyn site is adjacent to a variety of often conflicting land uses and population groups. The Port Authority piers extend south from the Brooklyn Bridge around Red Hook to the Gowanus Canal and dominate the shoreline itself. The boundaries of adjacent residential communities are defined by the BQE, which creates a physical and social division. This depressed, six-lane highway, along with the Brooklyn-Battery Tunnel toll plaza, isolates the waterfront neighborhoods of Red Hook (south of Hamilton Avenue) and Columbia Street (west of Hicks Street) from adjacent Carroll Gardens and Cobble Hill.

The two severed communities have deteriorated, not only as a result of the BQE, but because of land use conflicts with waterfront industry as well. The original proposed Red Hook containerport included more than 13 blocks north of Hamilton Avenue below Kane Street and west of Columbia Street. Property owners and residents faced the threat of condemnation as part of an industrial renewal area for several years, until community opposition changed

the plans. The result was disinvestment, frequent fires, and building abandonment in the Columbia Street neighborhood. Deterioration and uncertainty about the area's future have forced out many of the 550 families and 140 businesses faced with relocation.

Revised plans for the containerport, developed in 1972, excluded a 9.4-acre triangle of land at Ferry Place for recreational uses and the study site is included within it. Use of the parcel for recreational purposes remains uncertain, however, as New York City has since reversed its position to include it within the proposed containerport development. Clearance for the project has already begun on adjoining Port Authority property.

City activities have caused further decline in the Columbia Street neighborhood after an open-trench sewer was dug in 1975. This 25-foot-deep ditch ran along President and Columbia streets, undermining the foundations of surrounding structures, and resulted in the collapse of buildings and three fatalities. In addition, more than 35 stores have closed or relocated as a result of the disruption. The Department of Water Resources condemned the buildings along both sides of President Street in order to raze them. Van Brunt Street south of Hamilton Avenue was also affected by construction of this sewer line. The devastation does not extend to the brownstone communities of Carroll Gardens and Cobble Hill east of the BQE.

The largely Italian neighborhood of Carroll Gardens runs southward from DeGraw Street to Hamilton Avenue between the BQE and Smith Street. Cobble Hill extends northward from DeGraw to Atlantic Avenue. Both communities have experienced an influx of fairly affluent "brownstoners" since the mid-1960s, centered around Atlantic Avenue and Brooklyn Heights. Land use here is uniformly residential except for strips of industry along Hamilton Avenue and the Gowanus Canal. The housing stock is predominantly composed of well-maintained one-to-three-family brownstones, with some multiple dwellings along the north-south avenues. Only the mixed-use area along the southern edge of Carroll Gardens shows signs of significant deterioration.

The neighborhood now known as Red Hook extends southward from Hamilton Avenue to the water. It comprises a peninsula containing a core of residential blocks surrounded by industry. Shipyards, warehouses, factories, and the huge Erie Basin and Atlantic Basin dock facilities create a stream of truck traffic on residential streets. Roughly two-thirds of Red Hook's largely low-income population live in Red Hook Houses, one of the earliest public housing projects. The older frame and brick rowhouses, located west of the housing project, show increasing deterioration. In general, this part of South Brooklyn is marked by drabness and poverty.

Continuous strips of healthy commercial activity extend along all of Court Street and much of Smith Street, serving Cobble Hill and Carroll Gardens, as well as adjacent Boerum Hill and Gowanus. A few Hispanic and Italian convenience stores are the only vestiges of the once vibrant retail hub at Columbia and Union streets. Van Brunt Street south of Hamilton Avenue formerly served as a local shopping strip for Red Hook residents, but also has experienced decline.

Public transit access to South Brooklyn is primarily by bus. Subway service along Smith Street is provided by the IND F train, with stops at Bergen, Carroll, and Ninth streets. The closest of these is more than

three-fourths of a mile from the site. North-south bus service exists along Columbia Street to Hamilton Avenue and along Van Brunt Street south of Hamilton. East-west access is provided along Sackett and Union streets to Ferry Place at the site, where the route terminates. Additional service during rush hours extends along Hamilton Avenue, with these buses also laying over at Ferry Place between runs.

