A. PROJECT DESCRIPTION

INTRODUCTION

The applicant, Toll Brothers, Inc., is proposing to rezone and redevelop two blocks along the west waterfront of the Gowanus Canal (Block 452, Lots 1 and 15, and Block 458, lot 1), near the Carroll Gardens neighborhood of Brooklyn (Community District 6 [see Figure 1]). The area of the proposed zoning is bounded by Carroll Street to the north, Bond Street to the west, Second Street to the south, and the Gowanus Canal to the east. Two City-owned parcels on Block 452, which are currently occupied by an Emergency Services facility and infrastructure associated with the Carroll Street Bridge, are not part of the proposed project, but are included in the area to be rezoned. These parcels are not included in the project site, but are included in the rezoning area. The project site, about three acres (excluding streets), is mostly vacant, but is currently occupied by some light industrial businesses and warehouses. The proposed rezoning, from M2-1 to Special Mixed-Use District (MX): M1-2/R7-2 (see Figure 2), would allow the redevelopment at this waterfront property for the purposes of providing housing—including affordable housing—as well as the supporting community facility and commercial uses, with below-grade accessory parking. Approximately 0.6 acres of publicly accessible open waterfront space would also be provided along the Gowanus Canal. Actions required to allow this proposed project to move forward include a zoning map change for the project blocks; a special permit and zoning text amendments; and permits for a new stormwater outfall, and repair and replacement of the existing bulkhead along the Canal for the purposes of creating the proposed open space along the Canal. As shown in Figure 1, the proposed actions include a rezoning area and a project site (which is coterminous with the requested general large-scale development [GLSD] special permit).

PURPOSE AND NEED

The proposed project is a privately sponsored project that required public approvals for the purposes of redeveloping an underutilized property along the waterfront of the Gowanus Canal. Now zoned for manufacturing, the project site comprises about three acres of mostly vacant or underutilized waterfront land. In addition, the waterfront is not currently accessible along the project site. The proposed project would implement a number of City initiatives at this site that are consistent with the general principles of waterfront reuse initiatives occurring throughout Brooklyn and the City as a whole. The proposed project would directly support the three land use goals of the Mayor's PlaNYC Master Plan by: (1) creating new housing; (2) creating publicly accessible waterfront open space; and (3) cleaning up and reusing formerly industrial or "brownfield" sites. The project would also provide much-needed affordable housing, pursuant to the City's Inclusionary Housing Program. The project would meet these goals within the context of the urban design objectives of siting lower-rise structures along Bond Street and maintaining

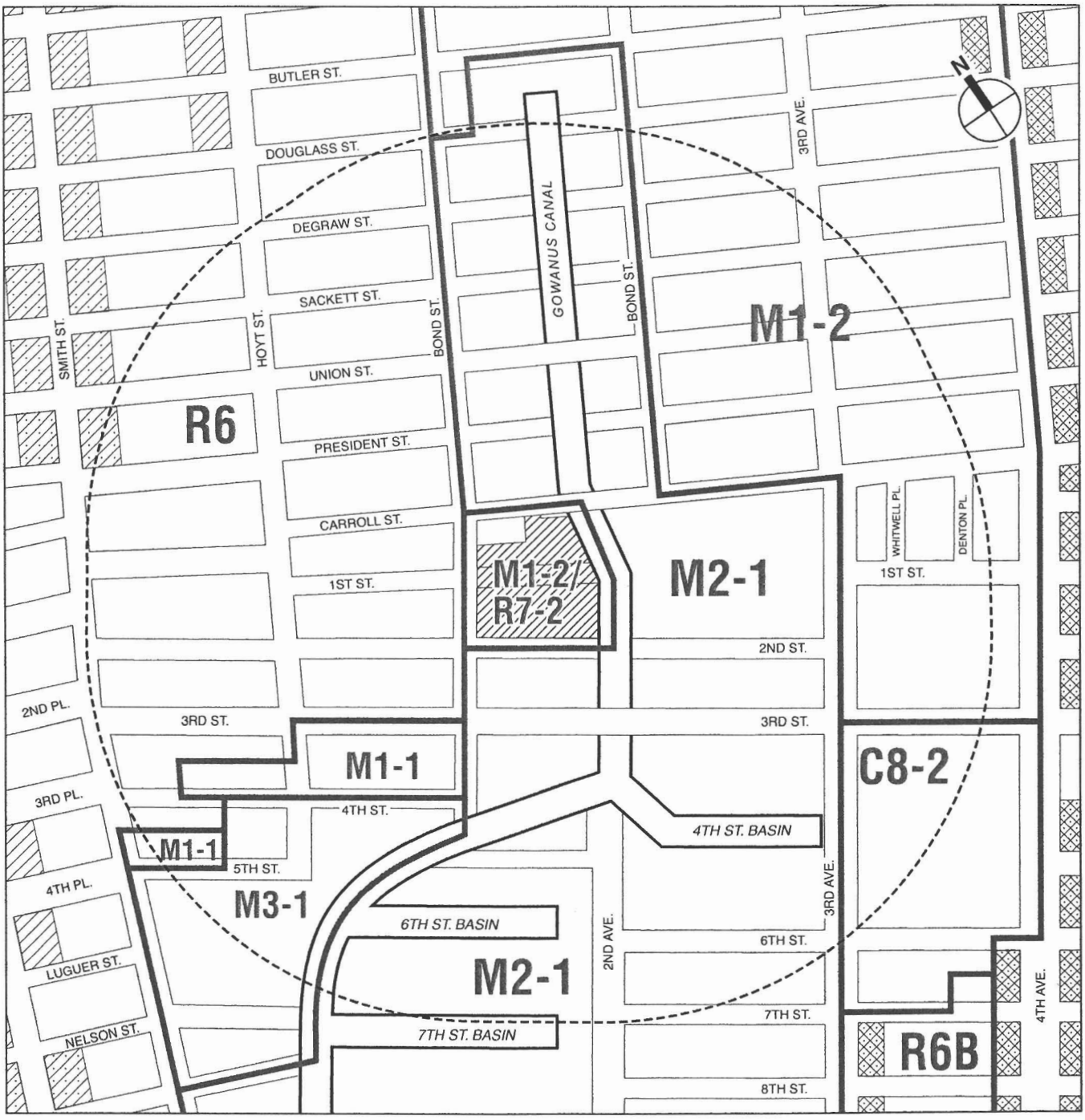
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Site Location
Figure 1

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Project Site

Study Area Boundary (1/4-Mile Perimeter)

Zoning District Boundary

C1-1 Overlay

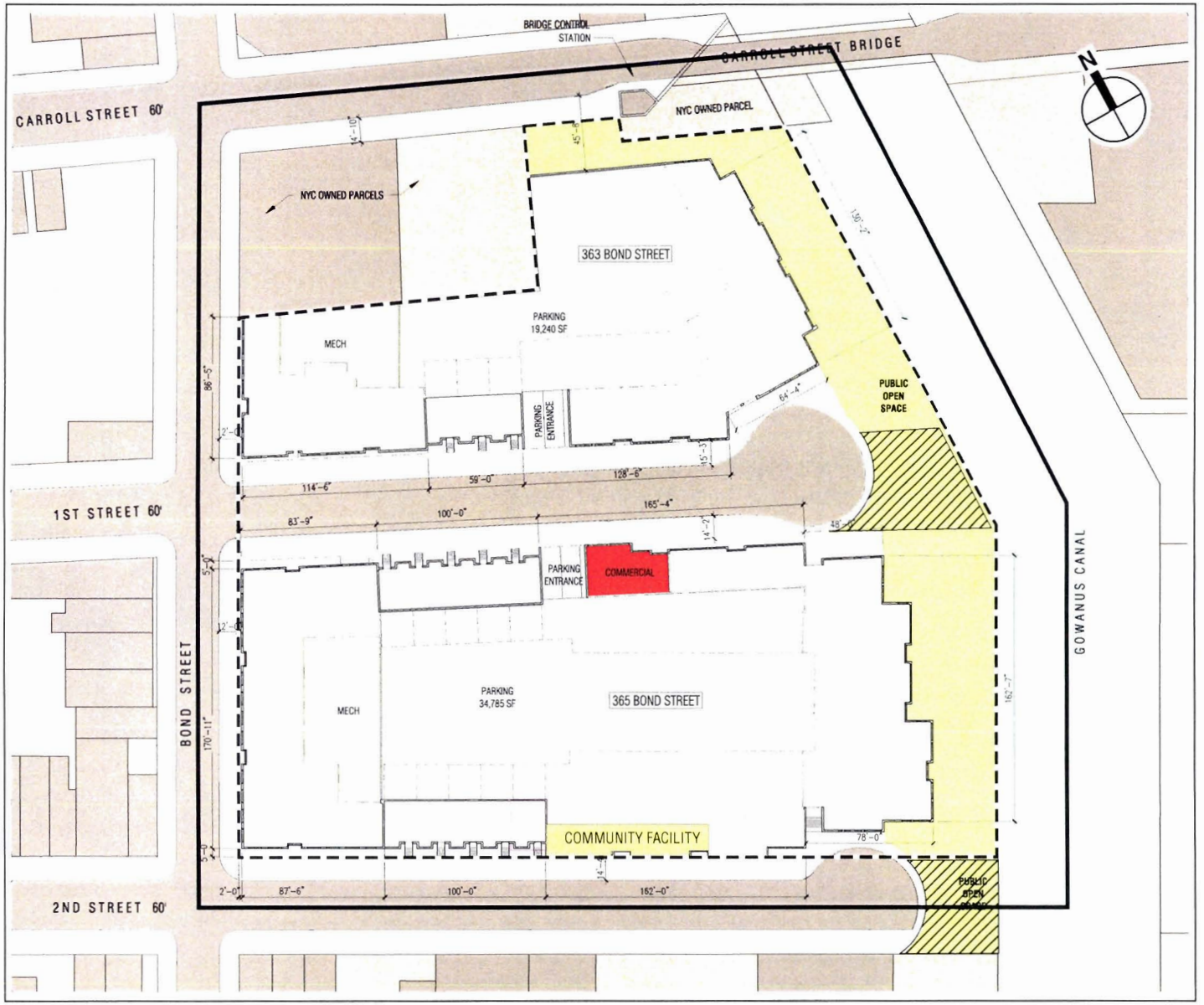
C2-1 Overlay

C2-2 Overlay

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Proposed Zoning
Figure 2

1.23.08



Rezoning Area Boundary

Project Site Boundary (coterminous with GLSD Boundary)

Possible Street Demapping Area

Residential

Community Facility

Parking

Commercial

Open Space

NOTE: For Illustrative Purposes Only

0 40 80 FEET

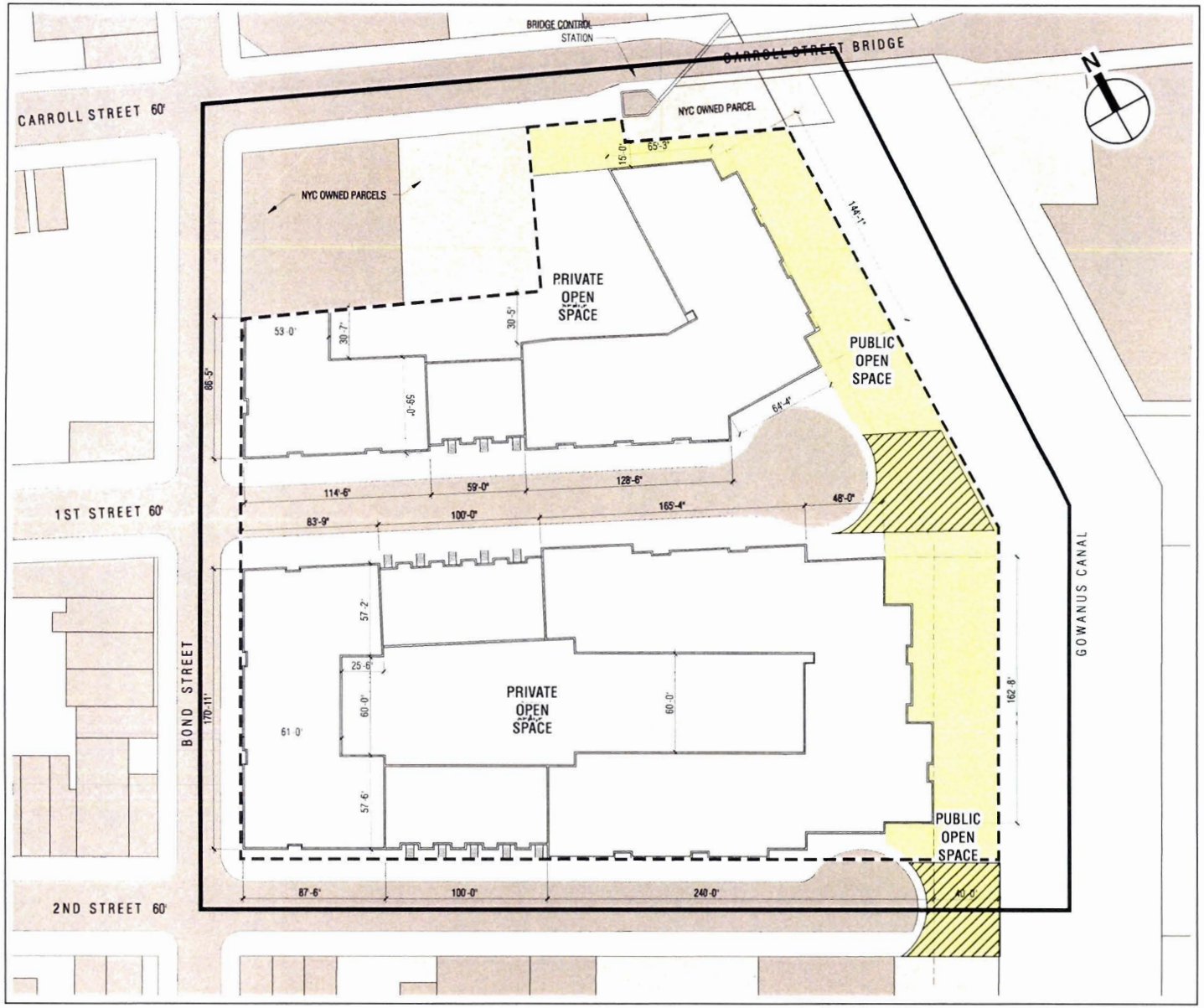
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Proposed Ground Floor Plan

