

Draft Scope of Work to Prepare a Draft Environmental Impact Statement for the CornellNYC Tech Project

A. INTRODUCTION

Cornell University (the applicant) is seeking a number of discretionary approvals (the “proposed actions”) to support and allow for the development of an applied science and engineering campus on Roosevelt Island.

As shown on **Figure 1**, the project site is located on the southern portion of Roosevelt Island, south of the Ed Koch Queensboro Bridge. A majority of the site (Block 1373, Lot 20) is owned by the City of New York and is occupied by the Coler-Goldwater Specialty Hospital and Nursing Facility’s Goldwater Memorial Hospital, which is operated by the New York City Health and Hospitals Corporation (NYCHHC). The remainder of the site (Block 1372, part of Lot 1) is vacant and owned by the City of New York and leased to the Roosevelt Island Operating Corporation (RIOC). **Figure 2** shows the site and reflects its current ownership; outside of the project area, the Island is controlled by RIOC, under a long-term lease with the City.¹ Independently of, and prior to, the proposed project, NYCHHC will vacate the Goldwater Memorial Hospital site and relocate patients and services elsewhere.²

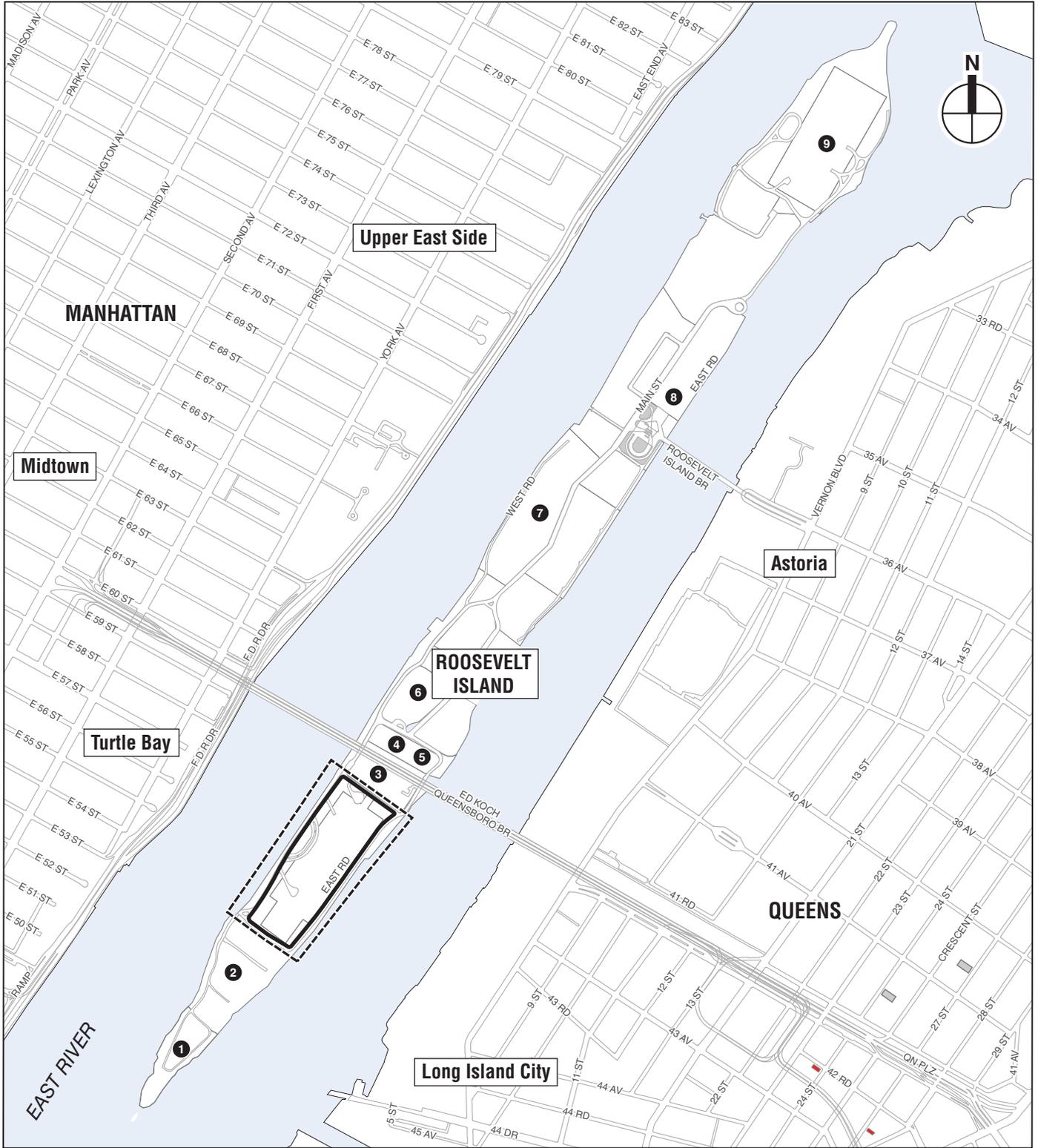
The first phase of the CornellNYC Tech project, which Cornell University (Cornell) would undertake in collaboration with Technion – Israel Institute of Technology, is expected to be constructed and begin operations on Roosevelt Island in Summer 2017; 2018 will be the first full year of operation.³ Phase 1 would consist of up to a maximum of 790,000 gross square feet (gsf) of development consisting of approximately 200,000 gsf of academic research space,⁴ 300,000 gsf of residential space (442 units), 100,000 gsf of partner research and development space, and 170,000 gsf for an academic-oriented hotel with conference facilities. Up to another 20,000 gsf would be developed as a central energy plant. Phase 2, expected to be completed by 2037, would add a maximum of 1.34 million gsf consisting of approximately 420,000 gsf of academic

¹ Roosevelt Island is owned by the City of New York, and the entire Island except for the Goldwater Memorial Hospital campus and the Coler Memorial Hospital campus is leased to the State of New York. RIOC was established by New York State in 1984 to manage the operation, maintenance, and development of the Island. The State’s lease on the Island expires in 2068, when control will revert to New York City.

² NYCHHC issued a Negative Declaration on December 6, 2011 for the closure, relocation, and right-sizing of operations currently housed at the Goldwater Memorial Hospital (CEQR No. 12HHC001M).

³ Cornell anticipates opening some portion of its CornellNYC Tech academic program in leased space in New York City in 2012. Leasing such space would not require any governmental approvals.

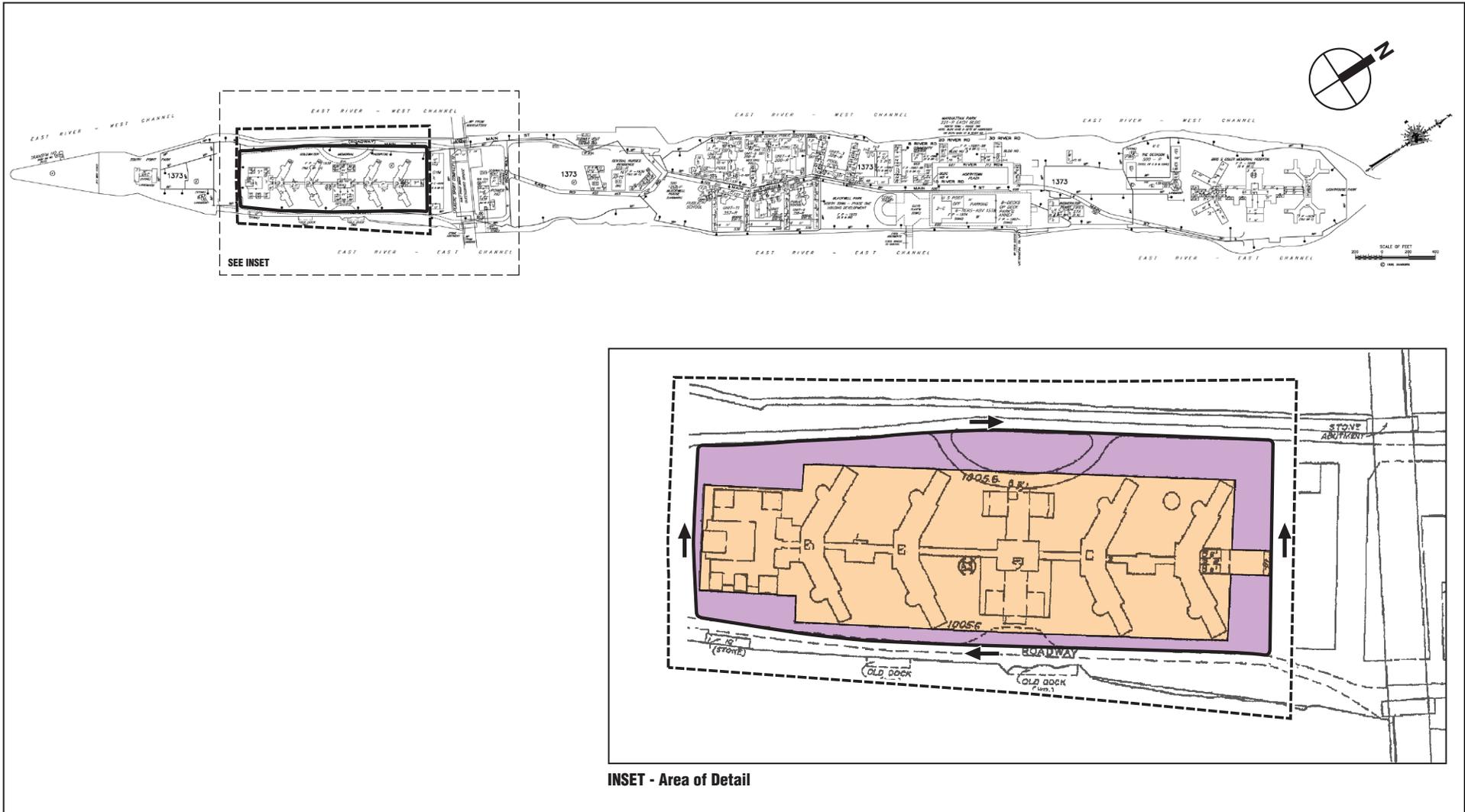
⁴ Under the terms of the agreement between the City of New York and the New York Economic Development Corporation, Cornell is obligated to build no less than 300,000 sf of buildings, of which at least 200,000 sf shall be academic and research space by June 30, 2017.