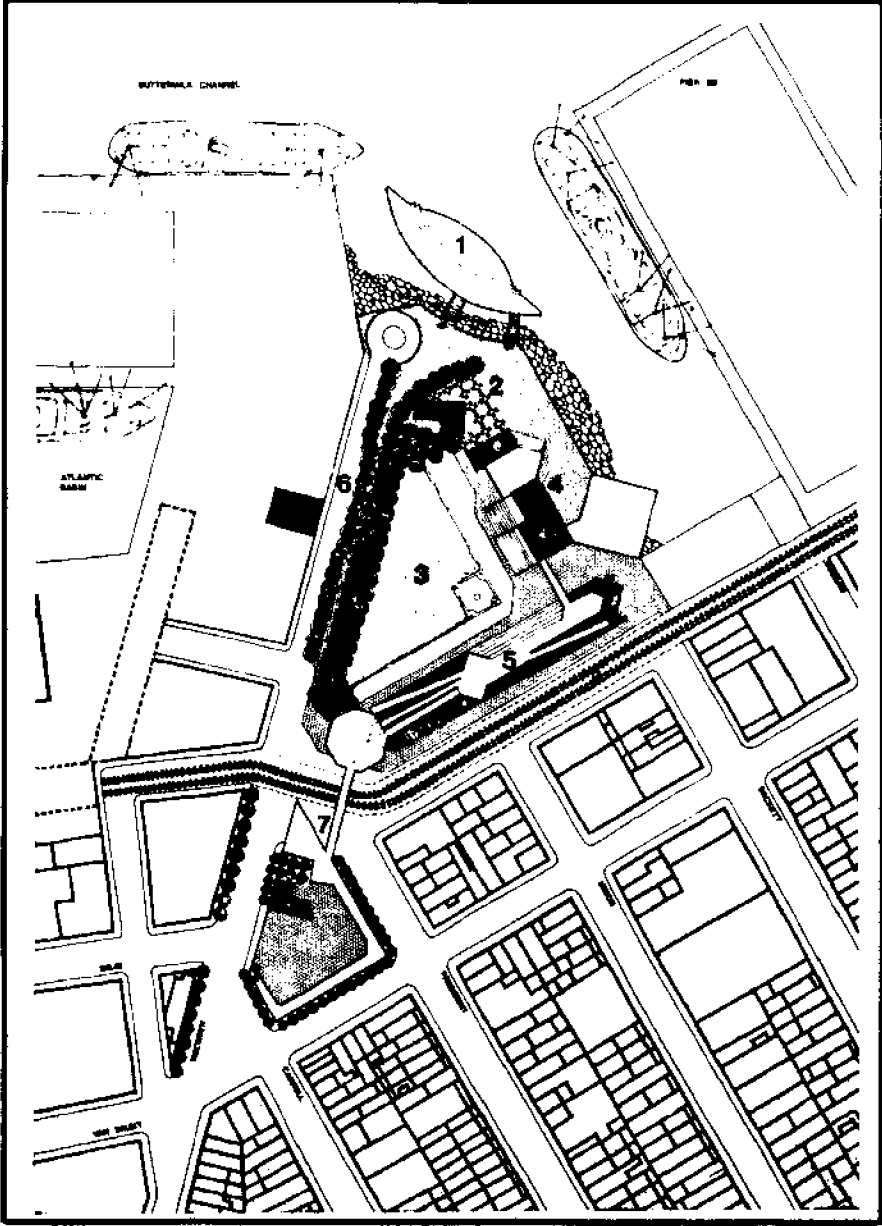
The recreation space in South Brooklyn is inaccessible to much of the population, and, for the most part, is poorly maintained. Red Hook has extensive open space that lies underused south of Red Hook Houses, between Columbia and Clinton streets. Red Hook Park, to the west of the housing project, lies closer to the site, but is still over one-half mile away. The Italians of Carroll Gardens do not frequent the large parks in black and Hispanic Red Hook. Carroll Park is much smaller and more intensively used. Located between Court and Smith streets, it is about three-fourths of a mile from the site. Columbia Street residents must either rely on two small playfields along Hamilton Avenue or travel to Red Hook. A field at the mouth of the Brooklyn Battery Tunnel is only one-fourth mile from the site and is in poor condition. Van Voorhees Park is an amalgam of leftover parcels adjacent to the BOE interchange at Atlantic Avenue containing several playgrounds. It is closer to residents of Cobble Hill and Brooklyn Heights, but again, access is difficult.

Socioeconomic Characteristics

The South Brooklyn population is diverse and fairly segregated by neighborhood. There were approximately 41,500 people south of Atlantic Avenue and west of Court Street, according to the 1970 census. About 14,000 lived in Red Hook, 5,000 in the Columbia Street area, and the remainder in Cobble Hill and Carroll Gardens. Red Hook Houses contained about 9,000 people; 70 percent were black and 26 percent Hispanic. The remainder of Red Hook residents were about 44 percent Hispanic and 14 percent black. The Columbia Street neighborhood was fairly evenly divided between Hispanics and Italian-Americans, with blacks comprising a mere 3 percent. Since 1970 this area's population has fallen, probably because of its physical decay. Today, it is predominantly Hispanic. Middle-class Italian-Americans comprise the majority of Carroll Gardens' population, with a 15 percent Hispanic minority. Cobble Hill and Carroll Gardens together contain only a 2.5 percent proportion of blacks. Cobble Hill has experienced an influx of assorted upper-middle-income whites in recent years, who have replaced some of the previous Italians and Hispanics.

Income patterns, as ethnicity, follow neighborhood lines. Median family income for Red Hook in 1969 was approximately \$6,200 per year, slightly lower in the public housing project than in the blocks of rowhouses. The Columbia Street area's median was \$6,900. Not surprisingly, Cobble Hill and Carroll Gardens shared substantially higher income figures than Red Hook and Columbia Street. Their combined median family income was about \$9,800 per year. Recent brownstone revival has probably resulted in higher incomes here since the last census, increasing the disparity between neighborhoods above and below the BOE. In 1969, the proportions of families with incomes below the poverty level was 23 percent in Red Hook, 21 percent in Columbia Street, and 10 percent for Cobble Hill-Carroll Gardens.

Map 6: Red Hook Design Proposal



According to the New York City Planning Department Community Board Planning Series, Red Hook and Columbia Street populations are younger than average, while Cobble Hill-Carroll Gardens houses contain a higher than average proportion of 18-to-64-year-olds and a less than average percentage of children and elderly. Thus, South Brooklyn as a whole contains a somewhat higher proportion of children and a slightly lower proportion of older people than the city as a whole.

As in Williamsburg, the Red Hook site is fairly isolated from nearby residential blocks and is not identified with any one neighborhood or population group. Wide differences in income level and ethnic background contribute to the problem of establishing an identity for the site. However, it is large enough to accommodate several different user groups, with diverse requirements, at any given time.

Local Residents' Impressions

South Brooklyn residents' impressions of the waterfront are influenced by their recent negative experiences with the proposed containerport and the interceptor sewer project. Both waterfront-related developments have worsened the plight of the poor. The Port Authority of New York and New Jersey controls almost all of South Brooklyn's waterfront property and has proved unsympathetic to community needs for waterfront access. The Port Authority has attempted to restrict access to the study site with fences and warning signs in English and Spanish. Local residents have regularly cut holes in the fences but just as often the Port Authority repairs the holes to prevent access.