Figure 3

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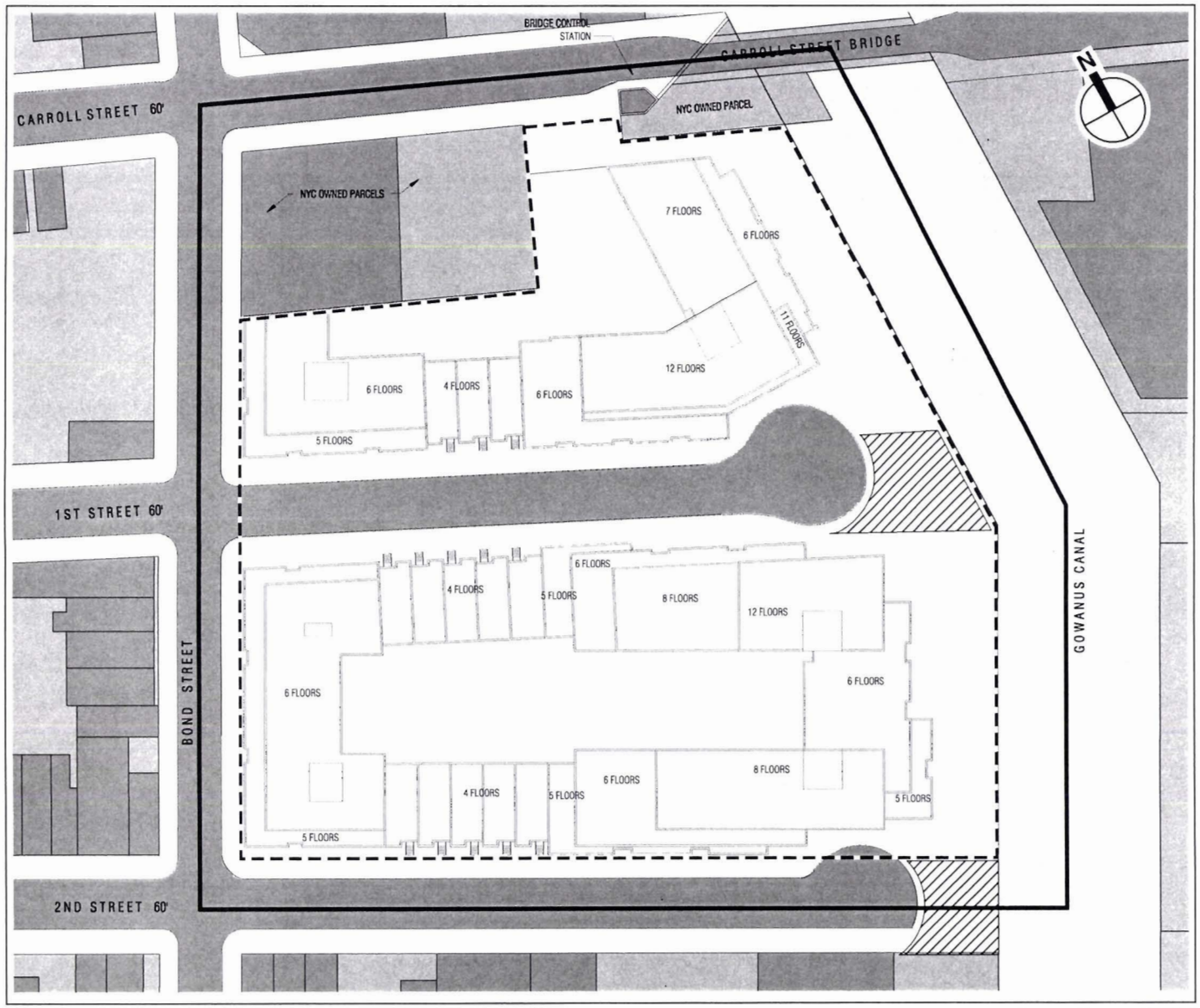


NOTE: For Illustrative Purposes Only

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Proposed First Floor Plan
Figure 4

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Rezoning Area Boundary

Project Site Boundary (coterminous with GLSD Boundary)

Possible Street Demapping Area

NOTE: For Illustrative Purposes Only

0 40 80 FEET
SCALE

Proposed Roof Plan
Figure 4a

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1.18.07



NOTE: For Illustrative Purposes Only

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Aerial View
Figure 4b

Second Streets. Vehicular access to the proposed accessory parking garages would be from First Street for both buildings.

In order to ensure that project structures are not impacted by flooding, the elevation of the project site would be raised, including along First Street and the proposed esplanade. In addition, to reduce the potential for flood damage or impacts on residential structures, the lowest occupied floor elevation would be constructed above the 100-year base flood elevation. The site grade would then slope to match existing street grades along Carroll, Bond, and Second Streets. Street ends would also be designed in accordance with all City regulations, including those of the New York City Fire Department (FDNY).

PROPOSED INFRASTRUCTURE IMPROVEMENTS

The proposed project would include the construction of new infrastructure, separating the sanitary and storm sewers and installing new storm sewers in First and Second Streets with new outfalls to the Gowanus Canal. The purpose of this storm sewer upgrade is to improve local drainage to handle the City's design storm for the project site, and to remove project site storm flows from the combined system. In addition, because the proposed project involves the disturbance of more than one acre, it requires the preparation of a Stormwater Pollution Prevention Plan (SWPPP) in compliance with the New York State Department of Environmental Conservation (DEC) State Pollutant Discharge Elimination System (SPDES) General Permit 02-01. Therefore, a Notice of Intent (NOI) would be filed with DEC prior to the start of construction activity, and as per DEC requirements, on-site water quality treatment would be provided for the water quality storm (i.e., 90 percent of the average annual stormwater runoff volume). With the proposed project, all sanitary flow from the development would be separately conveyed by the existing combined sewer in Bond Street.

PROPOSED DISCRETIONARY ACTIONS

In order for the proposed project to be developed, it requires New York City Planning Commission (CPC) approval of the following discretionary actions:

- Remap the blocks bounded by the Gowanus Canal, Carroll Street, Bond Street, and Second Street from an M2-1 zoning district to a Special Mixed-Use District (MX): M1-2/R7-2. The purpose of this action would be to permit residential development in the Rezoning Area.
- Amend the text of the Zoning Resolution: To establish, in Article XII, Chapter 3, Special Mixed Use District-10 (Gowanus Canal) on the blocks bounded by the Gowanus Canal, Carroll Street, Bond Street and Second Street. (Zoning Resolution of the City of New York [ZR] 123-90); To authorize the grant of an Inclusionary Housing bonus in R7-2 zoning districts within Special Mixed Use District-10 and to provide for base FAR of 2.7 and maximum FAR of 3.6 within such a district (ZR 23-922 and 23-942). These actions are required in order to effectuate the proposed development in the density and configuration proposed.
- Grant of a special permit modifying height regulations (ZR 123-662; Height and Setback Regulations for all Buildings in Special Mixed Use Districts) and courtyard regulations (ZR 23-852; Inner Court Recesses) in a General Large Scale Development (ZR 74-74) (see Figure 2). The purpose of this action is to provide for greater flexibility in the layout and site plans and provide for a site plan that better responds to topographic conditions, including floodplains. Development of the project site as defined herein pursuant to this Special Permit

would be subject to a Restrictive Declaration which would, among other things, require development to occur substantially in accordance with the approved plans.

- Possible demapping of the portion of First and Second Streets from the existing street line to a line approximately 40 feet in-board of the existing boundary of the Canal as shown on the City Map. This action would be undertaken if needed to facilitate the construction of a continuous publicly accessible open space along the edge of the Gowanus Canal.

As stated above, the proposed action would establish a Special Mixed Use District on the blocks bounded by the Gowanus Canal, Carroll Street, Bond Street, and Second Street. It would also authorize grant of an Inclusionary Housing bonus pursuant to Section 23-90 ZR in an R7-2 district within the new Special Mixed-Use District-10 for projects that provide 20 percent of the floor area as rental units affordable to households of low income, as defined by the Zoning Resolution (households having an income equal to or less than 80 percent of the areawide median income [AMI]). It is anticipated, therefore, that approximately 447 residential units would be built as a result of the proposed project, of which approximately 127 would be affordable to households of low income.

In addition to CPC, other agencies in the review of this proposal will include City agencies, such as the New York City Department of Environmental Protection (DEP), NYCDOT, and the New York City Landmarks Preservation Commission (LPC). The New York City Department of Parks and Recreation (DPR) will review and approve the open space design, layout, and furnishings. Approvals from State agencies, including DEC, are also expected, since the proposed project requires outfalls to the Gowanus Canal (from First and Second Streets), restoration of the bulkhead, and possible dewatering during construction. These permits are expected to include tidal wetlands (if any bulkhead work is in water shallower than six feet), protection of waters, Long Island well permit (dewatering only), and a SPDES permit for dewatering, construction (i.e., a stormwater pollution prevention plan [SWPPP], and permanent stormwater outfall discharges from First and Second Streets). Approvals from the U.S. Army Corps of Engineers (USACE) may also be necessary for bulkhead restoration. When permits and approvals are required from State and federal agencies, these agencies are defined as involved agencies under City Environmental Quality Review (CEQR)/the State Environmental Quality Review Act (SEQRA), and a review of historic resources impacts by the State Historic Preservation Office (SHPO) through the Section 106 process is required. In addition, the lead agency, the New York City Department of City Planning (DCP), will also provide a coordinated review with the other involved agencies for the purposes of documenting consistent findings among the agencies with a decision-making role in the process.

B. CITY ENVIRONMENTAL QUALITY REVIEW

DCP, acting on behalf of CPC as lead agency, has determined that the above described proposed action has the potential to result in significant environmental impacts. Therefore, pursuant to CEQR and SEQRA procedures, DCP has issued a Positive Declaration requiring that an Environmental Impact Statement (EIS) be prepared. As stated above, it is the objective of the lead agency to coordinate the preparation of this EIS in a way that addresses the issues and concerns with other City, State, and federal agencies that are involved or advisory in the project's environmental review process.

SCOPING

The CEQR scoping process is intended to focus the EIS on those environmental and planning issues that are most pertinent to the proposed action. At the same time, the process allows other agencies and the public a role in framing the scope of the EIS. During the period for scoping, those interested in reviewing the draft EIS scope may do so and provide their comments to the lead agency either in writing or at the public scoping meeting to be held on this Draft Scope of Work. The public meeting date on this Draft Scope of Work is scheduled for **[TO COME]**. At the public meeting, spoken and written comments will be accepted on the Draft Scope of Work. In addition, there will be a period of **[TO COME]** days after which written comments may be submitted to the lead agency. The period for submitting written comments will extend until **[TO COME]**.

DCP will review all comments submitted on the Draft Scope of Work before issuing a Final Scope of Work. As lead agency, DCP will oversee preparation of the Final Scope of Work, which will incorporate all relevant comments made on this Draft Scope of Work. In addition, technical revisions to this draft scope will be made, as appropriate, in response to scoping comments. The Draft Environmental Impact Statement (DEIS) will then be prepared in accordance with the Final Scope of Work.

C. DEIS ANALYSIS FRAMEWORK

The DEIS will provide a description of "Existing Conditions" for the baseline year and assess future conditions without the proposed project ("Future Without the Proposed Project") and with the proposed project ("Future With the Proposed Project"). It is anticipated that the proposed project would be completed in 2011. Thus, conditions in the year 2011 both with and without the proposed project in place will be analyzed for the purposes of determining project-related impacts. Impacts will be determined based on the net change between conditions without the proposed project and conditions with the proposed project in the 2011 analysis year.

The DEIS will also analyze the cumulative impacts of other projects that would affect conditions in 2011 for the relevant study areas of analysis. The future conditions in all technical chapters—the future without the proposed project—will assume that none of the discretionary approvals proposed as part of the proposed project are adopted. Development in the future without the proposed project will therefore be limited to those projects that are assumed to be completed and occupied independently of the proposed project. Some projects that have been proposed in the area, such as Public Place and the area-wide rezoning proposal currently being studied by DCP, will not be completed by 2011, and thus will not be considered in this DEIS. However, as these and other projects that will be completed after the proposed action's analysis year move independently through the environmental review process, they will be required to account for the impacts of the proposed project in their cumulative impacts analyses. Should the build years for such projects be advanced to 2011 or earlier, this DEIS will be updated accordingly.