-  Project Site
-  Rezoning Area (Special Southern Roosevelt Island District)
-  Four Freedoms Park (Under Construction)
-  South Point Park
-  Sports Park
-  Tram Station

-  Steam Plant
-  Southtown
-  Northtown
-  Motorgate
-  Coler Memorial Hospital Campus

0 500 1000 FEET
SCALE



- Project Site
- Rezoning Area (Special Southern Roosevelt Island District)
- Traffic Direction
- Block 1373 Lot 20 Owned by: City of New York
Occupied by: Goldwater Memorial Hospital (NYCHHC)
- Block 1373 Lot 1 (portion) Owned by: City of New York
Leased to: RIOC

0 400 800 FEET
SCALE

Project Site: Current Ownership
Figure 2

research space,¹ 500,000 gsf of residential space (652 units), 400,000 gsf of partner research and development (R&D) space, and another 20,000 gsf central energy plant. In total, the maximum potential CornellNYC Tech project program is assumed to comprise 2.13 million gsf of development consisting of 620,000 gsf of academic research space, 800,000 gsf of residential space (1,094 units), 500,000 gsf of partner R&D space, 170,000 gsf of an academic-oriented hotel with conference facilities, and 40,000 gsf for the central energy plants. Up to approximately 25,000 gsf of campus-oriented retail would be provided within this program.

The proposed actions require environmental review and the preparation of an Environmental Impact Statement (EIS) under the New York State Environmental Quality Review Act (SEQRA) and City Environmental Quality Review (CEQR). The purpose of this Draft Scope of Work (the “Draft Scope”) is to describe the scope of the EIS and to solicit public comments on the key issues to be studied in the EIS. The preparation of a final scope based on the public comments will ensure that the full environmental impacts of the CornellNYC Tech project are identified and studied consistent with environmental law and regulations. Under those laws, public review of the proposed actions will not begin until the Office of the Deputy Mayor for Economic Development (ODMED), the lead agency for this project, has determined that the environmental issues have been adequately studied in the form of a Draft EIS (DEIS) in order to permit meaningful review by the public and decision-makers.

A public meeting has been scheduled to receive public comments on this Draft Scope on Tuesday, May 22, 2012. The public meeting will commence at 6:30 P.M. and will be held at Manhattan Park Community Center, 8 River Road, Roosevelt Island. Written comments on the Draft Scope will also be accepted by ODMED until 5:00 P.M. on Friday, June 8, 2012.

B. PROJECT DESCRIPTION

SITE CONDITIONS AND HISTORY

The project site, which consists of Manhattan Block 1373, Lot 20 and a portion of Lot 1, is located on the southern portion of Roosevelt Island and totals approximately 12.4 acres. The majority of the project site (Block 1373, Lot 20) is currently owned by the City of New York and occupied by the Goldwater Memorial Hospital campus, which is operated by NYCHHC. The remainder of the site (Block 1372, part of Lot 1) is vacant and owned by the City of New York and leased to RIOC. Goldwater Memorial Hospital opened on the Island in 1939 as a chronic care and nursing facility. In 1996, Goldwater Memorial Hospital and Coler Memorial Hospital (which is located on the northern portion of the Island) merged to become Coler-Goldwater Specialty Hospital and Nursing Facility. The facilities are operated by NYCHHC. Independently of, and prior to, the CornellNYC Tech project, NYCHHC will vacate the Goldwater Memorial Hospital site and relocate patients and services elsewhere. Cornell would receive the site after the Goldwater Memorial Hospital has been vacated; demolition of the existing and vacant hospital buildings would occur as part of the proposed project.

As shown on Figure 2, a one-way ring road encircles the project site with traffic flow in a clockwise direction (i.e., southbound on East Road and northbound on West Road). To the north of the site,

¹ Under the terms of the agreement between the City of New York and the New York Economic Development Corporation, Cornell University is obligated to build a minimum of 1,800,000 sf of total building space of which a minimum of 620,000 sf must be academic use by 2037.

the street is unnamed. To the east of the site, the street is named East Road; East Road runs along the east side of the project site from its southern perimeter to a triangle located north of the Roosevelt Island subway station, where it merges with Main Street. To the west of the site, the street is named West Road.

An esplanade (not part of the project site) extends along the east and west sides of the Island along the entirety of its waterfront north of South Point Park, providing a walkway for pedestrians; a concrete seawall forms the barrier along the East River. South Point Park, an open space resource that contains natural areas, pathways, benches, and a restroom facility in addition to the landmarked ruins of a former Smallpox Hospital, is located to the south of the project site. Farther to the south is Four Freedoms Park, a new park and memorial to President Franklin D. Roosevelt that is currently under construction and scheduled to be completed in 2014. To the north of the project site is Sports Park, the Island's primary recreational facility (containing an Olympic-size swimming pool, gymnasium, basketball courts, ping pong room, and tennis courts); Sports Park is located south of, under, and north of the Ed Koch Queensboro Bridge. A steam plant is also located north of the site east of Sports Park and on the north side of the Ed Koch Queensboro Bridge. Independently of the proposed project, NYCHHC intends to cease operations of this plant.

North of the Ed Koch Queensboro Bridge, Roosevelt Island is occupied by Southtown and Northtown, which are apartment communities with supporting retail and community facilities. Vacant land to the east of the existing Southtown towers is designated for an anticipated additional three buildings that will complete the Southtown development. There is also the Coler Memorial Hospital site, which is located to the north of the residential developments at the northern end of Roosevelt Island. The Motorgate Garage, a centralized parking garage for the Island, is located adjacent to the Roosevelt Island Bridge on the north side.