With so little opportunity for residents to get to the waterfront, little can be said of the current use of shoreline sites. The major waterfront activity seems to be viewing of lower Manhattan, either from the Ferry Place site or a mile up the coast from the Brooklyn Heights Promenade.

In general, there appears to be even less use of the waterfront here than in Williamsburg (Site 1). Like Williamsburg residents, South Brooklynites are physically cut off from the water by industrial uses, but this separation is amplified into real hostility toward the institutional forces that created this situation.

There is no recognition among Red Hook and Columbia Street residents that waterfront development can bring them anything positive, yet there is a clear perception of need for recreational space.

Design Proposal

The site's most overpowering characteristic is its view of the lower Manhattan skyline across the harbor. The huge towers of the World Trade Center appear to be floating on the water. Governors Island, occupied by the Coast Guard, is visible across Buttermilk Channel, and a constant parade of assorted watercraft passes up and down the Hudson and East rivers.

The site is surrounded by shipping piers to the north and south and by industry to the east. Eventually it will be encompassed by containerport facilities, including a proposed dock railroad running along its eastern

Figure 2: Site of Proposed Red Hook Terminal



perimeter. Container storage yards will be to the south and a containership berth on the north.

Positive characteristics of the site, as well as community concerns were emphasized in the design. The activities provided include viewing of the Manhattan skyline and passing vessels, along with the opportunity to watch the docking of large ships and the handling of waterborne cargo. Since the inadequacy of local active recreation facilities was often cited by Columbia Street and Carroll Gardens residents, such a space was incorporated into the design. Other design concerns included providing adequate access to a virtual enclave. Bus access is already provided along two routes, but pedestrians were in need of a separate access overcoming the various impediments to the site. A need for truck access to adjacent container storage yards was combined with parking and service access for the park.

It was felt that well-defined attractions were needed to overcome the negative image associated with waterfront. The residents expressed a desire for specialized uses so that they would "have a definite reason to go there." The mix of uses is varied to include active and passive recreation, limited commercial activity, and educational attractions relating to the marine history and current waterfront commerce of South Brooklyn.

The major design elements for the site are the following:

- an oval-shaped pier for viewing and possible fishing;
- a restored waterfront cafe, located in the old Ferry Inn and catering to residents, visitors, and area workers;
- a large active recreation area, which includes a soccer or ball field;
- a display and information center, relating waterfront history and port activities (this center could make reuse of existing structures on the site);
- a large earthmound or berm running along the eastern side of the site. This would provide isolation from the industrial activities and railway and would include ramps and platforms for viewing as well as spectator seating for the ball field;
- an access drive with circular cul-de-sac and diagonal parking to permit truck access to adjacent container storage yards (we also considered the future development of an expanded "bus station" with a ramp over the rail line to the site);
- this access drive could tie into the earthmound discussed above. As most of the rail movements are expected to occur when the park is little used, access to the site would not prove to be a problem even without the ramp. It would be similar to small towns where trains move through slowly and infrequently. Signal devices announce the train's movements and, in fact, the danger is considerably less than the usual vehicular traffic presents.

FULTON FERRY: SITE NO. 3

Site Location

The Fulton Ferry site consists of a number of discrete parcels intrinsically linked by geography, history, and the interests of potential waterfront users. Together, the parcels form a one-third-mile-long strip of land along a bend in the East River where the Brooklyn shoreline runs nearly east and west.

Much of the site is occupied by the five-story Empire Stores (a series of seven brick warehouses), but other important structures along this waterfront corridor include the Old Marine Fire Station, where the Maritime Museum is now housed, an art deco New York City Department of Purchase storehouse, located under the Brooklyn Bridge, and a large, two-story warehouse, between New Dock and Old Dock streets. An enclosed storage pier is located at the foot of Main Street, the only pier still standing on the site, other than the recreation dock at the foot of Cadman Plaza West. A former dock railway yard behind the Empire Stores is now a grassy apron with rows of piles where piers once stood. Much of the site's shoreline is bulkheaded, but this tract is not. East of Main Street, the waterfront is dominated by a 12-story industrial loft, one of the Gair buildings (a complex of 10+-story structures between Main and Washington streets), with another large unused waterfront yard behind it.