The list of developments assumed in the future without the proposed project is presented in Table 1. Other residential developments may occur in the vicinity in areas where residential development is permitted as-of-right; as more information becomes available, this list will be updated. In addition to these projects, the DEIS will also consider ongoing projects and studies such as DEP's Gowanus Long Term Waterbody/Watershed Facility Plan and the United States Army Corps of Engineers (ACOE) Gowanus Canal and Bay Restoration Study.

Table 1
Developments Proposed for the Project Study Area by 2011

Map No.*	Name/ Location	Use	Units/ Square Footage
1	340–346 Bond Street (at Carroll Street)	Residential	24 dwelling units
2	Whole Foods Market/ 220 Third Street (at Third Avenue)	Commercial retail (supermarket)	52,000 sq. ft.
3	Con Edison/ block bounded by First and Third Streets, Third and Fourth Avenues	Commercial office	49, 552 sq. ft.
4	361 Carroll Street	Residential	15 dwelling units
5	103–113 Third Street	Residential	45 dwelling units
6	306 Bond Street	Residential	11 dwelling units.
7	265 Third Avenue	Hotel	18,130 sf
Note: * See Figure 5. **Source:** AKRF, Inc., November 2007.			

The DEIS will assume that the conditions currently present on the project site (i.e., limited industrial use) would remain the same in the future without the proposed project.

There are a number of projects currently under consideration along the Gowanus Canal as well as in the larger land use study area (for the purposes of this analysis, a ¼-mile study area has been established as the land use study area). Currently proposed development projects for the study area that would be included in this analysis are listed above and shown in Figure 5. In addition, there are a number of large underutilized sites along the Canal, including the City-owned Public Place site. While these sites may also be redeveloped in the future, they are not expected to be redeveloped in the same time frame as the proposed project (i.e., 2011). DCP will review all development sites in the study area and, based on application data and other sources, determine which of the development sites will be included in the DEIS analysis. At this time, the current list of projects is provided in Table 1. In addition to development projects, the DEIS will address the current visions and policies of DCP as the City continues its work on the Gowanus Canal Corridor study.

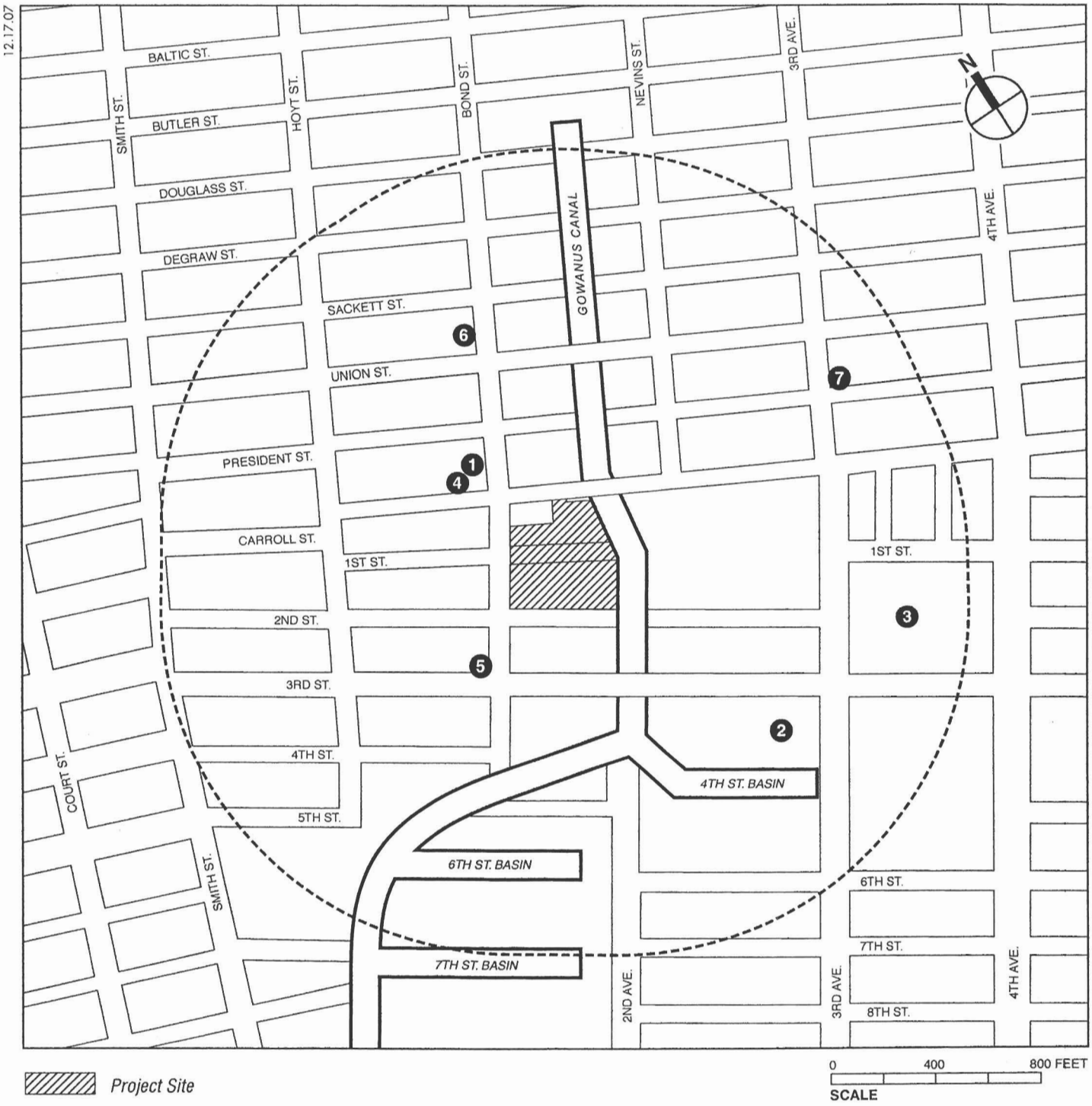
Because Block 452, Lot 5 was recently developed by the City to serve a municipal use, the existing Emergency Medical Services garage, the DEIS will assume that the City would not dispose of or otherwise redevelop the parcel. In the unlikely event that the City does propose to redevelop this site under the proposed zoning, these plans would be subject to their own environmental review independent of the proposed actions. It is also not expected that Block 452, Lot 19, which is also in the area of the proposed rezoning, but essential to the operation of the historic Carroll Street Bridge, would be redeveloped as a result of the proposed actions.

D. ENVIRONMENTAL IMPACT STATEMENT SCOPE OF WORK

The EIS will be prepared in conformance with all applicable laws and regulations, including SEQRA (Article 8 of the New York State Environmental Conservation Law) and its implementing regulations found at 6 NYCRR Part 617, New York City Executive Order No. 91 of 1977, as amended, and the Rules of Procedure for CEQR, found at Title 62, Chapter 5 of the Rules of the City of New York. The EIS will follow the guidance of the *CEQR Technical Manual*, dated October 2001.

The EIS will contain:

- A description of the proposed project and its environmental setting;



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No Build Projects
Figure 5

- A statement of the environmental impacts of the proposed project, including its short- and long-term effects and typical associated environmental effects;
- An identification of any adverse environmental effects that cannot be avoided if the project is implemented;
- A discussion of reasonable alternatives to the proposed project;
- An identification of irreversible and irretrievable commitments of resources that would be involved in the proposed project should it be implemented; and
- A description of mitigation proposed to minimize any significant adverse environmental impacts.

The analyses will be performed for the expected year of occupancy of the proposed project (2011) and, as described above, will include the cumulative impacts of other projects in the study area that will affect future land use and environmental conditions (see the discussion above).

The specific analysis areas to be included in the EIS, as well as their respective tasks and methodologies, are described below.

TASK 1: PROJECT DESCRIPTION

This first chapter of the EIS introduces the reader to the proposed project and sets the context in which to assess impacts. The chapter will contain a project identification; the background and purpose and need for the proposed project and any related actions; a detailed description of the proposed actions, the lots that are affected, the proposed development program, the approvals required, procedures to be followed, and projected development under the proposed rezoning; and a discussion of the role of the EIS in the project review process. The chapter is the key to understanding the proposed project and its impacts, and gives the public and decision-makers a base from which to evaluate the project against both the Build and the No Build options.

The project description will provide a discussion of key project elements, such as site plans (see Figures 3 and 4) and elevations, access and circulation, and other project components. The section on required approvals will describe all public actions required to develop the project, which will include City, State, and federal actions.

The role of CPC, DCP, and any other involved and interested public agencies in the approval process will also be described, as will the role of the EIS as a full disclosure document to aid in decision-making and its relationship to other approval procedures.

TASK 2: LAND USE, ZONING, AND PUBLIC POLICY

The proposed project would directly affect the land use on the project site by replacing existing light industrial and vacant uses with a residential development supported by neighborhood commercial and community facility uses. In order for the proposed project to be developed, it requires changes in the City zoning text and map and other actions.

This chapter of the EIS will examine the effects of these proposed actions in terms of land use compatibility and land use trends, as well as trends related to zoning and public policy. This assessment will also provide a context for other analyses in the EIS. The chapter will:

1. Provide a brief development history of the project site, rezoning area, and study area. The study area is defined as the area within a 1/4-mile radius of the project site (see Figure 6).

2. Describe conditions on the project site and rezoning area, including existing uses and the current zoning.
3. Describe predominant land use patterns in the study area, including a description of recent development trends.
4. Based on the zoning districts for the area, provide a zoning map and discuss existing zoning and recent zoning actions in the study area.
5. Describe public policies that may apply to the study area. This would include the waterfront plans of the City of New York.
6. Prepare a list of other projects expected to be built in the study area by 2011, the proposed project's Build year. Describe the effects of these projects on future land use patterns and development trends in the absence of the proposed project. Also, describe pending zoning actions or other public policy actions that could affect land use patterns and trends in the study area, including plans for public improvements. This would include a discussion of DEP's proposed upgrade of the Gowanus Canal Pumping Station. The analysis will include the pumping station if it is completed and operational by 2011. Otherwise, the analysis will not examine the proposed upgrade.
7. Describe the impacts of the proposed project comparing No Build Conditions with conditions under the proposed actions. This assessment will focus on the project site and the lots that are affected, and the proposed development program. It will also provide an assessment of the impacts of the proposed rezoning on land use and land use trends, zoning, and public policy; present a map of the proposed zoning changes; and consider the effects related to issues of compatibility with surrounding land use, consistency with zoning and other public policy initiatives, and the effects of the proposed project on development trends and conditions in the area. Policies regarding the waterfront redevelopment program, coastal zone management, and historic resources will be discussed in their relevant sections.

TASK 3: SOCIOECONOMIC CONDITIONS

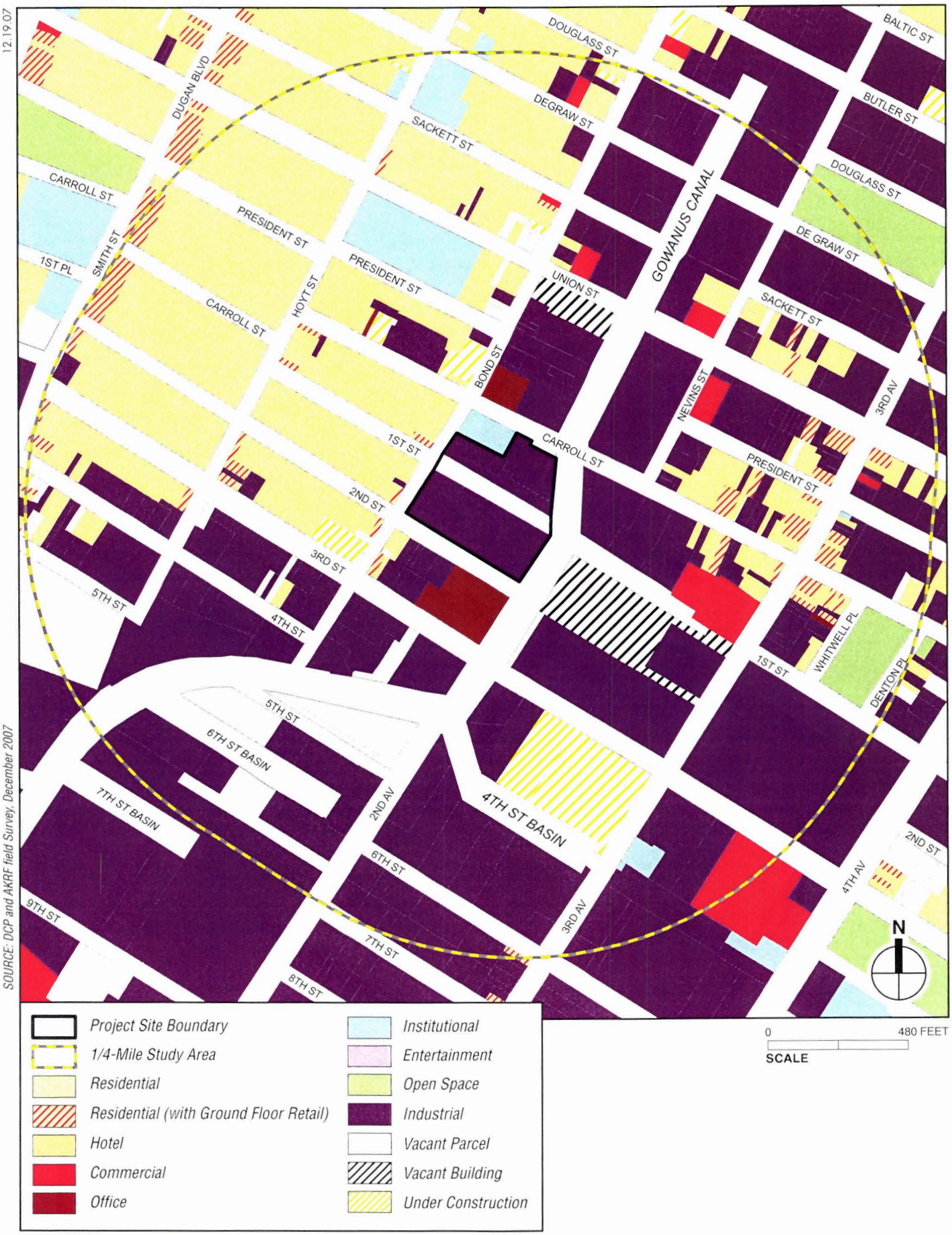
This chapter will examine the effects of the proposed project on socioeconomic conditions in the study area, including changes in population characteristics, economic activity, and the potential displacement of businesses and employment from the proposed project area. The analysis will provide a qualitative assessment of potential socioeconomic changes associated with the proposed project, including: direct displacement of businesses, or employees; new development that is markedly different from existing uses and activities within the neighborhood; any adverse effects on conditions in the real estate market in the area; or an adverse effect on socioeconomic conditions in a specific industry.