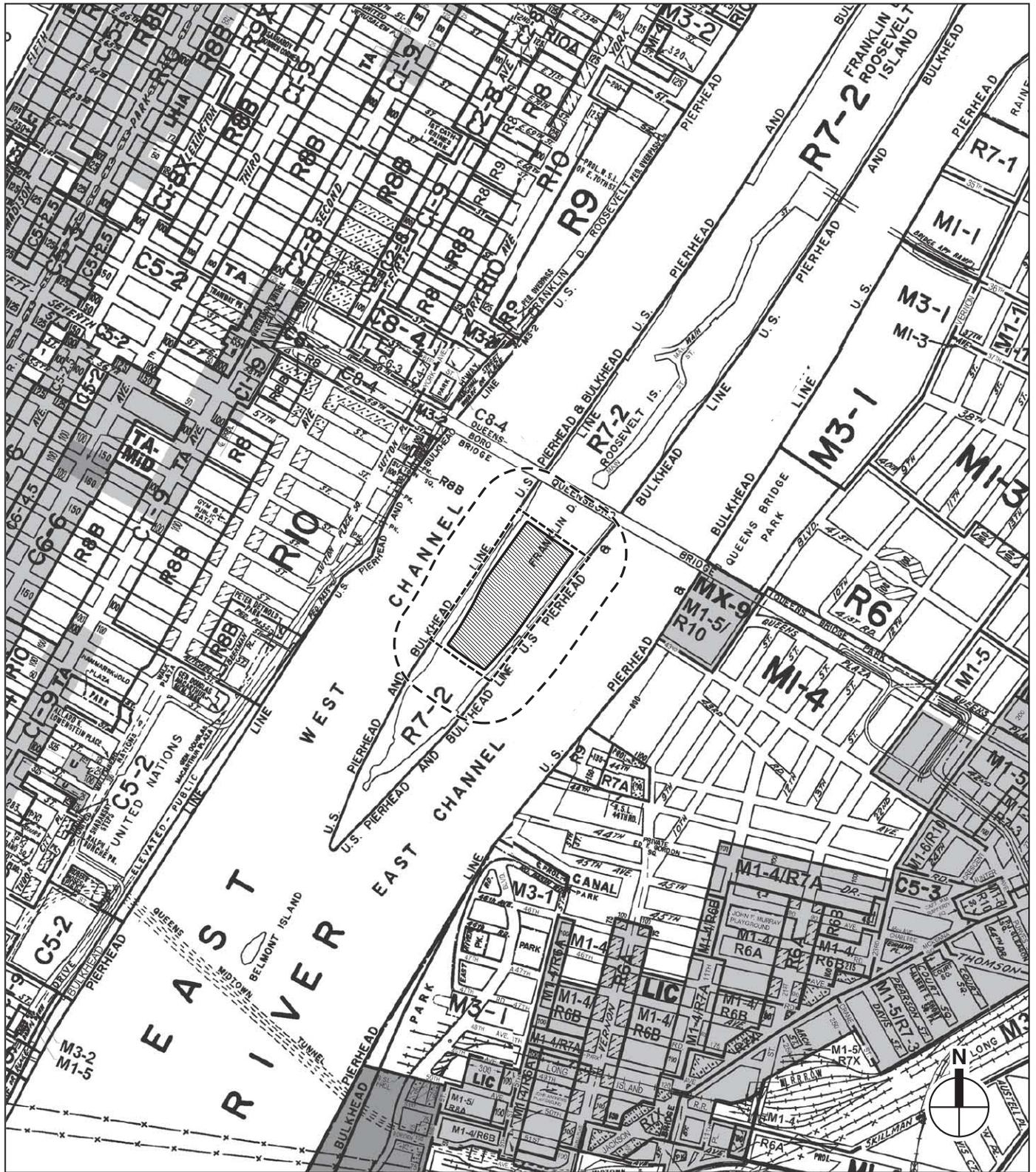
The Island is accessed by subway and tram; vehicular access is provided only from 36th Avenue in Queens via the Roosevelt Island Bridge.

All of Roosevelt Island, including the project site, is zoned R7-2, a medium-density residential designation (see **Figure 3**). Much of Roosevelt Island is under the jurisdiction of New York State through the RIOC. Under New York State law, State agencies such as RIOC are exempt from the New York City Zoning Resolution.

PROPOSED ACTIONS

The proposed actions required to facilitate the proposed project are as follows:

- Amendment of the New York City Health and Hospitals Corporation (NYCHHC) operating agreement with the City by the Corporation Board in order to surrender a portion of the project site.
- Disposition of City-owned property from the City of New York to the New York City Economic Development Corporation (EDC) for a subsequent proposed long-term lease and potential future sale to Cornell.
- Mayoral approval of the lease and sale terms of the disposition parcels pursuant to Section 384(b)(4) of the New York City Charter.
- RIOC approval of a modification of the City's lease with RIOC.
- Zoning Map amendment to change the project site and surrounding area zoning from R7-2 to C4-5 as shown on **Figure 4**.



-  Project Site
-  Rezoning Area
-  Study Area Boundary (400-Foot Perimeter)

0 800 2000 FEET
SCALE

- Zoning Text amendment to create the Special Southern Roosevelt Island District and to establish special bulk, use, parking and waterfront controls for the rezoning area.
- City Map Amendment to map the one-way ring road surrounding the project site as a City street.

Other potential approvals, such as approvals from the New York City Department of Environmental Protection (NYCDEP) and New York State Department of Environmental Conservation (NYSDEC), may also be required. It is also possible that an approval from the U.S. Environmental Protection Agency (USEPA) would be required with respect to a geothermal well system that may be part of the project.

PROPOSED DEVELOPMENT PROGRAM

Beginning in 2014, over a period of approximately 24 years, Cornell is proposing to build the following on the project site, which represent the maximum likely development program:

- Three new Cornell buildings for academic research purposes;
- Three new residential buildings to house Cornell leadership and faculty, post doctoral fellows, Ph.D. candidates, and master's students;
- An academic-oriented hotel with conference facilities;
- Three new buildings for partner research and development (R&D) space;
- A modest amount of campus-oriented retail uses;
- Two central energy plants to serve the campus; and
- Approximately 7.5 acres of publicly-accessible open space.

In addition to these uses, parking may be provided for the academic-oriented hotel and conference facilities and for the three partner research and development buildings. It is anticipated that approximately 500 spaces would be provided at the project site, with 250 spaces in Phase 1 and another 250 spaces provided in Phase 2.

The above-described development would require the demolition of the existing Goldwater Memorial Hospital buildings, which would be undertaken as part of the CornellNYC Tech project; as discussed above, independently of, and prior to, the proposed project, NYCHHC will vacate the Goldwater Memorial Hospital site and relocate patients and services elsewhere.

Table 1 summarizes the proposed development by use and by phase.

Table 1
Reasonable Worst-Case Development Program for CEQR ⁽¹⁾

Use	Phase 1: 2018		Phase 2: 2038		Full Build (Phases 1 and 2)	
	Square Footage	Units/Rooms/Spaces	Square Footage	Units/Rooms/Spaces	Square Footage	Units/Rooms
Academic/Research	200,000	N/A	420,000	N/A	620,000	N/A
Residential Housing (Total) (2)						
Faculty Housing		271		527		798
Student Housing		171		125		296
Residential Total	300,000	442	500,000	652	800,000	1,094
Partner R&D	100,000	N/A	400,000	N/A	500,000	N/A
Academic Hotel/Conference Facility (3)	170,000	225	0	N/A	170,000	225
Energy Plant	20,000		20,000	N/A	40,000	
Parking		250		250		500
Total (4)	790,000		1,340,000		2,130,000	
Notes:						
(1) Under the agreement between the City of New York and the New York City Economic Development Corporation, Cornell is obligated to build no less than 300,000 sf of buildings, of which at least 200,000 sf shall be academic and research space by June 30, 2017; by 2037, Cornell is obligated to build a minimum of 1,800,000 sf of total building space of which a minimum of 620,000 sf must be academic use. RWCDS conservatively accounts for likely maximum program and population by phase.						
(2) Residential units would be the same size but could be occupied differently (e.g., a faculty family may occupy a multi-bedroom unit while such units may also be rented by unrelated students without families as two or three shares).						
(3) The conference facilities would occupy approximately 25,000 gsf of the 170,000 gsf hotel and conference facility.						
(4) It is anticipated that for analysis purposes up to approximately 25,000 gsf of campus-oriented retail would be included on the site (e.g., café, newsstand, or bookstore).						

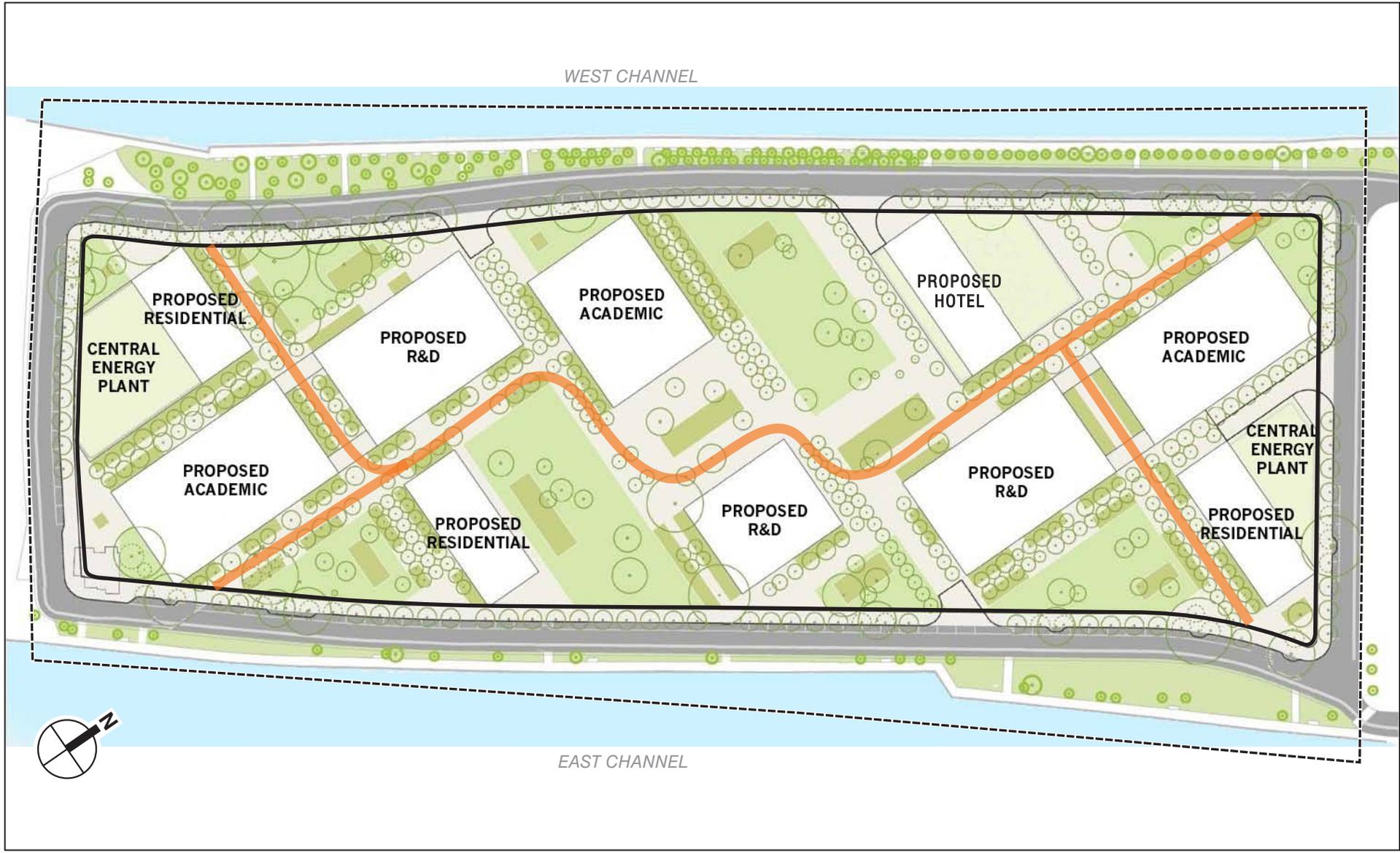
Overall, by 2038, the proposed actions would result in the development of approximately 2.1 million square feet of new uses. **Figure 5** provides an illustrative site plan for the proposed project.