History of the Area

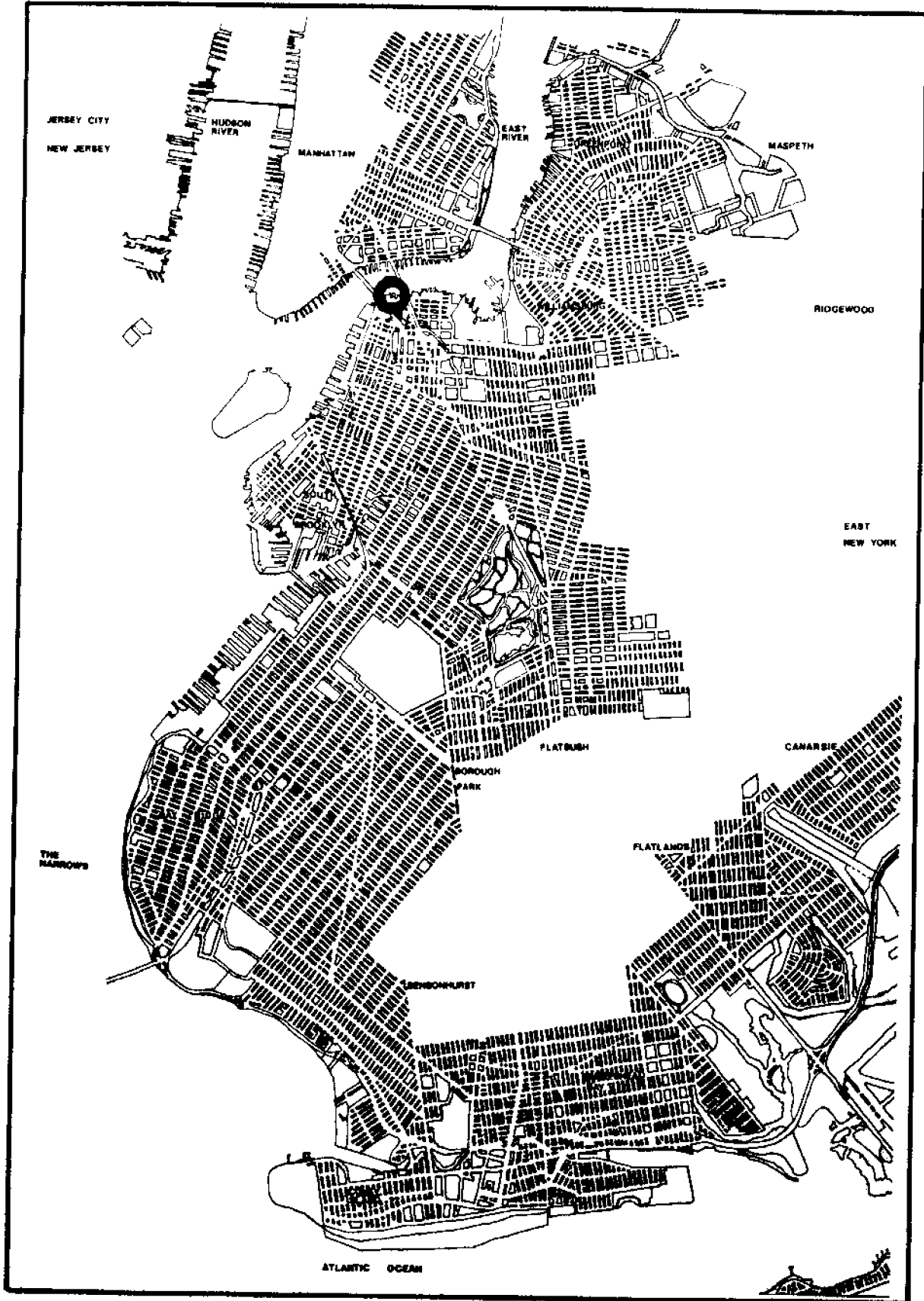
The history of the Fulton Ferry area is tied closely to the ferry and the commerce associated with waterborne transport. The first ferry service to Manhattan, established here in 1642, led to the growth of a community of Dutch farmers and traders. A ferry-house tavern was erected in 1655. By the time the Village of Breucklen was founded in 1657, the area had already begun to establish itself as a commercial center for the surrounding agricultural region.

The Ferry Road to Jamaica was officially laid out in 1704, terminating at Fulton Ferry and serving as the principal land access to the rest of Kings County and Long Island. In 1776, after losing to the British at the Battle of Long Island, the American army staged its strategic retreat across the East River from Fulton Ferry. Later, in 1782, the first Brooklyn newspaper was published from two-story stone "Brooklyne Hall" on the Ferry Road.

Steam-propelled ferry service was introduced in 1814 and Ferry Road was renamed Fulton Street in honor of the steamboat's inventor. In 1816 the Village of Brooklyn was incorporated.

By the mid-1820s Front Street had become a center for banks, insurance companies, and law firms. The waterfront was extended with landfill to form

Map 7: Fulton Ferry



Water Street, and Fulton Street was widened in anticipation of increased trade and traffic. The earliest iron foundry in Brooklyn was established on Water Street in 1824 and a number of small industries associated with shipbuilding and outfitting established themselves nearby.

The City of Brooklyn was incorporated in 1834. Fulton Street (now Cadman Plaza West) was always the "main street" of the Fulton Ferry area, as well as of the Village and City of Brooklyn. By the late 1830s it was lined on both sides by four-story brick structures with stores on the ground floor and lodgings above. Interspersed among these buildings were taverns, oyster saloons, and modest hotels. By 1840 a large public bathhouse had opened at the foot of Fulton Street, with a bathing area in the East River. In 1841 the Brooklyn Eagle was founded by Henry C. Murphy in an office on Front Street. By the late 1850s Fulton Street had become commercial. In the meantime, adjacent Brooklyn Heights had developed into New York's first suburb and one of the wealthiest communities in the United States.

Until the mid-nineteenth century, stagecoach lines provided transit between Fulton Ferry and inland sections of Brooklyn and Long Island. Beginning in 1853 more efficient horse-drawn railways were developed, which converged at the ferry from all directions. In 1867, 12 lines covering 37 miles transported 22 million passengers a year.

In the 1870s and 1880s, the construction of the Brooklyn Bridge shifted Brooklyn's commercial district from the ferry to the area near City Hall (Borough Hall). When construction began in 1870, the ferries carried about 50 million passengers a year. The bridge's opening in 1883 initiated the slow decline in ferry patronage that led to the termination of service in 1924.