As a first step, a screening analyses will be conducted pursuant to the *CEQR Technical Manual* methodology. The analysis will present sufficient information regarding the effects of the proposed project in order to make a preliminary assessment of whether there is a potential for significant socioeconomic impacts and if a more detailed analysis is required in order to make a determination as to impacts. The preliminary assessment will examine five areas of concern including: (1) direct residential displacement (there are no residential uses on the project site); (2) direct business and institutional displacement; (3) indirect residential displacement; (4) indirect business and institutional displacement; and (5) adverse effects on specific industries. For each area of concern, if it has been determined that a socioeconomic impact is likely or



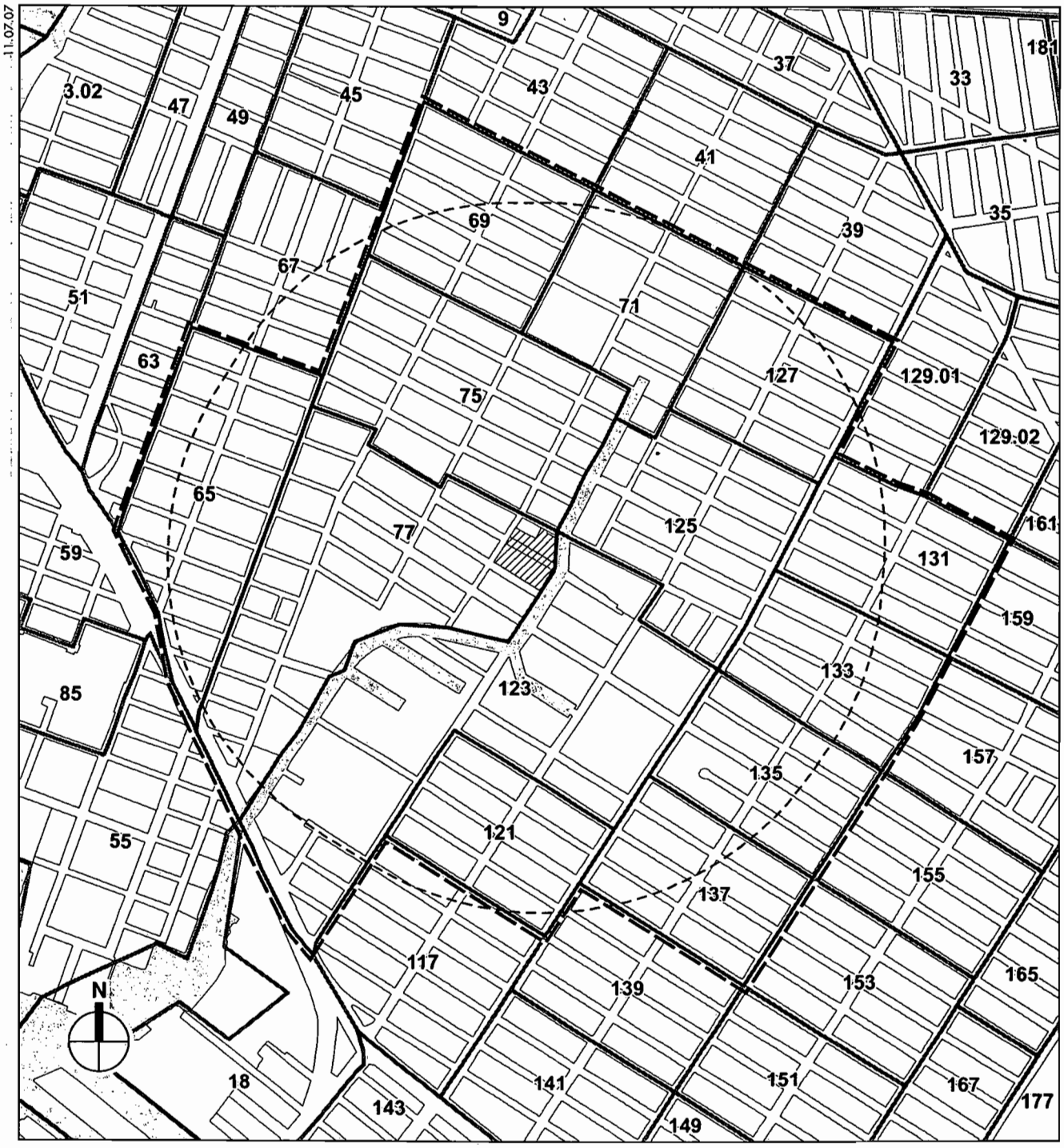
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Land Use
Figure 6



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Land Use
Figure 6



Socioeconomic Study Area

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Figure 7

cannot be ruled out based on the preliminary screening assessment, then a detailed analysis will be conducted.

The socioeconomic conditions study area is shown in Figure 7. The *CEQR Technical Manual* recommends that up to a ½-mile radius be used for a socioeconomic study area boundary. The study areas will be adjusted to reflect boundaries of census tracts or data for labor and industry. Subtasks for detailed analysis, if determined to be necessary, include:

POPULATION CHARACTERISTICS

- Based on the U.S. Census of Population and Housing, describe the 2000 population characteristics of the study area and the primary and secondary study areas;
- Discuss population trends in the No Build condition; and
- Estimate population associated with the Reasonable Worst-Case Development Scenario (RWCDS) under the proposed actions and assess impacts on population, if any.

HOUSING CHARACTERISTICS

- Using 2000 Census data and other information, such as reports on housing value and median rents, describe the housing characteristics of the study area and the study areas;
- Assemble and discuss information on housing market conditions, including identification of presence of any unique or predominant population groups or presence of populations particularly vulnerable to economic changes, using Census data and other sources; and
- Estimate housing changes associated with the proposed actions and assess impacts on housing, if any, and housing trends in the No Build condition.

ECONOMIC CHARACTERISTICS

- Describe existing economic activity in the study area (using most recently available data), including the number and types of businesses and employment by key sectors;
- Describe the physical characteristics of the existing manufacturing and commercial buildings in the study area and surrounding areas, including the general size of the structures, configurations, and condition. Determine the approximate vacancy rate and rent levels for buildings in the study area. This will be based on visual inspections, discussions with the Brooklyn Office of DCP, and discussions with real estate brokers;
- Estimate direct displacement of businesses and employment based on the proposed project; and
- Assess the impact of displacement, identifying likely relocation opportunities in the area.

TASK 4: COMMUNITY FACILITIES AND SERVICES

The demand for community facilities and services is directly related to the type and size of the new population generated by development resulting from a proposed action. New workers tend to create limited demand on community facilities and services, while new residents create more substantial and permanent demands. The proposed project is not expected to introduce more than 600 low- to moderate-income residential units; therefore, a detailed assessment of health care facilities would not be required. Similarly, the proposed project is not expected to exceed the threshold of more than 50 children under the age of 12 eligible for slots at public day care centers—147 low-moderate or 135 low-income units in Brooklyn—for a detailed day care center

analysis. A detailed assessment of library services would not be required because the proposed project is also not expected to increase the number of residential units served by the local branch library of the Brooklyn Public Library by more than 5 percent (734 residential units). The *CEQR Technical Manual* only requires analysis of impacts on police and fire services in cases of direct displacement. The proposed project would not directly cause the displacement of a police or fire facility; therefore a detailed assessment is not required. While the assessment areas described above will not be analyzed in detail, the screening analyses of libraries, daycare centers, hospitals, and police and fire protection will be provided in the EIS.

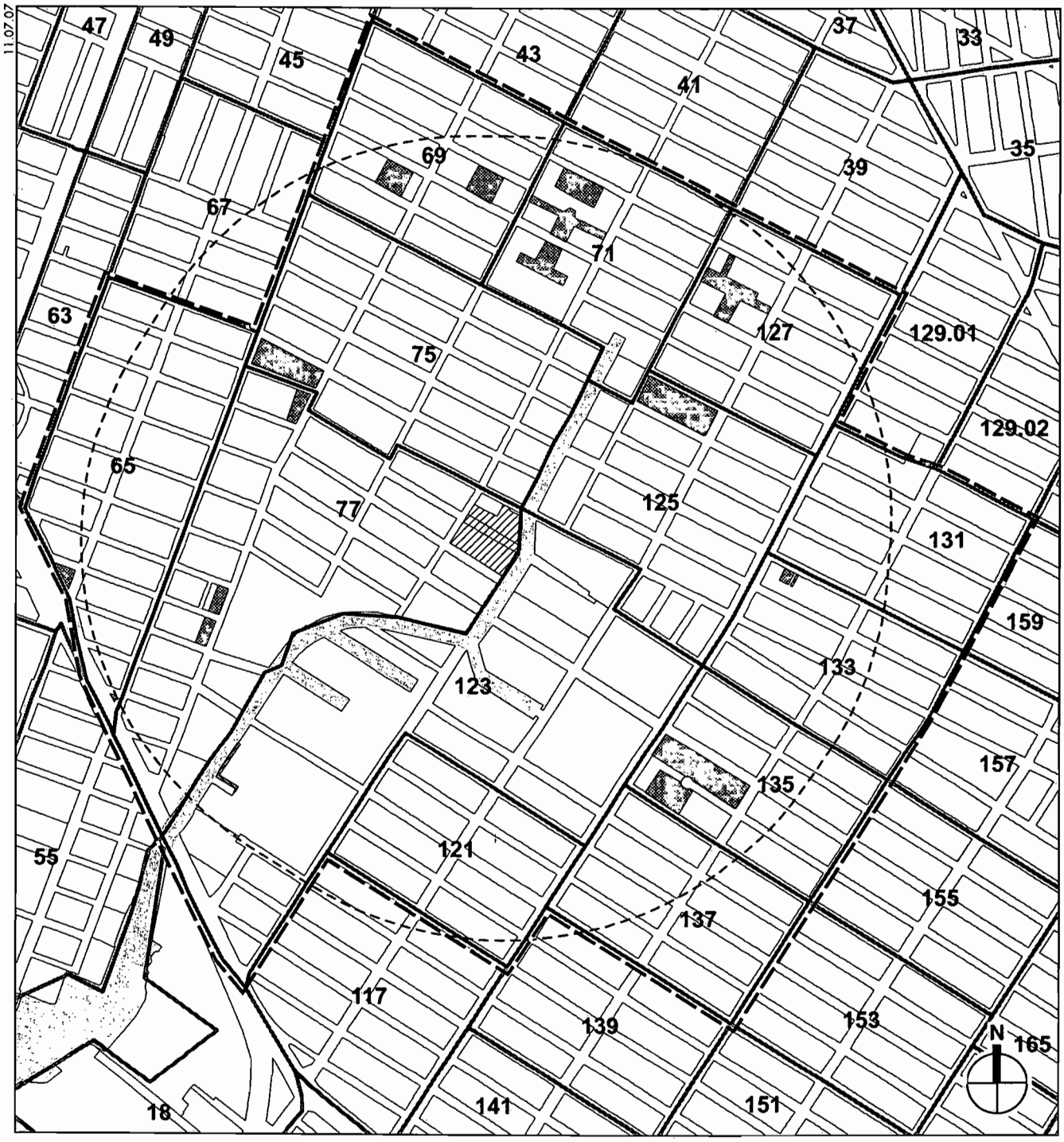
According to the *CEQR Technical Manual*, a detailed analysis of an action's potential impacts on public schools is necessary when an action would generate more than 50 elementary and intermediate school students. High school students can usually elect to attend schools other than their neighborhood high schools, depending on admissions criteria and space availability. However, since the proposed project is expected to generate fewer than 150 high school students, an analysis of public high schools is not required.

The issue of community facilities and services for the proposed project will be limited to an assessment of the public elementary and middle schools in the areas and how the proposed project may affect their utilization. The analysis will:

1. Identify the public elementary and middle schools serving the rezoning area.
2. Assess conditions within the schools study areas in terms of enrollment and utilization during the current school year, noting any specific shortages of school capacity. The schools study areas will consist of the New York City Department of Education's (DOE) administrative region within the project site's school district, and the school district as a whole.
3. Identify conditions that will exist in the future without the proposed project, taking into account any projected changes in future enrollment and plans to alter school capacity through either the construction of new school space or through administrative actions on the part of DOE.
4. Analyze future conditions with the proposed project by adding the number of new students generated by the proposed project to the projections for the future without the proposed project.
5. Assess impacts based on the difference between conditions in the future without the proposed project and the future with the proposed project.