The total square footage of building represents the reasonable worst-case development scenario for purposes of the environmental review. Individual program elements can be considered “illustrative”; variations in the allocation of the specific space types, especially in construction after Phase 1, may occur. However, the maximum total square footage is expected to remain substantially the same. As noted above, under the agreement between the City of New York and EDC, Cornell is obligated to build no less than 300,000 square feet of buildings by June 30, 2017, of which at least 200,000 square feet shall be academic and research space. Cornell is also obligated to build a minimum of 1,800,000 square feet of total building space by 2037, of which a minimum of 620,000 square feet must be academic use.

PROPOSED DESIGN

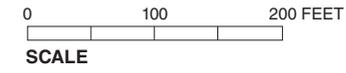
The proposed project would be centered on a new outdoor north-south connection or “spine” that would extend at-grade through the project site. A series of publicly-accessible open spaces would extend from the edge of the site inward to this spine. The proposed buildings would be organized around both the spine and the network of open spaces with the main entries to the buildings located along the north-south spine.

Preliminarily, the project buildings are expected to have approximately the following characteristics:



- Project Site
- Rezoning Area (Special Southern Roosevelt Island District)

- Pedestrian North-South Connection
- Open Space



The academic research buildings would be 8 to 14 stories with the tallest of the three buildings reaching 165 to 185 feet in height.

The residential buildings would be taller, approximately 15 to 30 stories, with the tallest of the four residential buildings reaching 280 to 320 feet in height.

The hotel and conference facilities would be 15 stories, or up to 180 feet in height.

The partner R&D buildings would be 8 to 14 stories with the tallest of the three buildings reaching 165 to 185 feet in height.

The proposed buildings would be oriented on the project site so that a series of publicly-accessible open spaces are created (see “Open Space,” below).

OPEN SPACE

The proposed project would provide approximately 7.5 acres of publicly-accessible open spaces on the project site and would include provision of both active and passive uses.

In addition, the project would provide a bicycle path in the ring road around the project site that would provide connections to the parks south of the site as well as to open space and recreation facilities north of the project site.

SITE ACCESS AND CIRCULATION

The existing ring road would be mapped with a 50 foot right-of-way, which would allow for one travel lane and a parking lane, with a sidewalk adjacent to the project site. As in the existing condition, the road would be one-way clockwise with southbound traffic on the east side of the project site and northbound traffic on the west side. The ring road would provide access to the campus’s loading areas, which would be located primarily on the east side of the project site. Drop off and pick up areas may be provided in front of the hotel and potentially at central locations serving the academic buildings.

SUSTAINABILITY MEASURES

The proposed project would incorporate a number of sustainable design measures that would reduce energy consumption and GHG emissions. In addition to meeting all applicable local laws regarding energy, Cornell has agreed to achieve a minimum of LEED® Silver certification for all project buildings. As part of the sustainable design energy measures, to the extent feasible, the proposed project may include the following:

- On-site energy plants that would total approximately 40,000 gsf. The energy plants would supply power, chilled water, and heat to the campus.
- Photovoltaic (PV) panels throughout the site (e.g., on the roofs of the proposed buildings and possibly elsewhere on the site).
- A system of up to 400 geothermal wells.

Cornell has set a goal to achieve net-zero energy consumption for its Phase 1 academic building. This means that the campus collectively would generate the electricity, heat, and chilled water that would offset the energy use of the Phase 1 academic building on an annual basis.

In addition to energy measures, the proposed project would be planned and designed to achieve other sustainability targets.

PROPOSED PROGRAMMING AND POPULATION

Cornell intends for its academic program to be flexible and inter-disciplinary with specific areas of focus around connective media, health, and the built environment. The academic program will offer degrees at the master’s and doctorate levels. Academic and R&D buildings would be oriented towards the non-biological applied sciences and engineering; they are not expected to house chemical or biological laboratories.

The academic research program would be complemented by a hotel with conference facilities and by the partner research and development use, which would be commercial space expected to be occupied by related industries.

The anticipated RWCDS project population by phase is shown below in **Table 2**. Table 2 represents the number of faculty, staff, students, and others who would be generated due to the new academic and R&D programs, but not their dependents or families. Not all of this population would be housed on site. Based on population demographics provided by Cornell University from its operations and experience, the EIS will account for this population as well as the dependents of those who would be housed on site.

Table 2
CornellNYC Tech Campus Population ⁽¹⁾

Use		Phase 1	Full Build (Phases 1 and 2)
Academic/Research	Leadership	2	3
	Staff	72	131
	Faculty (Tenure Track and Research)	93	286
	Visitors/Adjuncts	18	33
	Funded Researchers	45	125
	PostDocs	37	125
	Ph.D. Candidates	260	730
	Master’s Students	300	1,140
<i>Total (CornellNYC Academic Population)</i>		827	2,573
Worker Population			
Partner R&D (2)	Workers	400	2,000
Academic Hotel/Conference Facility (3)	Conference Facility	13	13
	Hotel	84	84
Energy Plant	Workers	3	6
Residential (4)	Workers	20	50
Retail (5)	Workers	30	75
<i>Total (Worker Population)</i>		550	2,228
<i>Total (Academic and Worker Population)</i>		1,377	4,801
Notes:			
(1) Under the terms of the agreement between the City of New York and the New York City Economic Development Corporation, Cornell is obligated to have no fewer than 75 faculty and 390 students (Ph.D. candidates and master’s students) by 2018, and no fewer than 286 faculty and 1,800 students when the campus is fully operational. RWCDS conservatively accounts for likely maximum program and population by phase.			
(2) Partner R&D worker population assumes 4 employees per 1,000 gsf.			
(3) Conference facility assumes 1 employee per 2,000 gsf; hotel assumes 1 worker per 2.67 rooms.			
(4) Residential worker population assumes 1 employee per 22 dwelling units.			
(5) Retail worker population assumes 3 employees per 1,000 gsf, with 10,000 gsf of retail in Phase 1 and 25,000 gsf of retail in the Full Build condition.			

C. PURPOSE AND NEED FOR THE PROPOSED ACTIONS

The City of New York launched its Applied Sciences¹ NYC initiative in 2010 after working with a range of New York City’s business leaders, academics, community groups, and entrepreneurs

¹ Applied sciences is the discipline of applying scientific knowledge from one or more fields to practical problems.

to identify ambitious, achievable initiatives that the City could undertake to achieve local economic growth. From that process, it was identified that there is an unmet demand within New York City for top-flight engineers and applied scientists.

The purpose of Applied Sciences NYC is to provide an opportunity for a leading academic institution to build a world-class applied sciences and engineering campus in New York City. The overarching goal is to maintain and increase New York City's global competitiveness, diversify the City's economy, drive economic growth, and create jobs for New Yorkers.

In December 2010, the City issued a Request for Expressions of Interest to develop and operate a new applied science and engineering research campus in New York City. In connection with the new campus, the City indicated its willingness to provide City-owned land in addition to a significant capital contribution in site infrastructure. In 2011, the City issued a Request for Proposals. Based on that process, the Cornell University and Technion - Israel Institute of Technology team was selected to develop the Applied Sciences NYC project—the CornellNYC Tech project.