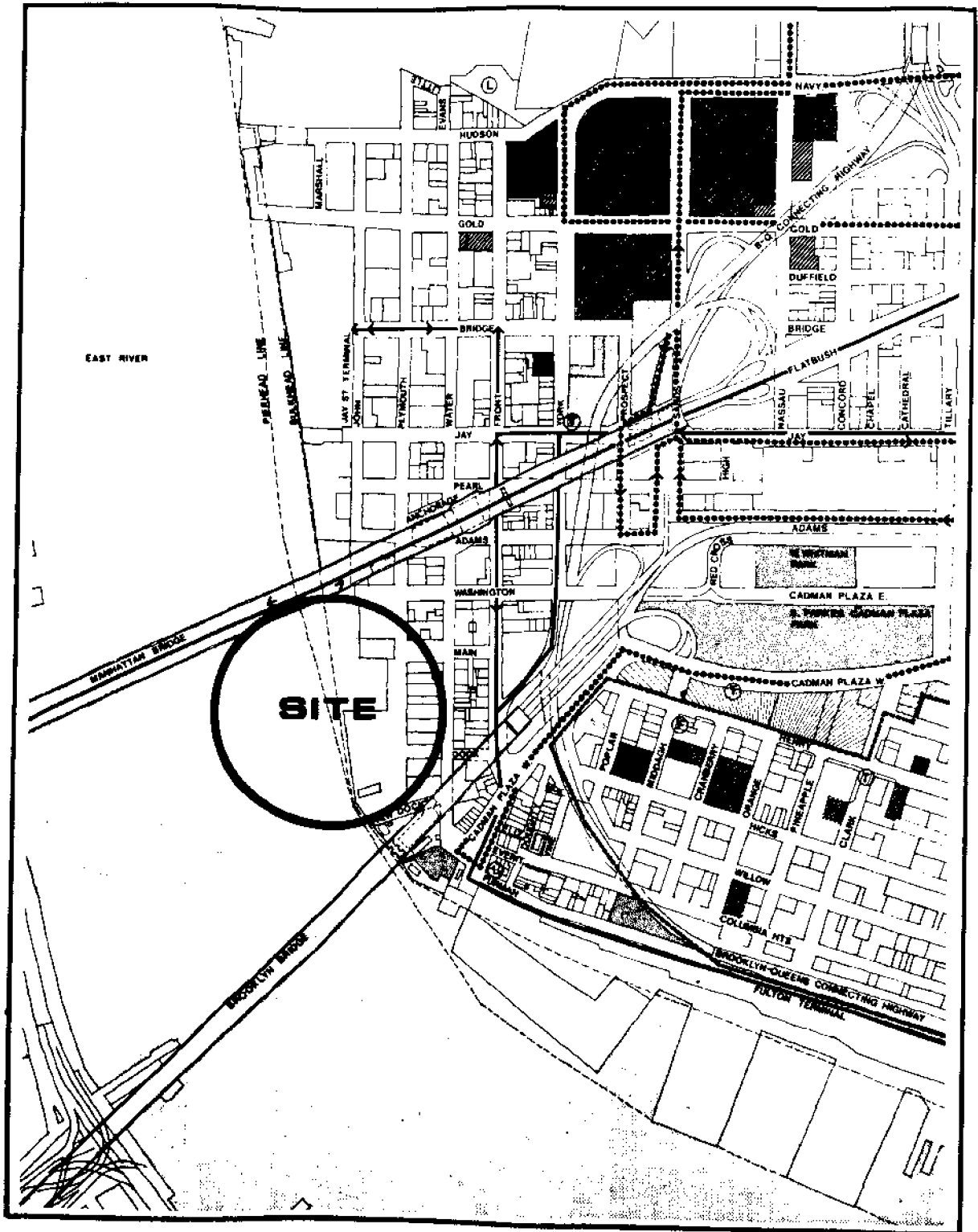
After 1869, early nineteenth-century warehouses along Water Street were replaced by the monumental Empire Stores, between Main Street and the former Dock Street. By 1870, the waterfront was so lined with warehouses and docks that Brooklyn had earned itself the nickname of the "walled city."

Although Brooklyn's waterfront continued to flourish into the twentieth century, the Fulton Ferry area saw little new development after the opening of the Brooklyn Bridge. Because it was bypassed by the bridge and isolated from Brooklyn's new main commercial district, it became an economic backwater, with little outward change since its nineteenth-century heyday. The bulk of Brooklyn's waterborne commerce was, and still is, handled at the piers, dock railways, and warehouses which extend south of Fulton Ferry to Bay Ridge. Today, Fulton Ferry's only pier is a recreation dock at the former ferry terminal site. Only the half-empty warehouses still remain.

Present Conditions and Appearance of the Site

Recently, with the decline of waterfront commercial uses and the increasing popularity of residential recycling of commercial buildings, the Fulton Ferry area has reawakened. Lofts in smaller commercial structures have been rented to artists and others seeking inexpensive living spaces. A small waterfront park was constructed just south of the Brooklyn Bridge by the Department of Ports and Terminals in 1976. Adjacent to it is the 1926 Marine Fire Boat Station building now housing the National Maritime Historical Society museum. A fashionable floating restaurant is moored in front of the

Map 8: Fulton Ferry Detail



park beside the existing recreation pier.

Formal recognition of the historic character of Fulton Ferry was made 28 June 1977 when the area was named a historic district by the New York Landmarks Preservation Commission. Since then, New York State has purchased the historic Empire Stores and much of the proposed site from Con Edison with the intention of developing a cultural and commercial complex. An expanded National Maritime Museum is planned within this complex, although no specific plans have been made.

Despite these trends, the Fulton Ferry area contains no significant residential population and continues to house many active manufacturing, warehousing, and shipping enterprises. The area remains cut off from nearby Brooklyn Heights and Cadman Plaza Housing by the steep slope at the edge of the Heights, the broad expanse of Cadman Plaza West, and the Chinese wall of the Brooklyn Bridge approach ramp. Industrial land use extends east for three-fourths of a mile to the former Brooklyn Navy Yard. Some of the blocks east of Bridge Street contain a mix of industrial and old row residential houses, however. The majority of structures in the area are multi-story industrial loft buildings, including the Gair buildings.

Brooklyn Heights is one of the most desirable residential neighborhoods in the city. Its spacious brownstone homes and apartments are complemented by quiet tree-lined streets and shopping and community facilities. The neighborhood was declared a Historic Landmark District in 1966. It is shielded from the blighting influence of adjacent active piers by a topographic separation capitalized on during construction of the BQE. The highway runs on two cantilevers along the edge of the steep slope and a pedestrian promenade was built on a third cantilever above. This affords an outstanding view of lower Manhattan and port activities, while preventing most of the adverse effects of the highway and the docks from impacting the community.