TASK 5: OPEN SPACE

The project site does not currently contain any public open space. Therefore, the proposed actions are not expected to have a direct effect on open space or recreational facilities. However, the proposed project would provide an approximately 0.6-acre, publicly accessible, privately owned open space in the form of a new esplanade along the Gowanus Canal. The *CEQR Technical Manual* recommends a detailed assessment of a project's effects on open space if a proposed action is expected to increase the population by more than 200 residents or 500 employees, or a similar substantial number of other users. Since the proposed project is expected to generate more than 200 residents to the project site, it would have an effect on the utilization of open space and recreational facilities in the surrounding area, and on the new publicly accessible, privately owned open space to be created. Therefore, a detailed assessment of the



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Open Space
Figure 8

proposed project's effect on open space will be provided. This analysis will determine whether the proposed project will affect the quantitative and qualitative measures of open space adequacy within the ½-mile study area recommended for projects with residential populations in the *CEQR Technical Manual* (see Figure 8). The open space analysis will:

1. Inventory existing open space and recreational facilities within approximately ½-mile of the rezoning area. Tally open space acreage for passive and active publicly accessible open space.
2. Estimate residential population of the open space study area using 2000 Census data on population.
3. In conformance with *CEQR Technical Manual* methodologies, assess the adequacy of existing publicly accessible open space facilities. The assessment of adequacy is based on a comparison of the ratios of total, active, and passive space per 1,000 residents and passive space/1,000 combined residential and worker population to City guidelines.
4. Assess expected changes in future levels of open space supply and demand in the future without the proposed project based on other planned development projects within the study area. Develop open space ratios for future conditions and compare them with existing ratios to determine changes in future levels of adequacy.
5. Based on projected resident populations added by the proposed project and the proposed open space programming, assess the project's effects on open space supply and demand. This assessment will be based on a comparison of open space ratios with the project and open space ratios in the future without the project.

TASK 6: SHADOWS

As discussed above, the tallest portions of the proposed project would be approximately 125 feet in height. A screening level analysis will be performed in accordance with the methodology recommended in the CEQR Technical Manual, focusing on the relation between the proposed project's incremental shadow (in comparison with the no action scenario) and any publicly accessible open spaces or sun-sensitive features of historic resources located in the vicinity.

If it is found that the shadows from the proposed structure would potentially cause significant impacts on any publicly accessible open spaces or sun-sensitive features of nearby historic resources, a detailed assessment of shadows will be prepared. The hours that project-generated shadows will fall on sun-sensitive resources will be calculated for March 21, May 6, June 21, and December 21. The duration of the shadow increment on the identified open space or historic resources with sun-sensitive features will be calculated, shadow diagrams for each analysis period will be prepared, and the effects of the incremental shadows will be assessed.

TASK 7: HISTORIC RESOURCES

The project site is located within a potentially eligible Gowanus Canal Historic District, which has been determined eligible for listing on the State and National Registers of Historic Places (S/NR) (S/NR-eligible). The Gowanus Canal bulkhead, part of which is located within the project site, was identified as a contributing element within the Historic District, which does not have delineated boundaries, but is defined by the contributing elements within it. Other nearby historic resources include the Carroll Street Bridge, a New York City Landmark (NYCL) and

S/NR-eligible, which is adjacent to the project site to the north, and the Carroll Gardens Historic District (NYCL, S/NR), located east and west of Hoyt Street between Union and Second Streets.

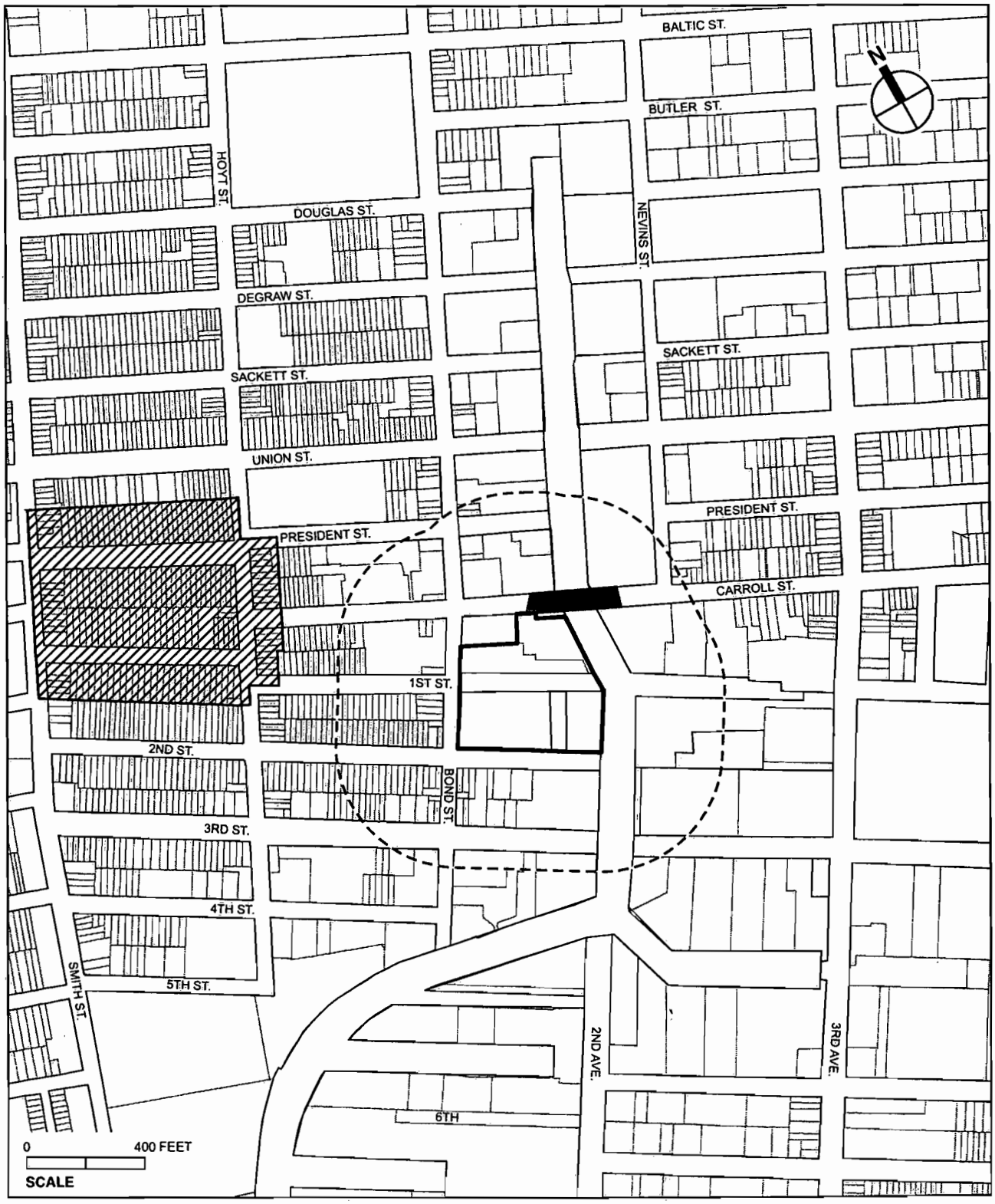
Given the presence of the eligible Gowanus Canal Historic District and the adjacency of the City landmarked Carroll Street Bridge, the analysis of historic resources is an important consideration for the EIS. The historic resources analysis will therefore be undertaken in consultation with LPC and will be prepared in accordance with the methodologies presented in the *CEQR Technical Manual*. The analysis will identify any architectural resources on and within a 400-foot-radius of the project site, including known architectural resources (NYCL, NYCL-eligible, S/NR, and S/NR-eligible properties), and properties that appear to meet criteria for NYCL designation and/or S/NR listing (see Figure 9). Any potential project impacts on historic resources will be assessed, and mitigation measures developed (as appropriate) in consultation with LPC and the New York State Office of Parks, Recreation and Historic Preservation (OPRHP).

The following tasks will be undertaken as part of the historic resources analysis:

HISTORIC AND ARCHITECTURAL RESOURCES

1. Following CEQR guidelines, prepare an evaluation of the potential for the site to have architectural and historical significance based on documentary research. This material will be submitted to LPC (and OPRHP if appropriate) for a review and evaluation of the site conditions.
2. Determine a study area and map and briefly describe known architectural resources within it. Typically, this is an area within 400 feet of a development site. Known architectural resources include National Historic Landmarks (NHLs), S/NR properties and those determined eligible for S/NR listing, NYCLs and Historic Districts, and properties pending NYCL and Historic District designation, as well as properties determined eligible for NYCL designation.
3. Conduct a field survey of the study area to determine whether there are any potential architectural resources that could be affected by the proposed project. Potential architectural resources are properties that appear to meet the eligibility criteria for NYCL designation and/or S/NR listing. Map and briefly describe any identified potential architectural resources. In consultation with LPC, seek determinations of eligibility for any potential resources in the study area that would be affected by the proposed project.
4. Based on planned development projects, qualitatively discuss any impacts on archaeological and architectural resources that are expected in the future without the proposed project. Incorporate into that discussion project elements that would preserve or protect historic resources.
5. Assess any direct physical impacts of the proposed project on archaeological and architectural resources. In conjunction with the urban design task, assess the proposed project's potential to result in any visual and contextual impacts on architectural resources.
6. If applicable, develop mitigation measures to avoid any adverse impacts on architectural and/or archaeological resources in consultation with LPC, and OPRHP if warranted.
7. Prepare Historic Resource Inventory Forms(s) for any properties that appear to meet eligibility criteria for S/NR listing. These forms will be submitted to OPRHP for their determination of S/NR eligibility.

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Project Site Boundary

Study Area Boundary (1/2-Mile Perimeter)

Carroll Street Bridge

Carroll Gardens Historic District

Historic Resources and Urban Design and Visual Resources Study Area

Figure 9

8. Evaluate potential impacts to historic resources per Section 14.09 of the New York State Historic Preservation Act.

ARCHAEOLOGICAL RESOURCES

9. Consult with LPC to obtain a preliminary determination regarding the project site's potential to have archaeological sensitivity. If LPC determines that the project site is potentially sensitive for archaeological resources, a Phase 1A Archaeological Assessment will be prepared for review by LPC and for OPRHP (since the proposed project involves state actions). The Phase 1A Archaeological Assessment will identify the potential of the project site to contain either pre-contact-period and/or historic-period archaeological resources. It will provide a historical context overview in which to assess archaeological resources, a development history of the proposed project site and study area, an in-depth assessment of past disturbance, and the identification of any potential resource types and their potential significance that may be present on the project site. The conclusions of the Phase 1A Archaeological Assessment will be summarized in this chapter of the EIS.

TASK 8: URBAN DESIGN AND VISUAL RESOURCES

According to the *CEQR Technical Manual*, a detailed assessment of urban design and visual resources is undertaken when a proposed action would result in a building or structure substantially different in height, bulk, form, setbacks, size, scale, use, or arrangement than exists; when an action would change block form, demap an active street, map a new street, or would affect the street hierarchy, streetwall, curb cuts, pedestrian activity, or other streetscape elements; or when an action would result in above-ground development or would change the bulk of new above-ground development and is proposed in an area that includes significant visual resources. The project site is located adjacent to the NYCL and S/NR-eligible Carroll Street Bridge and the S/NR-eligible Gowanus Canal, and the proposed project would result in a change to the existing street grade on First Street between Bond Street and the Canal. This analysis will be coordinated with the Historic Resources task and will focus on the visual and contextual relationship of the proposed and projected developments to these features that contribute significantly to the urban design characteristics of the surrounding area.

The proposed work tasks for urban design/visual resources are as follows:

1. Based on field visits, describe the project site and the urban design and visual resources of the study area, 400-feet from the project site, using photographs and text as appropriate (see Figure 9).
2. Based on planned development projects, describe the changes expected in the urban design and visual character of the study area that are expected in the future without the proposed project.
3. Describe the visual character of the proposed development. Assess the anticipated changes in urban design and visual resources that would result from the proposed project in the study area and evaluate the significance of that change.
4. If necessary, identify mitigation measures and alternatives.

TASK 9: NEIGHBORHOOD CHARACTER

Neighborhood character is shaped by a number of factors, including land use, urban design, visual resources, historic resources, socioeconomic conditions, traffic, and noise. Methodologies outlined in the *CEQR Technical Manual* will be used to provide an assessment of neighborhood character. Work items for this EIS task are as follows:

1. Based on other EIS sections, describe the predominant factors that contribute to defining the character of the neighborhood surrounding the rezoning area.
2. Based on planned development projects, public policy initiatives, and planned public improvements, summarize changes that can be expected in the character of the area in the future without the proposed rezoning.

Assess and summarize the rezoning's impacts on neighborhood character using the analysis of impacts as presented in other pertinent EIS sections (particularly urban design, historic resources, socioeconomic conditions, noise, and traffic).