The CornellNYC Tech project intends to focus on research and other graduate degrees in the applied sciences and fields of interest related to the tech sector. A defining aspect of the new campus's graduate-level academic programs is the close tie to business and entrepreneurship that will be woven throughout the curriculum. Research will be focused on technology in application areas that have commercial potential in New York City markets. Specifically, New York City's tech sector and information-driven economy serves as the impetus for the development of many consumer-oriented companies focused specifically on technology to meet end users' needs, including some of NYC's core industries: media, advertising, finance, healthcare, real estate, fashion and design. The CornellNYC Tech campus will be centered on flexible and dynamic interdisciplinary application hubs instead of traditional academic departments. This model will serve as a focal point for accelerating existing sectors of NYC's economy and driving the formation of new technology businesses through close ties to customers and core industry knowledge.

D. ANALYSIS FRAMEWORK

The proposed actions would change the regulatory controls governing land use and development on the project site and would allow its development over the long term. The DEIS will analyze the proposed actions' potential to generate significant adverse environmental impacts. As necessary, the DEIS will consider alternatives that would reduce or eliminate impacts identified in the technical analyses and propose mitigation for such impacts, to the extent practicable mitigation exists.

The approach to the DEIS analysis is discussed below.

OVERVIEW

The DEIS for the proposed project development will contain:

- A description of the proposed project, the proposed development program, and their environmental setting;
- The identification and analysis of any significant adverse environmental impacts of the proposed project, including short- and long-term impacts;

- An identification of any significant adverse environmental impacts that cannot be avoided if the proposed 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
- The identification and analysis of practicable mitigation measures to address any significant adverse impacts generated by the proposed project.

ANALYSIS APPROACH

Each chapter of the DEIS will assess whether development resulting from the proposed actions could result in significant adverse environmental impacts.

In disclosing impacts, the DEIS considers a proposed project’s potential adverse impacts on the environmental setting. Because the proposed project would be operational in future years (2018 and 2038),¹ its environmental setting is not the current environment, but the future environment. Therefore, the technical analyses and consideration of alternatives assess current conditions and forecast these conditions to 2018 and 2038 for the purposes of determining potential impacts. The DEIS will provide a description of “Existing Conditions” for the year 2012 and assessments of future conditions without the proposed project in both 2018 and 2038 (the “Future without the Proposed Actions” or “No-Action” condition) and the future with the proposed project (or “With Action” condition). To forecast the No-Action condition, information available on known land-use proposals and, as appropriate, changes in anticipated overall growth, will be incorporated. The differences between the Future Without and With the Proposed Actions will be assessed for whether such differences are adverse and/or significant; any significant adverse environmental impacts will be disclosed. The DEIS will also identify and analyze appropriate mitigation for any identified significant adverse environmental impacts.

While the buildings at Goldwater Memorial Hospital would most likely be demolished and replaced with another appropriate use if the CornellNYC Tech project did not proceed, for purposes of conservatively assessing impacts, the DEIS will account for a No-Action condition in which Goldwater Memorial Hospital would remain vacant. The DEIS will account for the hospital’s demolition and redevelopment of the project site.

As discussed above, the proposed project outlined in Section B, “Project Description,” is the reasonable worst-case development scenario for environmental review purposes.

STUDY AREAS

Each technical study must address impacts within an appropriate geographical area. These “study areas” vary depending on the technical issue being addressed. Section E, “Environmental Impact Statement (EIS) Scope of Work,” identifies the study areas that will be used for the technical areas of analysis. In general, study areas will be adjusted to account for the project site’s location on Roosevelt Island.

¹ As discussed above, Cornell is obligated to complete construction of Phase 1 by 2017 and Phase 2 by 2037. The EIS will use 2018 and 2038 as the analysis years, as those represent the first full years of operation for Phase 1 and Phase 2.

FUTURE ANALYSIS YEARS AND BASELINE CONDITIONS

The EIS will first assess existing conditions for the relevant study areas. The analysis of potential impacts will then be performed for the project's two phases. Phase 1 is assumed to be completed by 2018, and Phase 2, which accounts for full development of the CornellNYC Tech project, is assumed to be completed by 2038. These two years—2018 and 2038—will be the future analysis years assessed in the EIS.

ENVIRONMENTAL REVIEW PROCESS

ODMED, as lead agency for the environmental review, has determined that the proposed actions and project have the potential to result in significant adverse environmental impacts and, therefore, pursuant to CEQR procedures, has issued a positive declaration requiring that an EIS be prepared in conformance with SEQRA, and Executive Order No. 91 of 1977, as amended, and the Rules of Procedure found at Title 62 of the Rules of the City of New York Chapter 5 (CEQR). This draft scope of work has been prepared in accordance with those laws and regulations.

In accordance with SEQRA and CEQR, this Draft Scope of Work has been distributed for public review. A public meeting has been scheduled for 6:30 P.M. on Tuesday, May 22, 2012 at Manhattan Park Community Center, 8 River Road, Roosevelt Island, and the period for submitting written comments will remain open until 5:00 P.M. on Friday, June 8, 2012. After considering comments received during the public comment period, a Final Scope of Work will be prepared to direct the content and preparation of a DEIS. As the next step in the process, once the lead agency has determined that the DEIS is complete, it will be subject to public review. At a date to be announced later, a public hearing on the DEIS will be held in conjunction with the public hearing on the Uniform Land Use Review Procedure (ULURP) applications for this project. A Final EIS (FEIS) will then be prepared that responds to comments, as appropriate, received on the DEIS. The lead agency and involved agencies will make CEQR findings based on the FEIS, before making a decision on project approval.

E. ENVIRONMENTAL IMPACT STATEMENT (EIS) SCOPE OF WORK

TASK 1: PROJECT DESCRIPTION

The first chapter of the EIS introduces the reader to the project and sets the context in which to assess impacts. The chapter will contain a project identification for the CornellNYC Tech project, including context of the overall Roosevelt Island campus plan, a statement of purpose and need, and anticipated benefits of the proposed project; a detailed description of the proposed actions necessary to achieve the project; a description of the development program and project siting and design; and a discussion of approvals required, procedures to be followed, and the role of the EIS in the process. The chapter will also discuss the framework of the analyses for the EIS. It will identify the analysis years and project phasing, and describe the reasonable worst-case development scenario (RWCDS) to be analyzed in the EIS. The description of the RWCDS will discuss the population projections for the CornellNYC Tech campus, including a summary of how the population projections were derived from Cornell University's operations and experience.

TASK 2: LAND USE, ZONING AND PUBLIC POLICY

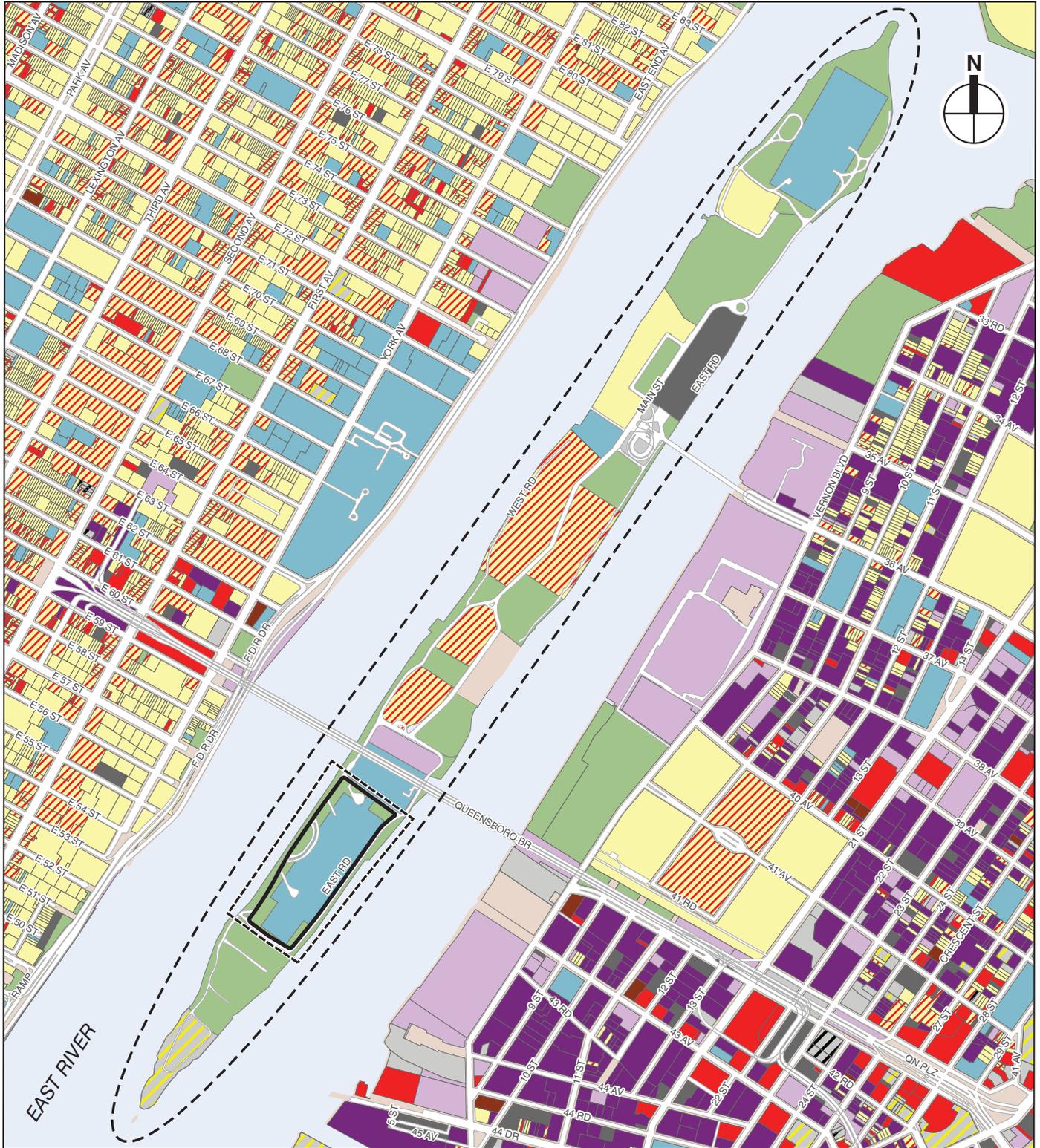
The proposed actions would require a number of discretionary actions as described above, and, through the provision of new academic, research, residential, and academic-oriented hotel/conference facilities, would result in changes to land use and changes to land use densities on the project site. This chapter will analyze the potential impacts of the proposed actions on land use, zoning, and public policy. For the purpose of environmental analysis, the land use study area will include the entirety of Roosevelt Island (see **Figure 6**). The land use assessment will include description of existing conditions and evaluations of the Future No-Action and With-Action conditions in 2018 and 2038.