The blocks at the northeastern edge of Brooklyn Heights, bounded by Clark, Henry, and Poplar streets, the BQE, and Cadman Plaza West, were redeveloped during the 1960s and early 1970s as an Urban Renewal Area. Three publicly aided housing projects provide 1,042 middle-income dwelling units in townhouses and high-rise towers. The closest of these is about one-fourth mile from the site.

The other sizeable residential community near the site is Farragut Houses Public Housing Project. This 1,390-unit low-income complex was opened in 1951. It lies sandwiched between the Navy Yard, the BQE, York, and Nassau streets, one-half to three-fourths of a mile from Fulton Ferry. Although they are part of the Fort Greene neighborhood, these superblocks are isolated by the BQE and industry, and they lack adequate shopping and other facilities.

The lack of convenient retail shopping facilities inhibits residential conversion of loft space in Fulton Ferry. However, the present housing shortage in Manhattan has nevertheless increased pressure for development in such locations.

The major shopping strip for Brooklyn Heights is Montague Street, nearly two-thirds of a mile from the site. Downtown Brooklyn is even farther. Henry Street offers a few convenience goods stores within one-third mile of the site. The floating River Cafe and the Front Street Tavern have opened at the

foot of Cadman Plaza West and serve a nonlocal visitor clientele.

Two bus routes provide access to Fulton Ferry. They terminate at the end of Cadman Plaza West at the water. Both operate via Cadman Plaza to points in central and lower Brooklyn. In addition, the IND Eighth Avenue A and CC trains stop at Cadman Plaza West opposite Cranberry Street (High Street-Brooklyn Bridge) and the IND F train stops at York and Jay streets (Jay Street-Boro Hall). Both stations are approximately one-third mile from the waterfront.

No recreation space exists in the immediate area, except a new small park at the foot of Cadman Plaza West. Cadman Plaza Park, a large green space one-third mile away, contains open fields and trees. Brooklyn Heights residents use the promenade and several small playgrounds within their neighborhoods. Commodore John Barry Park is the closest preserve that contains a full range of recreational facilities. It is three-fourths of a mile from Fulton Ferry, at Navy and Nassau streets, and serves the residents of Farragut Houses and other nearby residential projects.

The site does have one environmental problem--the high noise levels under and near the bridges. This would not affect active recreational activities but it has limited residential proposals for the site. The outdoor tables at the River Cafe are located almost directly under the Brooklyn Bridge where the noise levels are high. Yet, on a pleasant evening, the tables are always occupied.

Socioeconomic Characteristics

Two widely divergent population groups are located near Fulton Ferry. Brooklyn Heights' 17,000 residents are, for the most part, white and affluent. The 1970 census figures indicate only 3.7 percent were black and 4.5 percent Hispanic. Median family income was about \$14,800. Fewer of the Cadman Plaza Housing residents were white and affluent; however, their median family income was still relatively high at \$12,300. The second population group consists of about 5,200 residents of Farragut Houses and 433 persons living in the mixed-use blocks nestled against the Navy Yard north of Farragut. Their racial and ethnic composition was roughly 70 percent black and 30 percent Hispanic. Median family income for 1969 was \$6,300, or less than half that of Brooklyn Heights. Families with incomes below the poverty level comprised 25 percent of the total number of families versus 4 percent in Brooklyn Heights.

Disparities between the ages of the two groups are equally striking. Brooklyn Heights contains a predominance of young singles, childless couples, and elderly persons. Farragut Houses and the Navy Yard area contain an abundance of large families. The 1970 proportions of the population under 18 years old were 12 percent for the Heights and 49 percent for the projects. Conversely, the proportions of persons 65 years old and older stood at 3 percent in Farragut Houses and 16 percent in the Heights.

It is clear that distinctly different user groups share needs for the Fulton Ferry site; their requirements must be accounted for within the design proposal.

Local Residents' Impressions

Of the three sites chosen for this study, Fulton Ferry generated the highest level of interest and awareness among residents, visitors, public agencies, and business interests. Framed by the Brooklyn and Manhattan ridges, and adjacent to Brooklyn Heights, this waterfront location possesses a higher visibility factor than most. In addition, because of the existence of the Brooklyn Heights Promenade, there is already a perception of the potential for this stretch of Brooklyn waterfront. A significant proportion is wary of any development schemes and would like to "leave the place alone." Development is seen as jeopardizing its status as a backwater retreat for locals and a few informed outsiders. Fears center around the potential influx of cars, noise, and crowds.

Unlike the promenade, which is for sitting and viewing only, Fulton Ferry offers the opportunity to become actively engaged with the waterfront. Some people fear that commercial development may restrict such opportunities for spontaneity as exist now and that commercial uniformity will create a "Disneyland" environment.

Although the Fulton Ferry site is as isolated from residential neighborhoods as the other two sites, little mention was made by potential users of fear for one's safety there. Perhaps this is because it is adjacent to a high-income community; it is identified with Brooklyn Heights, which is known as a "safe neighborhood" as opposed to Fort Greene, which many consider unsafe. In addition, the site undoubtedly benefits from being close to downtown Brooklyn.