TASK 10: NATURAL RESOURCES

This task will examine the proposed project and provide an assessment of potential impacts on natural resources in conformance with *CEQR Technical Manual* guidelines. The EIS chapter will include floodplain graphics and descriptions of existing water quality, aquatic resources, and waterfront conditions (e.g., bulkhead). Because the proposed project would raise street and property grades out of the floodplain, would install two new storm sewer outfalls, and would require the repair and replacement of the existing bulkhead, an assessment of impacts on water quality and natural resources will be presented in this chapter. This task will include the following:

- Describe the natural resources and water quality conditions along the Gowanus Canal, with site specific data as may be available through a literature review. Among the documents to be reviewed in this analysis will include the DEP Harbor Survey and the DEP Gowanus Long Term Waterbody/Watershed Facility Plan; and USACE Gowanus Canal and Bay Restoration Study (e.g., the DEP Harbor Survey, USACE data). This section will also describe the general characteristics of the canal, including its water quality classification, and pollutant sources and chemical and biological conditions based on currently available data.
- Review currently available information on aquatic habitats in the study area. This will also rely on published literature, including the identification of any essential fish habitats. The presence of tidal wetlands will be based on existing DEC tidal wetlands maps.
- Although the site is largely a developed and disturbed urban vacant/warehousing site, this task will include a characterization of the upland portions of the site based on a field survey.
- The New York State Natural Heritage Program and the U.S. Fish and Wildlife Service will be contacted to obtain data as to the potential presence of any rare or endangered plant or animal species in the area and essential fish habitats, along the Gowanus Canal.
- A projection will be made of natural resources conditions through the 2011 analysis year based on expected future conditions without the proposed project.
- An assessment of potential impacts from the proposed project will be presented analyzing any changes in water edge conditions, sediment disturbance, stormwater discharges, aquatic habitats, and terrestrial resources. Impact issues could include additional flow from outfalls

(see also Task 13, "Infrastructure," below), improvements to the bulkhead, and any cumulative impacts of the proposed project with respect to other Gowanus Canal private and public projects through 2011. The need for any State or federal approvals will also be described.

In addition, an assessment of potential impacts during construction will be presented in Task 20, "Construction Impacts."

TASK 11: HAZARDOUS MATERIALS

The hazardous materials analysis in the EIS will consider whether hazardous or contaminated materials potentially exist at the project site, whether they would be disturbed during construction, and whether they would persist in the area after development (posing a threat to workers, visitors, and residents at the development). The results of the existing Phase I Environmental Site Assessment (ESA) will be summarized in this chapter and used to assess the potential for significant impacts and to identify locations where further investigation, such as a Phase II ESA or other appropriate investigation or management, will be required. It is assumed that existing studies are sufficient to prepare a summary highlighting existing environmental conditions on the site and recommendations for necessary preconstruction subsurface testing or remediation of contaminated materials, as well as measures to be followed during demolition/construction to eliminate, reduce to acceptable levels, or control any significant sources of contamination. These measures could include: remediation of identified hazardous materials; development of procedures to avoid releases or exposure during construction; and an overall environmental Health and Safety Plan (HASP) that would set out procedures to avoid impacts to the community and site workers and monitoring protocols to ensure the procedures would be followed. A detailed scope of work follows.

- The land use history of the rezoning area will be described based on historic maps, atlases, and other historical records.
- DEC, FDNY, and New York City Department of Buildings records will be examined for records of underground storage tanks.
- Records of other areas of environmental concern—including hazardous waste disposal sites, hazardous waste generators or treatment facilities, and hazardous substance releases—will be obtained through a computer database for surrounding locations.
- Available information on subsurface conditions (geology and hydrogeology), including any borings performed on or near the site, will be presented, as will all available reports of soil or groundwater testing on the project site or adjacent properties.
- The site and the adjacent properties will be inspected for any evidence of contamination, including the presence of drums or tanks, stained soils, stressed vegetation, and illegally dumped or stored material.
- The potential for contamination of soil and groundwater in the rezoning area, and the need for any site testing, will be assessed based on land use history, examination of tank records, and current site conditions.
- The results of the assessment will be summarized for inclusion in the EIS.
- If there is the potential for significant impacts under the proposed project, the need to perform soil or groundwater sampling as mitigation will be described in the mitigation chapter as well as the need for any measures necessary to implement the mitigation.

TASK 12: WATERFRONT REVITALIZATION PROGRAM

As shown in Figure 10, the project site lies within New York City's Coastal Zone Boundary. Adopted under the federal Coastal Zone Management Act of 1972, the City's Local Waterfront Revitalization Program (LWRP) is administered by CPC acting as the City Coastal Commission, and consists of 10 policies that address such issues as water dependency, flooding, erosion, natural resources, and water quality. This task will assess the proposed project's consistency with the City's LWRP.

TASK 13: INFRASTRUCTURE

The project site lies on the waterfront at a low elevation in an area that is currently subject to drainage and flooding impacts. It is also located in an area where the existing infrastructure was installed for manufacturing uses, not residential uses. Therefore, this chapter will describe the current adequacy of the infrastructure for the area and examine the potential impacts of the proposed project, including any proposed infrastructure improvements. This analysis will examine any effects on the Gowanus Canal Pumping Station and water quality conditions either with or without that capital project in-place, depending on the completion of the upgrade project site (see the discussion below).

Specifically, this task will analyze the proposed project's demand for water supply and sanitary water uses, and stormwater runoff. Specific work items under this task will include:

1. Describe the water supply system for the area and estimate water demands for the proposed project. Assess the effects of the added demand on the City's water supply system and the local conveyance system in order to determine if there would be impacts to water supply or pressure.
2. Estimate current wastewater flows at the project site and describe the existing combined sewer wastewater collection system for the project site and area. Describe any proposed improvements through 2011. This would include a description of any currently proposed or contemplated capital projects for the proposed project's immediate drainage area that are being considered by the City, with a focus on those that are expected to be completed and implemented by 2011 (e.g., the Gowanus Pumping Station; see the discussion under "Land Use, Zoning, and Public Policy"). The analysis would only consider projects that are in-place and operating by the 2011 build year. Present the average annual monthly flow rates for the Red Hook Water Pollution Control Plant (WPCP) for the latest 12-month period. Assess the effects of the added demand for sewage services generated by the proposed project in order to determine if there will be any impact on operations of the WPCP or the local conveyance system, including the Gowanus Pumping Station.
3. Describe the existing storm water drainage patterns on the project site and volume of stormwater currently generated. Describe the proposed project's stormwater management plan, including the method of discharge, and any amendments to the local drainage infrastructure that may be necessary. Describe proposed stormwater infrastructure improvements (i.e., proposal to construct new storm sewers), stormwater pollution prevention programs (SWPPPs), and assess future stormwater generation from the proposed project and assess its potential for any stormwater impacts.
4. Assess the pollutant loads from the current and future uses of the project site and determine the potential affects on the water quality of the Gowanus Canal. This would include a comparison of runoff characteristics from the current vacant/warehouse land cover as



363-365 BOND STREET

Waterfront Revitalization Program
Figure 10

compared with the proposed land cover of residential/open space uses under the proposed project. The assessment will also take into consideration any SWPPPs with the proposed project. The analysis will make a comparison of the net incremental change from the current to proposed conditions and assess any negative or beneficial impacts that may occur with respect to water quality conditions in Gowanus Canal and Gowanus Bay.

5. As described above under "Proposed Project," the proposed project would provide separate sewers for sanitary and stormwater flows (currently, flows from the site are combined). The EIS will assess the potential impacts of the proposed project with respect to impact on the local sewer network and its capacity to handle the added sanitary flows of the project. This assessment will consider increases in flow in local combined sewers due to the added residential population and the offsets of storm flow reductions based on the separation of current storm flow from the project site to the sewer system. The impact analysis will consider this net change and any resulting impacts in the response of the sewer system including an assessment of any localized impacts with respect to combined sewer overflows. This assessment would include hydraulic calculations to determine infrastructure responses to project-generated sanitary flow and the potential for additional combined sewer overflow events.

TASK 14: SOLID WASTE AND SANITATION SERVICES

Since the proposed project is modest in size, this task will provide a screening level analysis of potential project impacts on solid waste and sanitation services. This analysis will describe existing and future New York City solid waste disposal practices, including collection systems and disposal methods. It will disclose the volume of solid waste and recycling materials the proposed project would be expected to generate, and assess the impacts that waste on the City's collection solid waste and disposal services.

TASK 15: ENERGY

Given the modest size of the proposed project, energy impacts will also be a screening level of analysis. Therefore, this task will describe the energy systems that would supply the proposed project with electricity and/or natural gas. The chapter will include descriptions of the capacity and existing demand on these systems, and of the distribution networks in the rezoning area.

TASK 16: TRAFFIC AND PARKING

The street network and its ability to absorb traffic from the new residential development is expected to be one of the major issues for the proposed action. A preliminary trip generation study was conducted based on the proposed residential development (see Appendix I, "Trip Generation"). This study determined that the traffic analyses will focus on the weekday AM and PM peak hours, and will examine impacts based upon an assumed "worst-case" development that would occur with the proposed action. Below is a description of the tasks necessary to complete the traffic and parking analysis:

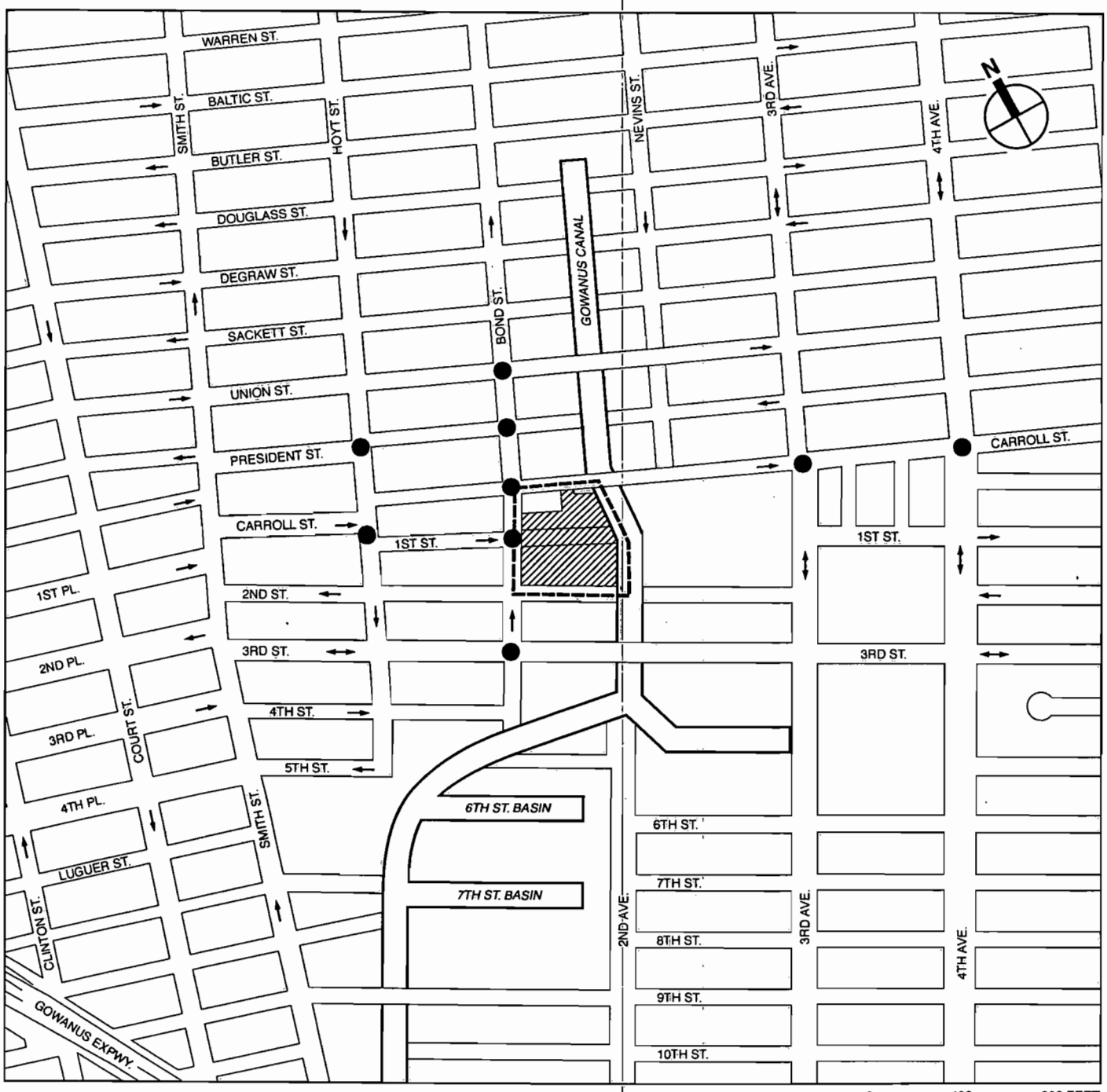
1. Define the study area proposed for the traffic analyses (see Figure 11). The study area is bounded on the north by Union Street, on the south by Third Street, on the east by Fourth Avenue, and on the west by Hoyt Street. In total, up to 10 intersections will be analyzed for impacts in the traffic study area (see Appendix I, "Trip Generation").