The analysis will include the following tasks:

- A. Provide a brief development history of the project site and Roosevelt Island study area;
- B. Provide a description of land use, zoning, and public policy in the study area. Based on field surveys and data available from various sources (such as the Department of Finance and Department of Buildings) and prior studies, identify, describe, and graphically portray existing land use conditions and predominant land use patterns in the land use study area. A more detailed analysis will be conducted for the project site;
- C. Describe recent land use trends in the study area and identify major factors influencing land use trends;
- D. Describe relevant public policies that apply to the project site and study area, including a description of the City's Applied Sciences initiative, NYCHHC's intentions with respect to Goldwater Memorial Hospital, and RIOC's role and objectives;
- E. Prepare a list of future development projects in the study area that would be expected to influence future land use trends, such as the completion of the Southtown development to the north of the site and the Four Freedoms Park to the south. Also, identify any pending public policy actions that could affect land use patterns and trends in the study area. Based on these changes, assess future land use and zoning conditions in 2018 and 2038 without the proposed actions;
- F. Describe and assess the potential land use changes in the project site and study area based on the proposed project; and
- G. Assess the effects and identify potential impacts of the proposed actions on land use trends, zoning, and public policy, including PlaNYC 2030 and the City's Waterfront Revitalization Program. Discuss the proposed actions' potential effects related to issues of compatibility with surrounding land use, the consistency with zoning and other public policies, and the effect of the proposed actions on ongoing development trends and conditions in the area.

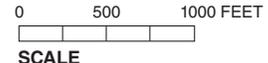
TASK 3: SOCIOECONOMIC CONDITIONS

According to the *CEQR Technical Manual*, a socioeconomic assessment should be conducted if an action may reasonably be expected to create substantial socioeconomic changes in an area. This can occur if an action would directly displace a residential population, substantial numbers of businesses or employees, or eliminate a business or institution that is unusually important to the community. It can also occur if an action would bring substantial new development that is markedly different from existing uses and activities in the neighborhood, and therefore would have the potential to lead to indirect displacement of businesses or residents from the area.



- Project Site
- Rezoning Area (Special Southern Roosevelt Island District)
- Study Area Boundary
- Residential
- Residential with Commercial Below
- Hotels
- Commercial and Office Buildings

- Industrial and Manufacturing
- Transportation and Utility
- Public Facilities and Institutions
- Open Space and Outdoor Recreation
- Parking Facilities
- Vacant Land
- Vacant Building
- Under Construction



Since NYCHHC is relocating Goldwater Memorial Hospital’s facilities and services independently of, and prior to, the proposed project, the proposed CornellNYC Tech project would not result in the direct displacement of any residents or businesses, and therefore an assessment of potential socioeconomic effects due to direct displacement is unwarranted. However, the proposed project would result in “substantial new development” as defined under CEQR, warranting an assessment of the potential indirect socioeconomic effects of the project. The following describes the scope of analysis for the indirect analyses required under CEQR.

INDIRECT RESIDENTIAL DISPLACEMENT

The concern with respect to indirect residential displacement is whether a proposed action—by introducing substantial new development that is markedly different from existing uses, development, and activities within the neighborhood—could lead to increases in property values, and thus rents, making it difficult for some residents to afford their homes. Following *CEQR Technical Manual* guidelines, the analysis of this concern begins with a preliminary assessment, which will utilize U.S. Census data, American Community Survey data, New York City Department of Finance’s Real Property Assessment Data (RPAD) database, as well as data from RIOC and current real estate market data, to present demographic and residential market trends and conditions for the study area, which is defined as the entirety of Roosevelt Island. The assessment will perform the following step-by-step evaluation prescribed by CEQR:

- **Step 1:** Determine if the proposed project would add new population with higher average incomes compared to the average income of the study area population (in this case, all residents of Roosevelt Island). If the expected average incomes of the new population would be similar to the average incomes of the study area population, no further analysis is necessary.
- **Step 2:** If, after Step 1, further analysis is needed, determine if the proposed actions’ population is large enough to affect real estate market conditions in the study area. If the population increase may potentially affect real estate market conditions, then Step 3 will be conducted.
- **Step 3:** Consider whether the study area (Roosevelt Island) has already experienced a readily observable trend toward increasing rents and new market rate development. If a sustained trend throughout the study area can be identified, no further analysis is necessary.

If the preliminary assessment finds that there is a substantial population potentially at risk of indirect residential displacement in the study area, a detailed analysis will be conducted.

INDIRECT BUSINESS DISPLACEMENT

The concern with respect to indirect business and institutional displacement is whether a proposed project could lead to increases in property values, and thus rents, making it difficult for some businesses or institutions to remain in the study area (as stated above, the study area would encompass Roosevelt Island). The proposed actions would introduce new academic space, research and development space, residential uses, and an academic-oriented hotel and conference facility that collectively exceed the *CEQR Technical Manual’s* 200,000-square-foot commercial threshold for “substantial” new development warranting assessment. Therefore, a preliminary assessment of indirect business displacement will be conducted.

The indirect business displacement analysis will characterize conditions and trends in employment and businesses on Roosevelt Island using the most recent available data from public

and private sources such as New York State Department of Labor, the U.S. Census Bureau, RIOC, and ESRI, as well as discussions with local real estate brokers as necessary. This information will be used in a preliminary assessment to consider:

- Whether the proposed project would introduce enough of a new economic activity to alter existing economic patterns;
- Whether the proposed project would add to the concentration of a particular sector of the local economy enough to alter or accelerate existing economic patterns in the study area; and
- Whether the proposed project would indirectly displace residents, workers, or visitors who form the customer base of existing businesses in the study area.

If the preliminary assessment finds that the proposed project could introduce trends that make it difficult for businesses that are essential to the local economy to remain in the study area, a detailed analysis will be conducted. Following *CEQR Technical Manual* guidelines, the detailed analysis would be framed in the context of existing conditions and evaluations of the Future No-Action and With-Action conditions in 2018 and 2038, including any changes in economic activities anticipated to take place in the study area by the time the project is complete. The detailed analysis would determine whether the proposed project would increase property values and thus increase rents for a potentially vulnerable category of businesses in the study area, and whether relocation opportunities exist for those firms.

ADVERSE EFFECTS ON SPECIFIC INDUSTRIES

Based on the guidelines in the *CEQR Technical Manual*, a preliminary assessment of effects on specific industries will be conducted to determine whether the proposed project would significantly affect business conditions in any industry or category of businesses within or outside the study area, or whether the proposed project would substantially reduce employment or impair viability in a specific industry or category of businesses.

TASK 4: COMMUNITY FACILITIES AND SERVICES

As defined for CEQR analysis, community facilities are public or publicly funded schools, libraries, child care centers, health care facilities and fire and police protection. A project can affect facility services directly, when it physically displaces or alters a community facility; or indirectly, when it causes a change in population that may affect the services delivered by a community facility.

The proposed actions would not have any direct effects on community facilities, because the proposed project would not physically displace or alter any community facilities. As discussed above, NYCHHC will relocate Goldwater Memorial Hospital’s services independently of, and prior to, the proposed project. However, by adding new students and faculty and providing new residences, the proposed project would create increased demand for various community facilities. The following describes the level of analysis required to estimate the potential indirect effects of the proposed project on community facilities in the study area.