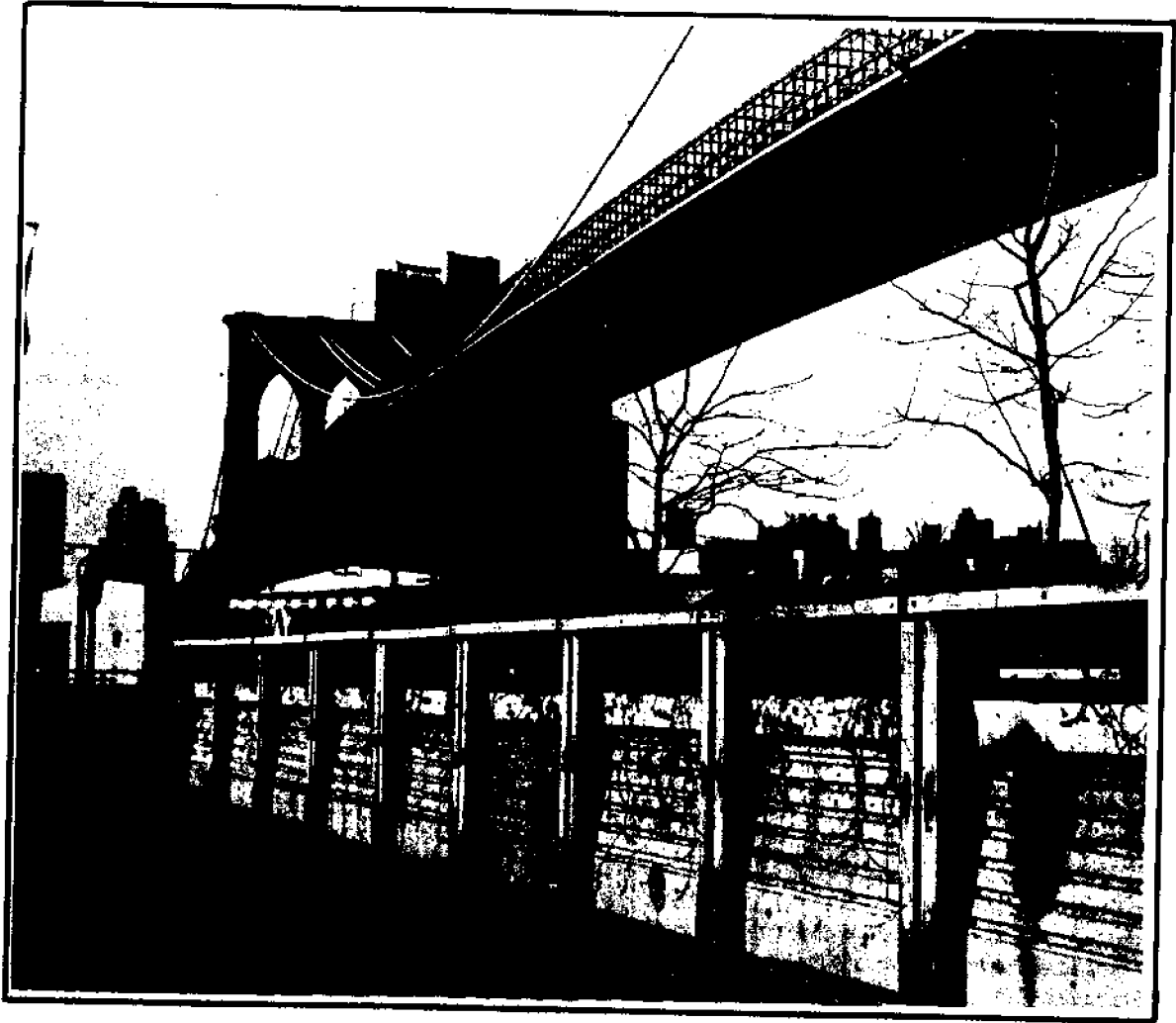
The perception of the waterfront by residents of Farragut Houses and the Navy Yard area are, for the most part, indifferent or negative. Like their counterparts in Williamsburg and South Brooklyn they are physically cut off from the shore by a band of industry. But unlike the two other groups, they are located near two well-endowed parks: Commodore John Barry and Fort Greene. Thus, there is less incentive to attempt to use the waterfront for recreation, especially since it is largely deteriorated and inaccessible. Consideration must be given to increasing the awareness of the site for this resident group should waterfront recreation opportunities be provided at Fulton Ferry.

Design Proposal

The proposed development scheme includes a variety of recreational, cultural, and commercial facilities that would capitalize on the unique opportunities presented by the site and the considerable interest already generated among potential users. The scale of proposed development here is greater than at the other two sites because the area is larger and because Fulton Ferry is viewed as a potential regional resource tied to the eventual regeneration of the neighborhood.

The specific site characteristics that created the parameters for the proposal are: its spectacular views of lower and midtown Manhattan; its historic character as exemplified by the ferry site, the Empire Stores, the bridges, and the existing and proposed Maritime Historical Museum; and the viability of commercial uses in the area as demonstrated by the River Cafe. The Brooklyn and Manhattan bridges contribute to the inherent excitement of the site by their strong visual connections to Manhattan. In addition, the

Figure 4: Fulton Ferry



need for additional active recreation space for residents of Brooklyn Heights and the Navy Yard area played an influential role in the design.

The site is designed with the assumption that the Empire Stores will be developed as a Maritime Museum with ancillary commercial facilities. A mix of educational, cultural, and merchandising events could be provided with exhibits, models, interpretive talks, artisan workshops, and related craft displays and stores. Other facilities would be physically connected to the Empire Stores and would reach out to the surrounding communities to provide a setting where a broad range of activities could take place. The cultural-commercial center is seen as providing the common social environment where diverse user groups would mingle and partake in shared experiences, while other activities would tend to be more user segregated.

The major design elements for the proposed development are the following: (1) the cultural-commercial center; (2) a waterfront pedestrian walkway and sitting area; (3) active recreation facilities; (4) a pier for visiting historic ships; and (5) the existing Fulton Ferry Park and commercial area at the foot of Cadman Plaza West.