2. Establish existing traffic flows in the study area for the weekday AM and PM peak hours based on field count data at study area intersections, supplemented with available traffic data from other projects in the area. The May 2006 traffic counts were conducted according to the procedures and criteria set forth in the *CEQR Technical Manual*, and included Automatic Traffic Recorder (ATR) counts to establish daily and hourly patterns. Vehicle classification and time/delay data was collected along key corridors and will be used for the traffic analyses, as well as for the air quality and noise studies.
3. Inventory and record street widths, number of moving lanes, intersection geometries, traffic flow directions, curbside parking regulations, as well as any other items required for the traffic analyses. Acquire official signal timings from NYCDOT for the study area intersections to be analyzed.
4. Analyze the capacity of the street system in the study area using the 2000 *Highway Capacity Manual* methodologies. Determine the existing traffic volumes and volume-to-capacity (v/c) ratios on streets in the traffic study area during the weekday AM and PM peak hours.
5. In coordination with the land use task, determine the future development in the area and future traffic volumes without the proposed action. Determine traffic volumes, calculate v/c ratios, and identify problem intersections. Estimate future traffic volumes using existing volume information and adding incremental increase in traffic from discrete projects plus a background growth rate (as specified in the *CEQR* Manual). Include mitigation measures approved and accepted by NYCDOT for all No Build soft sites in the future No Build network.
6. Determine the trips generated by the proposed action and the modes of transportation used for these trips, using such sources as *Urban Space for Pedestrians* by Pushkarev & Zupan, 2000 U.S. Census Data, and any other available environmental studies for similar uses in the study area. Assigned new trips to various travel modes and networks (i.e., vehicle trips, subway/bus system riders, and pedestrians).
7. Perform a traffic impact assessment with the proposed action. Assign vehicle-trips generated by the proposed actions to the network for each analysis period, and evaluate the impact on v/c ratios and delays. The impact criteria established in the *CEQR Technical Manual* will be used to identify significantly impacted locations.
8. Analyze current and future parking conditions for the midday and overnight periods. Assess available capacity and average utilization. The analysis of future conditions will reflect changes in the parking supply and any changes in accumulated parking demand generated in the future without the proposed action and with the proposed action.
9. Perform traffic safety analyses by obtaining accident data for the most recent three-year period from the New York State Department of Transportation (NYSDOT). Based on the detailed review of the accident data, improvement measures will be proposed for the problem locations.

TASK 17: TRANSIT AND PEDESTRIANS

The public transportation system and the pedestrian facilities in the area surrounding the project site and their ability to absorb the new trips from the proposed action are an important issue. Based on the preliminary trip generation estimates, it is anticipated that the proposed action would not generate sufficient transit trips to warrant detailed analysis of potential transit impacts

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Traffic Study Area
Figure 11

during the AM and PM peak hours. However, a qualitative assessment of transit services (including subway service and local bus routes) in the study area will be provided. This assessment will take into account the potential effects of any temporary closures of subway stations in the area, such as the Smith-9th Street station.

In terms of pedestrian analyses, pedestrian elements—including sidewalks, corners, and crosswalks—for up to three intersections will be analyzed. This will include field surveys to inventory sidewalk, corner, and crosswalk widths, pedestrian sidewalk obstacles, and crosswalk timings, as well as other items required for pedestrian analyses. Using this data, pedestrian service conditions in the study area will be established for the Existing, No Build and Build conditions. The impact criteria established in the *CEQR Technical Manual* will be used to identify significantly impacted locations and improvement measures will be recommended to mitigate such impacts.

TASK 18: AIR QUALITY

Since the proposed project would generate approximately 100 vehicle trips at an intersection in the PM peak hour (the *CEQR Technical Manual* screening threshold), a mobile source air quality analysis will be conducted. The analysis will be conducted at the intersection where the greatest number of project-generated trips are anticipated. The air quality analysis will be performed to determine (using computerized dispersion modeling techniques) the effects of both project- and non-project-generated traffic on carbon monoxide (CO) levels within the study area, and, where significant project impacts are predicted to occur, developing feasible traffic mitigation measures to alleviate those impacts. It is anticipated that the U.S. Environmental Protection Agency (EPA)'s conservative first-level mobile source dispersion model, CAL3QHC, will be used for the CO microscale analysis and vehicular emissions will be computed with EPA's emissions model, MOBILE6.2. Future CO pollutant levels will be compared with standards and the City's *de minimis* criteria, and with one another to determine trends and, more importantly, project impacts.

For stationary sources of emissions from heating, ventilation and air conditioning (HVAC) equipment, a screening analysis will be performed to determine whether emissions from any on-site fuel-fired HVAC equipment (for example, boilers or hot water heaters) from the proposed project are significant. The screening analysis will use the procedures outlined in the *CEQR Technical Manual*. The procedure involves determining the distance (from the exhaust point) within which potential significant impacts may occur, on elevated receptors (such as open windows, air intake vents, etc.) that are of an equal or greater height when compared to the height of the proposed projects HVAC exhausts. The distance within which a significant impact may occur is dependent on a number of factors, including the height of the discharges, type(s) of fuel burned and development size.

In addition, air quality impacts on the rezoning area's future residents are an issue of concern since the proposed project would be located adjacent to manufacturing uses. To address this issue, an analysis will be undertaken to determine the potential for impacts from industrial emissions from uses surrounding the project site. A field survey will be performed to determine if there are any manufacturing or processing facilities within 400 feet of the rezoning area, or large sources within 1,000 feet. In addition, a search of federal and state air permits, and the DEP's Bureau of Environmental Compliance (BEC) files will be examined to determine if there are permits for any sources of toxic air compounds from industrial processes. Based upon this information a determination will be made of whether detailed analysis of industrial stationary

source air quality issues is necessary. If information on any emissions from processing or manufacturing facilities within 400 feet of the project site is on file with DEP or DEC, an industrial source analysis will be performed.

The tasks involved in the air quality analysis are as follows:

MOBILE SOURCE ANALYSIS

1. Gather existing air quality data. Collect and summarize existing ambient air quality data for the study area. Specifically, ambient air quality monitoring data published by DEC will be compiled for the analysis of existing conditions.
2. Perform a microscale screening mobile source analysis for carbon monoxide (CO) at a single intersection using EPA's CAL3QHC model. The peak period with the greatest number of project-generated traffic will be analyzed, unless additional peak periods exceed the City's threshold for conducting an analysis.
3. Select emission calculation methodology and "worst-case" meteorological conditions. Vehicular cruise and idle emissions for the dispersion modeling will be computed using EPA's MOBILE6.2 model. For the "worst-case" analysis location, conservative meteorological conditions to be assumed in the dispersion modeling are a 1 meter per second wind speed, Class D stability, and a 0.70 persistence factor.
4. Calculate maximum 1- and 8-hour CO concentrations for existing conditions, the future conditions without the project, and the future conditions with the project. No field monitoring will be included as part of this analysis.
5. Determine the consistency of the proposed project with the strategies contained in the State Implementation Plan (SIP) for the area. If violations of standards occur, analyses would be performed to determine what mitigation measures would be required to attain standards.

PARKING GARAGE ANALYSIS

6. Assess the potential impacts associated with proposed parking garage. Information on the potential design of the garage will be employed to determine potential off-site impacts from these vented emissions, for each of the project's build years. A temperature of 43°F will be assumed in the analysis, and a point source screening analysis will be used. Cumulative impacts from on-street sources and emissions from the parking garage will be calculated where appropriate. Compare future CO pollutant levels with standards and applicable *de minimis* criteria, to determine potential significant adverse project impacts.

STATIONARY SOURCE ANALYSES

7. Assess the potential impacts associated with the emissions from the proposed project's buildings. Given the size of the proposed project, it is expected that a screening analysis can be performed in accordance with the *CEQR Technical Manual.*

8. If the project's HVAC systems fail the screening analyses, detailed stationary source analysis will be performed using the AERMOD dispersion model. Five years of meteorological data (2001-2005) with surface data from either JFK or LaGuardia Airport and concurrent upper air data from Brookhaven, New York, will be used for the simulation modeling. Concentrations of nitrogen dioxide, sulfur dioxide, and particulate matter will be determined and the predicted values will be compared with national and state ambient air quality standards and other relevant criteria. In the event that a violation of the standards is predicted, design measures will be examined to reduce potential concentrations of applicable pollutants to acceptable levels.

INDUSTRIAL SOURCE ANALYSES

9. A field survey will be performed to determine if there are any manufacturing or processing facilities within 400 feet or any large sources within 1,000 feet of the proposed project. If such potential sources are identified, DEP-BEC will be contacted to determine if there are permits for any industrial facilities within these areas.
10. If industrial permits are identified for the area, the AERMOD dispersion model screening database will be used to estimate the short-term and annual concentrations of critical pollutants at the potential receptor sites. Predicted worst-case impacts on the project will be compared with the short-term guideline concentrations (SGC) and annual guideline concentrations (AGC) reported in DEC's DAR-1 AGC/SGC Tables (December 2003) to determine the potential for significant impacts. In the event that violations of standards are predicted, measures to reduce pollutant levels to within standards will be examined.

TASK 19: NOISE

The noise study will consist of a screening analysis to determine whether the proposed project would generate enough vehicle trips to have the potential to cause a significant noise impact, and an analysis to determine the level of building attenuation required to satisfy CEQR interior noise guidelines. In most cases, a significant noise impact occurs when a project results in an increase of 3 dBA or more. From a traffic perspective, the impact occurs when there is a doubling of baseline traffic volumes on any street (once adjustments are made to account for the noise characteristics of trucks and buses). A screening analysis will be performed to see if such conditions are likely to occur. If such conditions are likely to occur, then a detailed noise impact analysis will be performed.

The *CEQR Technical Manual* provides recommended levels of building attenuation to achieve acceptable levels of interior noise (which are assumed to be 45 dBA). Because the proposed buildings would be located in a Special Mixed Use District, they would require a minimum of 35 dBA of window wall attenuation, as specified in section 123-32 of the New York City Zoning Resolution. The level of building attenuation necessary to satisfy CEQR requirements is a function of the exterior noise levels, and will be determined. Because of relatively high noise levels adjacent to the project site, any development in the area would be expected to require double-glazed windows and air conditioning to achieve acceptable interior noise levels.

Specifically, the noise analysis will include the following tasks:

1. Select appropriate noise descriptors to describe the noise environment and the impact of the proposed project, following current City criteria regarding noise descriptors. When and where appropriate, examine the L_{10} and equivalent ($L_{eq(1)}$) noise levels.
2. Select noise receptor locations for building attenuation.
3. Determine existing noise levels. Measurement will be made at each of the receptor sites to determine existing noise levels. At each site, 20-minute measurement will be made during a typical weekday AM, midday, and PM peak period. Hourly L_{eq}, L_1, L_{10}, L_{50}, and L_{90} values will be recorded.
4. Perform screening impact analysis. Using proportional modeling techniques, a screening analysis will be performed to determine if there are any locations where project-generated traffic would have the potential for causing a significant noise impact. If such locations are identified, then a detailed impact analysis will be performed.

5. Determine the level of building attenuation necessary to satisfy CEQR requirements.

TASK 20: CONSTRUCTION IMPACTS

The likely construction schedule for development on the project site will be described. This analysis will examine potential impacts of construction activities based on the guidelines presented in the *CEQR Technical Manual*. This task will focus on the technical areas of traffic and parking, air quality, noise, transit and pedestrians, hazardous materials, and natural resources/water quality. The analysis will discuss the proposed bulkhead repairs along the Gowanus Canal and the bringing in of fill material to raise grades in the middle of the site and along the Canal. An analysis of construction impacts on nearby historic resources (e.g., the Carroll Street Bridge) will also be conducted. As appropriate, other technical areas will be assessed for potential construction-related impacts. A construction protection plan for historic resources will be designed as per *CEQR Technical Manual* specifications.

TASK 21: PUBLIC HEALTH

According to the *CEQR Technical Manual*, for a site-specific project, an assessment of public health should examine the potential for health impacts on a community or certain group of individuals. Public health concerns for which a public health assessment may be warranted include: increased vehicular traffic or emissions from stationary sources resulting in significant adverse air quality impacts; increased exposure to heavy metals and other contaminants in soil/dust resulting in significant adverse hazardous materials or air quality impacts; the presence of contamination from historic spills or releases of substances that might have affected or might affect ground water to be used as a source of drinking water; solid waste management practices that could attract vermin and result in an increase in pest populations; potentially significant adverse impacts to sensitive receptors from noise and odors; vapor infiltration from contaminants within a building or underlying soil that may result in significant adverse hazardous materials or air quality impacts; and actions for which any potential impacts result in an exceedance of accepted federal, state, or local standards.

The public health assessment will examine the proposed project and provide a screening level of assessment in conformance with *CEQR Technical Manual* guidelines. It will evaluate the likelihood of exposure, as well as the potential impacts of those exposures on human health due to hazardous material that may be present at the site, including any worker or resident exposure either during construction or occupancy of the proposed project; current and future water quality conditions along the Gowanus Canal, and the potential for any impacts on project residents or open space users due to water quality conditions; current air emissions, including any industrial emissions in the area and the potential to exceed air quality standards or guidelines and impact future residents; current noise levels in the area and any exposure of residents to excessive noise levels; and solid waste and sanitation services that would be necessary to avoid public health impacts. In determining the significance of any potential effects to public health, the chapter will consider the likelihood of occurrence, characteristics of the population potentially affected, the time frame of potential exposures, latency, seriousness of the potential health effect, duration, number of persons potentially affected, and the reversibility of potential impacts.

Where any mitigation may be necessary to avoid impacts to public health, they will be described under this task as well as Task 22, "Mitigation."

TASK 22: MITIGATION

Where significant impacts have been identified in the analyses discussed above, measures will be described to mitigate those impacts. This task summarizes the findings of the relevant

analyses and discusses potential mitigation measures. Where impacts cannot be mitigated, they will be described as unavoidable adverse impacts.