INDIRECT EFFECTS

As per the *CEQR Technical Manual*, depending on the size, income characteristics, and age distribution of the new population, a project may have indirect effects on public schools, libraries, or child care centers. Indirect effects on police, fire, and health care services occur only when a “sizeable new neighborhood” is introduced by a project where none existed before.

Roosevelt Island and the project site are already served by police, fire, and health care services, and therefore, analyses of such services are not warranted. For information purposes, police and fire facilities will be identified in the DEIS.

Public Schools

An analysis of public schools is required if a project introduces more than 50 elementary/middle school or 150 high school students. Based on the anticipated occupancy of the residential units and accounting for the children expected to be introduced to the site, the proposed project would not result in more than 50 students in the first phase, and an analysis of schools is therefore not warranted for the 2018 analysis year. In 2038, the proposed project is anticipated to result in more than 50 elementary/middle school children; therefore, a detailed analysis of public schools (elementary/middle) will be undertaken for the 2038 analysis year.

Libraries

An analysis of libraries is undertaken if the project would result in more than a 5 percent increase in the ratio of residential units to libraries in the borough. In Manhattan, the CEQR threshold for this increase is 901 residential units. Since the proposed project would include a combination of residential units for faculty, post-doctorate, Ph.D., and master's degree students greater than 901 units in the 2038 analysis year, a detailed assessment of the potential impacts on public libraries will be conducted. The analysis will focus on the potential effects of the project-generated population on branch libraries.

Day Care Centers

An analysis of day care centers is necessary when a project would introduce more than 20 eligible children (170 low- to moderate-income housing units in Manhattan, as identified in Table 6-1b of the *CEQR Technical Manual*). Based on this criterion, the proposed project would not trigger the threshold for an analysis of day care centers. Accordingly, the DEIS will not analyze indirect impacts on day care centers.

TASK 5: OPEN SPACE

Open space is defined as publicly or privately owned land that is publicly accessible and operates, functions, or is available for leisure, play, or sport, or set aside for the protection and/or enhancement of the natural environment. An analysis of open space is conducted to determine whether or not a proposed project would have direct effects resulting from the elimination or alteration of open space, and/or an indirect effects resulting from overtaking available open space.

As described above, the proposed project would include new publicly-accessible open spaces with active and passive features totaling approximately 3.6 acres in 2018 and 7.5 acres in 2038.

DIRECT EFFECTS

According to the *CEQR Technical Manual*, an assessment of a project's potential direct effects may be appropriate if the project would result in a physical loss of publicly accessible open space (by encroaching on an open space or displacing an open space); change the use of an open space so that it no longer serves the same user population (*e.g.*, elimination of playground equipment); limit public access to an open space; or cause increased noise or air pollutant

emissions, odors, or shadows on public open space that would affect its usefulness, whether on a permanent or temporary basis.

The proposed project would not displace any publicly accessible open spaces. Because the project site is located near several open spaces, including South Point Park, Four Freedoms Park (due to open in 2014), and the Roosevelt Island waterfront esplanade, the EIS will analyze the potential for the project to result in direct effects from increased noise or air pollutant emissions, or shadows; these assessments will be provided in the respective technical chapters (i.e., Task 6, “Shadows,” Task 15, “Air Quality,” and Task 17, “Noise”).

INDIRECT EFFECTS

New faculty and students introduced to the project site under the proposed actions would create added demands on local open space and recreational facilities. Indirect effects may occur when the population generated by a project would be sufficiently large to noticeably diminish the ability of an area’s open space to serve the future population. The proposed project would generate more than 200 residents and 500 employees, the *CEQR Technical Manual* thresholds for a quantified analysis of open space for projects not found in an area specifically designated as underserved or well-served with regard to open space. Therefore, a detailed open space analysis will be conducted to determine whether the proposed actions would significantly affect the quantitative and qualitative measures of open space adequacy within the study area.

The analysis will include the following subtasks:

- A. Using 2010 Census data and other data where applicable, calculate the total residential population of the residential open space study area, which would be defined as the area within an approximately ½-mile radius from the project site within Roosevelt Island (the study area boundary would be adjusted to include all census tracts with at least 50 percent of their area within the ½-mile radius). The population will be indicated pursuant to Table 7-1 of the *CEQR Technical Manual*;
- B. Using 2010 Census data and other data where applicable, calculate the total non-residential (i.e., worker) population of the commercial open space study area, which would be defined as the area within a ¼-mile radius from the project site. Because Census block groups on Roosevelt Island are too large to distinguish between the ¼-mile and ½-mile study areas, the worker population of the commercial (¼-mile) study area will be calculated using Geographic Information System (GIS) data that shows the square footage of commercial and other uses by building; the number of workers will then be estimated by employing standard industry multipliers. The population will be indicated pursuant to Table 7-1 of the *CEQR Technical Manual*;
- C. Based on the inventory of facilities and study area residential and worker population, calculate the open space ratio for the residential population in the ½-mile study area and the worker population in the ¼-mile study area, and compare to City guidelines to assess adequacy. This is expressed as the amount of open space acreage per 1,000 user population. Open space ratios will be calculated for active and passive open space, as well as the ratio for the aggregate open space. Open spaces outside of the ¼- and ½-mile study areas within Roosevelt Island will be described and considered qualitatively;
- D. For the Future No-Action scenarios, assess expected changes in future levels of open space supply and demand by the project’s analysis years (in both 2018 and 2038), based on other planned development projects, including the completion of Southtown, and any public open

space expected to be developed within the study areas, including the completion of Four Freedoms Park. Develop open space ratios for the Future No-Action scenarios and compare them with existing ratios to determine changes in future levels of adequacy;

- E. Based on the new publicly-accessible open space and the residential and worker population that would be added by the proposed project, assess the effects on open space supply and demand in the study areas. The assessment of the proposed project impacts will be based on a comparison of open space ratios under the Future No-Action and Future With-Action scenarios in both 2018 and 2038. The analysis will account for the 7.5 acres of new publicly-accessible open space with passive and active features that would be provided as part of the proposed project (3.6 acres of which would be provided by 2018). In addition to the quantitative analysis, qualitative analysis will be performed to determine if the changes resulting from the proposed project will result in a substantial change (positive or negative) or an adverse effect to open space conditions; and
- F. If the results of the impact analysis identify a potential for a significant impact, propose and discuss potential mitigation measures.

TASK 6: SHADOWS

According to the *CEQR Technical Manual*, a shadows assessment is warranted for proposed actions that would result in new structures (or additions to existing structures) greater than 50 feet in height or located adjacent to, or across the street from, a sunlight-sensitive resource. Such resources include publicly accessible open spaces, important sunlight-sensitive natural features, or historic resources with sun-sensitive features.

The proposed project would result in several new buildings, the tallest of which would be 30 stories as currently envisioned. In addition, the project site is adjacent to the East River, a sunlight-sensitive resource. Therefore, a shadows assessment is warranted to determine the extent, duration, and effects of any potential new shadow on this or any other sunlight-sensitive resources. The shadows assessment would be coordinated with Task 5, "Open Space," Task 7, "Historic Resources," and Task 9, "Natural Resources." The preliminary assessment would include the following tasks:

- A. Develop a base map illustrating the project site in relationship to publicly accessible open spaces, historic resources with sunlight-dependent features, and natural features in the area.
- B. Determine the longest possible shadow that could result from the proposed project to determine whether it could reach any sunlight-sensitive resources at any time of year.

If the preliminary screening assessment cannot eliminate the possibility of new shadows reaching sunlight-sensitive resources, a detailed analysis will be performed. This will include the following tasks:

- C. Develop a three-dimensional computer model of the elements of the base map developed in the preliminary assessment.
- D. Develop a three-dimensional representation of the proposed project.
- E. Using three-dimensional computer modeling software, determine the extent and duration of new shadows that would be cast on sunlight-sensitive resources as a result of the proposed actions on four representative days of the year.

- F. Document the analysis with graphics comparing shadows resulting from the No Action condition with shadows resulting from the proposed project, with incremental shadow highlighted in a contrasting color. Include a summary table listing the entry and exit times and total duration of incremental shadow on each applicable representative day for each affected resource.
- G. Assess the significance of any shadow impacts on sunlight-sensitive resources. If any significant adverse shadow impacts are identified, identify and assess potential mitigation strategies.

The shadows analysis will consider the effects of the proposed buildings on the 7.5 acres of new publicly accessible open space that would be created by the proposed actions. However, effects on project-generated open space are not considered significant adverse impacts, according to the *CEQR Technical Manual*.