The pedestrian walkway would physically link the diverse elements of the development complex. Gently curving from Cadman Plaza West all the way to the Navy Yard, it would use both the existing shoreline and new landfill between the bulkhead and pierhead lines. Benches, landscaping, and plantings would be provided. Also located along the walkway would be displays that refer to the seafaring origins of the site--its relics, models, and, perhaps, workshops and demonstrations relating to ship construction and restoration.

Active recreational facilities would be located at the eastern end of the site, beneath the Manhattan Bridge, somewhat isolated from the passive recreation spaces at Fulton Ferry Park and the cultural-commercial center. Ball fields, tennis courts, picnicking space, and facilities for outdoor theatrical events would be included.

The pier, provided for both historic and recreational craft, would be connected to the Empire Stores by a ramp-bridge controlling access to the pier (for security purposes), while maintaining the walkway as public space. The pier itself would be set up for boarding and viewing the ships.

The western edge of the site, under the Brooklyn Bridge, has excellent transit and auto access and would be oriented toward the more sophisticated commercial activities that would serve the Brooklyn Heights residents and Manhattan visitors. There is ample parking in nearby lots and on the streets and these are always available on weekends. Other potential parking areas lie within walking distance.

The notion of a recreational-commercial development that serves diverse local and regional populations for cultural, active, and passive recreation may appear unique. However, New York City contains a number of examples of similar mixes. Central Park and Prospect Park include active and passive recreation for all socioeconomic groups. The Museum of National History and the Brooklyn Museum draw local and regional populations of all socioeconomic backgrounds. The Aquarium at Coney Island is located next to the beach. Fulton Ferry could include elements that would make it an important "mixing-place" in New York.

Figure 5: Development at Fulton Ferry



CONCLUSIONS

Some generalizations emerge from the responses of potential users of the three waterfront recreation sites. The first is that these waterfront sites are not generally regarded as part of the "social space" of nearby residents. Since they are inherently on the edges of communities, neighborhood identity does not usually extend to include waterfront locations. This situation is accentuated when bands of industry intrude between the shoreline and residential neighborhoods as in Williamsburg and South Brooklyn.

Recreational space is generally associated with a home "turf," such as the users' street or a nearby neighborhood park, which is surrounded by familiar blocks. The waterfront is different from these spaces: it is more isolated, more exposed, and generally has no established territorial user group associated with it. Thus, it is perceived as dangerous.

Despite these factors, the shoreline is still attractive for the sense of freedom that comes from being at the edge of an open expanse of water and away from the confinement of heavily developed streetscapes. This liberating quality is universally appreciated and this can be seen from the great numbers of people who crowd the water's edge at such places as Riverside, Carl Schurz, and Pelham Bay parks.

The people using these waterfront parks provide security. We have no reason to believe that this situation would be different at the proposed sites as each offers the neighborhood those special features available only at the waterfront. Once these areas became identifiable recreational sites, security would be less of a problem. Territorial issues would be determined as they are in other public recreational areas--by the nature of the activities, by common agreement among the users, and rarely, by law enforcement.

As discussed at the start of this report, New York City remains rooted in a tradition of industrial waterfront land use. In many cases, however, this pattern is no longer relevant to the city's economy; waterfront shipping, warehousing, and manufacturing have either left the city or have been replaced by facilities farther from the old harbor.

Vacant or underused waterfront land has seldom been recycled. The lessons of San Francisco, New Orleans, and Philadelphia have pointed out the potential for such development through public and private partnerships. Eventually, even the conservative New York City development community will initiate recreational and commercial waterfront development schemes, but, at this time, public sector development must act as the catalyst.

The brief survey conducted for this study revealed abundant available waterfront sites ripe for redevelopment for various uses. The sites chosen illustrate three design responses for public recreational space, based on

differing locational requirements. All three, however, have been designed to fit the needs of nearby communities and provide the potential for extensive private redevelopment there in the future.

The Williamsburg site design is small, informal, amenity-oriented and feasible to build with mostly unskilled community labor at a nominal cost. It will provide much-needed passive recreational space for nearby residents and industrial workers. While this, in itself, would justify the small investment, anticipated decrease in surrounding industrial activity could become the catalyst for residential redevelopment and the park could be an element in the community's renewal. Minimal public sector involvement is required to build and maintain the Grand Street Park. It provides a sample of what might be done to alter community attitudes about their waterfront and to use a waterfront site as a rallying point for locally initiated recreational places.

The South Brooklyn site poses a more complex situation because of the involvement of the city and the Port Authority and their proposed containerport. However, the design provides an opportunity for the public sector to restore the respect of the surrounding communities, which have experienced only negative fallout from previous public development efforts.

Like the Williamsburg site, the South Brooklyn proposal will initially serve as a local recreational resource in an industrial setting. Its size, its views of Manhattan, and its proximity to the active port create the potential for use well beyond the immediate community. The site could provide a regional recreational resource that would exert a positive economic impact on the surrounding neighborhoods. Their proximity to a major urban amenity would result in a renewed level of investment and developer demand for existing underused land. Additionally, the proposed element where shipping could be viewed and explained provides a much-needed educational and public relations potential for the port's activities.

The Fulton Ferry area represents a very different situation from the other two sites. It has already been the object of minor private and public investment, and more such activity appears imminent, given the proper circumstances. Historic structures exist which are suitable for commercial recycling and are already owned by a public agency.

The most difficult problem with implementing the design proposal is to gain legislative approval and funding, as well as the necessary approvals from various city, state, and federal agencies. These, however, are political hurdles rather than site-related constraints. In previous cases where the market for a given real estate opportunity is strong, such as Soho loft conversions, even legal and bureaucratic restrictions will not stem the tide of redevelopment. In such situations the city often alters regulations to fit the new reality, after the fact. Fulton Ferry provides an opportunity to do the opposite: to shape the parameters of future development in an area that is simply waiting for the appropriate development effort to realize its potential.

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