TASK 23: ALTERNATIVES

The purpose of an alternatives analysis is to examine reasonable and practicable options that avoid or reduce project-related significant adverse impacts and achieve the stated goals and objectives of the proposed project. The specific alternatives to be analyzed are typically finalized with the lead agency as project impacts become clarified. However, the alternatives analysis will include a No Action Alternative, which assumes that the proposed rezoning is not approved and the proposed project is not built, and the project parcels maintain their current uses and zoning. An As-of-Right Alternative would also be analyzed and would assume build-out of the site under current zoning. Additional alternatives could include design alternatives or alternatives that reduce or minimize impacts disclosed as part of this analysis as determined by DCP. The description and evaluation of each alternative will be provided at a level of detail sufficient to allow a comparative assessment of each alternative to the impacts under the proposed project.

TASK 24: EXECUTIVE SUMMARY

Once the EIS technical sections have been prepared, a concise executive summary will be drafted. The executive summary will use relevant material from the body of the EIS to describe the proposed project, its environmental impacts, measures to mitigate those impacts, and alternatives to the proposed project.

Appendix I: Trip Generation and Proposed Locations for Traffic Analysis

INTRODUCTION

This analysis discusses the existing traffic volumes (baseline traffic networks), travel demand characteristics, and traffic assignments to be utilized in the transportation and traffic studies for the proposed redevelopment project at 363–365 Bond Street.

TRAFFIC DATA COLLECTION

Existing traffic volumes (baseline traffic networks) for the proposed project were established based on field counts conducted in May 2006 at the study area intersections (see Figure 9 in the attached Draft Scope of Work). In addition to the manual counts, Automatic Traffic Recorder (ATR) counts and vehicle classification counts were performed to supplement the field data. Field inventories of roadway geometry, traffic control, bus stop presence, and parking regulations/activities were also conducted to provide the appropriate inputs to operational analyses.

TRAVEL DEMAND CHARACTERISTICS

As currently contemplated, the proposed project would consist of approximately 447 residential units. These residential units would be supported by a small neighborhood retail space (2,000 square feet) and a small community facility space (2,000 square feet). As per the criteria established in the *CEQR Technical Manual*, a detailed traffic analysis is required when a proposed action generates 50 or more peak hour vehicle trips. Preliminary traffic demand estimates for the proposed project were developed based on the assumptions presented in Tables I-1 through I-4. Based on these estimates, the proposed development will result in approximately 80, 44, and 92 vehicle trips during the weekday AM, midday, and PM peak hours, respectively. Therefore, based on the *CEQR Technical Manual* criteria, a detailed analysis of traffic and transportation conditions for the weekday AM and PM peak hours is warranted. However, since the proposed project would generate less than 50 peak hour vehicle trips during the weekday midday peak hour, a detailed traffic/transportation analysis will not be warranted based on the *CEQR Technical Manual* criteria.

TRAFFIC ASSIGNMENTS

Project-generated vehicle trips were assigned to the study area intersections based on the journey-to-work information from the 2000 U.S. Census Data, the most likely routes to and from the project site, the configuration of street network, and the location of the site's proposed access and egress points. All project-generated auto trips were routed to the project's on-site parking entrance on First Street between Bond Street and Gowanus Canal. In addition, delivery vehicles were assigned to the study area network using NYCDOT-designated truck routes.

ANALYSIS LOCATIONS/TRAFFIC STUDY AREA

Based on the magnitude of project-generated vehicular activity, the following eight intersections were selected to define the study area for a detailed traffic analysis (see Figure 11):

- Third Street and Hoyt Street;
- Third Street and Bond Street;
- Third Street and Third Avenue;
- Bond Street and First Street;
- Bond Street and Carroll Street;
- Bond Street and President Street;
- Hoyt Street and President Street; and
- Hoyt Street and First Street.

The effect of project-generated trips on the area's roadways and streets would diminish outside the traffic study area, as the trips would get distributed over a broader street network. Therefore, it is proposed that the study area with the above intersections be used for the detailed traffic analysis to determine the project-related traffic impacts.

Table I-1
Residential Trip Generation
Toll Brothers Development (447 Residential Units)

Residential Use: 447 dwelling units

Daily Person Trip Rate (1): 8.0 trips per d.u.

Temporal Distribution (1)

Weekday AM Peak Hour	9.1%
Weekday MD Peak Hour	4.7%
Weekday PM Peak Hour	10.7%

Modal Split Estimates (2) & Vehicle Occupancy

Auto	22.0%
Taxi	1.0%
Bus	1.0%
Subway	68.0%
Walk/Other	8.0%
Total	**100.0%**
Auto Occupancy (2)	1.14
Taxi Occupancy (1)	1.40

Hourly In & Out Distribution (1)

	In	Out
Weekday AM Peak Hour	15.0%	85.0%
Weekday MD Peak Hour	50.0%	50.0%
Weekday PM Peak Hour	70.0%	30.0%

Peak Hour Person Trips by Mode

	Auto		Taxi		Bus		Subway		Walk/Other		Total		
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	Total
Weekday AM Peak Hour	11	61	0	3	0	3	33	188	4	23	49	277	326
Weekday MD Peak Hour	18	18	1	1	1	1	57	57	7	7	84	84	168
Weekday PM Peak Hour	59	25	3	1	3	1	182	78	22	9	268	115	383

Peak Hour Vehicle Trips

	Auto		Taxi		Deliveries(3)		Total		
	In	Out	In	Out	In	Out	In	Out	Total
Weekday AM Peak Hour	9	53	2	2	2	2	13	57	70
Weekday MD Peak Hour	16	16	1	1	2	2	19	19	38
Weekday PM Peak Hour	52	22	2	2	1	1	55	25	80

DELIVERIES: D. Units: 447

Delivery Trip Rate (3): 0.1 trips per d.unit

Temporal Distribution (3)

Weekday AM Peak Hour	9.7%
Weekday MD Peak Hour	7.8%
Weekday PM Peak Hour	5.1%

Hourly In & Out Distribution

Weekday AM Peak Hour	50.0%	50.0%
Weekday MD Peak Hour	50.0%	50.0%
Weekday PM Peak Hour	50.0%	50.0%

Total Deliveries

Weekday AM Peak Hour	2	2
Weekday MD Peak Hour	2	2
Weekday PM Peak Hour	1	1

Notes:
(1) Pushkarev & Zupan, Urban Space for Pedestrians (1975)
(2) U.S. Department of Commerce, Bureau of the Census, *2000 Census of Population and Housing*
(3) CEQR Technical Manual (2001)

Table I-2
Neighborhood Retail Trip Generation

Local Retail Use: **2,000** **square feet**

Daily Person Trip Rate (1): **205** trips per 1,000 square feet

Temporal Distribution (1)

Weekday AM Peak Hour	3.1%
Weekday MD Peak Hour	19.0%
Weekday PM Peak Hour	9.6%

Modal Split Estimates (1) & Vehicle Occupancy (1)

Mode	Weekday
Auto	2.0%
Taxi	3.0%
Bus	5.0%
Subway	20.0%
Walk/Other	70.0%
Total	**100.0%**
Auto Occupancy	2.00
Taxi Occupancy	2.00

Hourly In & Out Distribution (1)

	In	Out
Weekday AM Peak Hour	50.0%	50.0%
Weekday MD Peak Hour	50.0%	50.0%
Weekday PM Peak Hour	50.0%	50.0%

Peak Hour Person Trips by Mode

	Auto		Taxi		Bus		Subway		Walk/Other		Total		
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	Total
Weekday AM Peak Hour	0	0	0	0	0	0	1	1	5	5	6	6	12
Weekday MD Peak Hour	1	1	1	1	2	2	8	8	27	27	39	39	78
Weekday PM Peak Hour	0	0	1	1	1	1	4	4	14	14	20	20	40

Peak Hour Vehicle Trips

	Auto		Taxi		Deliveries(1)		Total		
	In	Out	In	Out	In	Out	In	Out	Total
Weekday AM Peak Hour	0	0	0	0	0	0	0	0	0
Weekday MD Peak Hour	0	0	1	1	0	0	1	1	2
Weekday PM Peak Hour	0	0	0	0	0	0	0	0	0

DELIVERIES: **Retail:** **2,000** **square feet**

Delivery Trip Rate (1): **0.7** trips per 1,000 sq. ft.

Temporal Distribution (1)

Weekday AM Peak Hour	8.0%
Weekday MD Peak Hour	11.0%
Weekday PM Peak Hour	2.0%

Hourly In & Out Distribution

Weekday AM Peak Hour	50.0%	50.0%
Weekday MD Peak Hour	50.0%	50.0%
Weekday PM Peak Hour	50.0%	50.0%

Total Deliveries

	In	Out
Weekday AM Peak Hour	0	0
Weekday MD Peak Hour	0	0
Weekday PM Peak Hour	0	0

Notes:
(1) *Atlantic Yards: Redevelopment Project FEIS* (2006)

Table I-3
Community Facility Trip Generation

Daycare Use: 2,000 square feet
Daily Person Trip Rate (1): 138 trips per 1,000 square feet

Temporal Distribution (1)

Weekday AM Peak Hour	16.0%
Weekday MD Peak Hour	5.0%
Weekday PM Peak Hour	19.0%

Modal Split Estimates (1) & Vehicle Occupancy (1)

Mode	Weekday
Auto [2]	38.0%
Taxi [2]	2.0%
Bus	10.0%
Subway	20.0%
Walk/Other	30.0%
Total	100.0%
Auto Occupancy	1.65
Taxi Occupancy	1.40

Hourly In & Out Distribution (1)

	In	Out
Weekday AM Peak Hour	53.0%	47.0%
Weekday MD Peak Hour	50.0%	50.0%
Weekday PM Peak Hour	47.0%	53.0%

Peak Hour Person Trips by Mode

	Auto		Taxi		Bus		Subway		Walk/Other		Total		
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	Total
Weekday AM Peak Hour	9	8	0	0	2	2	5	4	7	7	23	21	44
Weekday MD Peak Hour	3	3	0	0	1	1	1	1	2	2	7	7	14
Weekday PM Peak Hour	9	11	0	1	2	3	5	6	9	7	25	28	53

Peak Hour Vehicle Trips

	Auto		Taxi		Deliveries(1)		Total		
	In	Out	In	Out	In	Out	In	Out	Total
Weekday AM Peak Hour	5	5	0	0	0	0	5	5	10
Weekday MD Peak Hour	2	2	0	0	0	0	2	2	4
Weekday PM Peak Hour	6	6	0	0	0	0	6	6	12

DELIVERIES: Daycare 2,000 square feet
Delivery Trip Rate (1): 0.14 trips per 1,000 sq. ft.

Temporal Distribution (1)

Weekday AM Peak Hour	9.6%
Weekday MD Peak Hour	11.0%
Weekday PM Peak Hour	1.0%

Hourly In & Out Distribution

Weekday AM Peak Hour	50.0%	50.0%
Weekday MD Peak Hour	50.0%	50.0%
Weekday PM Peak Hour	50.0%	50.0%

Total Deliveries

Weekday AM Peak Hour	0	0
Weekday MD Peak Hour	0	0
Weekday PM Peak Hour	0	0

Notes:
(1) *Hudson Yards: FGEIS* (2004)
(2) Auto and Taxi share adjusted for local conditions

Table I-4
Total Project-Generated Trips

Person Trips by Mode													
Analysis Period and Use	Auto		Taxi		Bus		Subway		Walk/Other		Total		Total
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	
AM PEAK PERIOD													
Residential	11	61	0	3	0	3	33	188	4	23	49	277	326
Retail	0	0	0	0	0	0	1	1	5	5	6	6	12
Daycare	9	8	0	0	2	2	5	4	7	7	23	21	44
TOTAL	**20**	**69**	**0**	**3**	**2**	**5**	**39**	**193**	**16**	**35**	**78**	**304**	**382**
MIDDAY PEAK PERIOD													
Residential	18	18	1	1	1	1	57	57	7	7	84	84	168
Retail	1	1	1	1	2	2	8	8	27	27	39	39	78
Daycare	3	3	0	0	1	1	1	1	2	2	7	7	14
TOTAL	**22**	**22**	**2**	**2**	**4**	**4**	**66**	**66**	**36**	**36**	**130**	**130**	**260**
PM PEAK PERIOD													
Residential	59	25	3	1	3	1	182	78	22	9	268	115	383
Retail	0	0	1	1	1	1	4	4	14	14	20	20	40
Daycare	9	11	0	1	2	3	5	6	9	7	25	28	53
TOTAL	**68**	**36**	**4**	**3**	**6**	**5**	**191**	**88**	**45**	**30**	**313**	**163**	**476**

Vehicle Trips by Type													
Analysis Period and Use	Auto		Taxi		Delivery		Total		Total				
	In	Out	In	Out	In	Out	In	Out					
AM PEAK PERIOD													
Residential	9	53	2	2	2	2	13	57	70				
Retail	0	0	0	0	0	0	0	0	0				
Daycare	5	5	0	0	0	0	5	5	10				
TOTAL	**14**	**58**	**2**	**2**	**2**	**2**	**18**	**62**	**80**				
MIDDAY PEAK PERIOD													
Residential	16	16	1	1	2	2	19	19	38				
Retail	0	0	1	1	0	0	1	1	2				
Daycare	2	2	0	0	0	0	2	2	4				
TOTAL	**18**	**18**	**2**	**2**	**2**	**2**	**22**	**22**	**44**				
PM PEAK PERIOD													
Residential	52	22	2	2	1	1	55	25	80				
Retail	0	0	0	0	0	0	0	0	0				
Daycare	6	6	0	0	0	0	6	6	12				
TOTAL	**58**	**28**	**2**	**2**	**1**	**1**	**61**	**31**	**92**				