TASK 7: HISTORIC AND CULTURAL RESOURCES

Historic and cultural resources include both architectural and archaeological resources. The *CEQR Technical Manual* identifies historic resources as districts, buildings, structures, sites, and objects of historical, aesthetic, cultural, and archaeological importance. Historic resources include designated New York City Landmarks (NYCLs) and Historic Districts; properties calendared for consideration as NYCLs by the New York City Landmarks Preservation Commission (LPC) or determined eligible for NYCL designation (NYCL-eligible); properties listed on the State and National Register of Historic Places (S/NR) or formally determined eligible for S/NR listing (S/NR-eligible), or properties contained within a S/NR listed or eligible district; properties recommended by the New York State Board for listing on the S/NR; National Historic Landmarks (NHLs); and potential historic resources (i.e., properties not identified by one of the programs listed above, but that appear to meet their eligibility requirements).

According to the *CEQR Technical Manual*, a historic and cultural resources assessment is required if there is the potential to affect either archaeological or architectural resources. The analyses will consider the potential of the proposed project to affect historic and cultural resources as follows.

ARCHAEOLOGICAL RESOURCES

Since the proposed project would entail in-ground disturbance, the potential impacts of the proposed project on archaeological resources were analyzed. LPC was contacted regarding the project site's potential for archaeological sensitivity, and LPC requested that a Phase 1A Archaeological Assessment be prepared to determine the potential for areas within the project site to contain precontact-period and/or historic-period archaeological resources (see **Appendix A**). A Phase 1A Archaeological Assessment was prepared and submitted to LPC; the assessment determined that the project site had been extensively disturbed and, therefore, is not sensitive for precontact archaeological resources and has low sensitivity for resources dating to the historic period. LPC concurred with these findings (see Appendix A); therefore, no further study of archaeological resources is warranted.

ARCHITECTURAL RESOURCES

The project site is located in the vicinity of a number of architectural resources. These include the Ed Koch Queensboro Bridge, a NYCL and listed on the S/NR, to the north of the project site,

and the Strecker Laboratory and ruins of the Smallpox Hospital, both NYCLs and S/NR-listed, south of the project site.

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

- A. Within a 400-foot-study area, describe and map known architectural resources. Longer contextual views available beyond the 400-foot study area, including views from Manhattan and Queens, will also be considered, as appropriate.
- B. Conduct a field survey of the project site and study area to identify if there are any potential architectural resources that could be affected by the proposed project. Potential architectural resources comprise properties that appear to meet the eligibility criteria for NYLC designation and/or S/NR listing. Map and briefly describe any potential architectural resources.
- C. Qualitatively discuss any impacts on architectural resources that are expected in the future without the proposed project as a result of other expected development projects.
- D. Assess any direct physical impacts of the project on architectural resources. Evaluate the potential for indirect impacts on architectural resources, including visual and contextual impacts and impacts relating to significant new shadows on sunlight-sensitive resources.
- E. If applicable, develop measures to avoid, minimize, or mitigate any adverse impacts on architectural resources.

TASK 8: URBAN DESIGN AND VISUAL RESOURCES

According to the methodologies of the *CEQR Technical Manual*, if a project requires actions that would result in physical changes to a project site beyond those allowable by existing zoning and which could be observed by a pedestrian from street level, a preliminary assessment of urban design and visual resources should be prepared. The proposed project would require a rezoning as well as a zoning text amendment to establish special bulk and other controls for the project site. Therefore, a preliminary assessment of urban design and visual resources will first be prepared for the proposed project to determine whether the proposed project, in comparison to the future without the proposed project, would create a change to the pedestrian experience that is sufficient to require greater explanation and further study. Since the overall change to the pedestrian experience would be substantial, a detailed analysis of urban design and visual resources will also be conducted.

The analysis will be undertaken as follows:

- A. Identify a study area for the analysis of urban design and visual resources. Following the guidelines of the *CEQR Technical Manual*, the study area will be consistent with the study area for the analysis of land use, zoning and public policy. For the analysis of visual resources, consideration will also be given as appropriate to potential longer view corridors available beyond the identified study area, including views from Manhattan and Queens.
- B. Prepare a concise narrative description of the project site and the surrounding study area. This narrative will address the components of urban design as defined in the *CEQR Technical Manual*: streets, buildings, visual resources, open space, natural resources, and wind. The narrative will be supported with relevant items from the detailed analysis checklist in Chapter 10, Section 330 of the *CEQR Technical Manual*, which include: photographs; birdseye views; context and site plans; area maps, including one showing

existing view corridors and access to visual resources; and information on building heights, setbacks, massing, floor area, and average floor plate size, lot coverage, and open areas.

- C. Using this existing conditions information and the information on planned and proposed development projects gathered as part of the land use analysis, assess whether and how the proposed project would affect visual resources and the area's defining elements of urban design, in comparison to the future without the proposed actions (the Future No-Action condition in both 2018 and 2038). This assessment will present program information including, as appropriate: site and context plans; zoning and floor area calculations; lot and tower coverage; building heights and setbacks; floorplate sizes; streetwall heights; sketches or renderings comparing the Future No-Action and With-Action conditions (in both 2018 and 2038); elevations along street fronts, detailed landscape plans; sections through street and other pedestrian areas; and proposed program and use distribution. In addition to views on Roosevelt Island, perspectives will also be considered from locations across the East River and from the Roosevelt Island tram.
- D. The *CEQR Technical Manual* recommends an analysis of pedestrian wind conditions for projects that result in the construction of large buildings at locations that experience high wind conditions (such as along the waterfront, or other location where winds from the waterfront are not attenuated by buildings or natural features), which may result in an exacerbation of wind conditions due to "channelization" or "downwash" effects that may affect pedestrian safety. The project site is located on Roosevelt Island within the East River. Therefore, the urban design and visual resources analysis also will examine the potential effects of the project on pedestrian-level wind conditions. In the event that studies indicate the potential for exacerbation of pedestrian wind conditions that could affect pedestrian safety, modifications to the urban design features of the project—including changes to building massing, landscaping, and other measures that are consistent with the overall urban design objectives of the project—would be considered.

TASK 9: NATURAL RESOURCES

A natural resources assessment is conducted when such resources are present on or near a project site, and when an action involves disturbance to natural resources. The *CEQR Technical Manual* defines natural resources as "(1) the City's biodiversity (plants, wildlife and other organisms); (2) any aquatic or terrestrial areas capable of providing suitable habitat to sustain the life processes of plants, wildlife, and other organisms; and (3) any areas capable of functioning in support of the ecological systems that maintain the City's environmental stability."

As described above, the project site is currently occupied by Goldwater Memorial Hospital and is separated from the East River by West Road to the west, East Road to the east, and an esplanade that follows the Island's perimeter. The site's terrestrial habitat has been developed with institutional structures and landscaped areas that include primarily mowed lawns with trees. While the completely armored shoreline of the Island eliminates the potential for vegetated tidal wetlands, the near-shore water depths around the Island's perimeter may result in areas considered NYSDEC littoral zone tidal wetlands. However, as the project limits do not extend beyond the perimeter road, direct impacts to these types of resources are not anticipated.

The EIS will describe the existing natural resources within and adjacent to the project site (e.g., floodplains, and terrestrial habitats and biota including rare, special concern, threatened and endangered species and special habitat areas), and the wetlands, water quality and aquatic biota of the East River adjacent to the Island. This description of existing natural and water resources

will be developed on the basis of existing information from literature sources and other information obtained from governmental and non-governmental agencies combined with site reconnaissance visits, with emphasis on the potential areas of disturbance. The natural resources and water quality analyses will assess the potential for operation of the proposed project to affect these natural resources and water quality of the East River. Natural resources impacts to be discussed would include direct or indirect impacts on aquatic resources or water quality due to the discharge of stormwater from the project site, and direct or indirect impacts on terrestrial resources of the Island due to removal or enhancement of existing trees and other vegetated areas, and other impacts.

The natural resources analysis will:

- A. Identify natural resources of concern to state, federal and city agencies.
- B. Identify the regulatory programs that protect floodplains, wildlife, threatened or endangered species, aquatic resources, or other natural resources within the project site.
- C. Using existing information available from sources such as the published literature, New York-New Jersey Harbor Estuary Program (HEP), NYSDEC, the New York City Department of Environmental Protection (NYCDEP), the United States Environmental Protection Agency (USEPA), and the National Oceanic and Atmospheric Administration (NOAA), summarize the existing water quality of the East River within the vicinity of the project site at a level of detail appropriate to the proposed project.
- D. Use existing information available from published literature and sources such as NOAA-National Marine Fisheries Service (NMFS) Essential Fish Habitat (EFH) guidance documents; New York Natural Heritage Program on-line resources; existing NYSDEC datasets (e.g., Breeding Bird Atlas data, Herp Atlas Project, etc.); information on state and federally listed species from NYSDEC and the United States Fish and Wildlife Service (USFWS); and other resources and the results of site reconnaissance to qualitatively describe aquatic and terrestrial habitats and biota present at the project site on the Island. A tree inventory of the site will be provided for purposes of identifying the number and character of trees to be affected by the proposed project.
- E. Assess the future conditions for water quality and natural resources within the vicinity of the project site without the proposed project for the 2018 and 2038 analysis years. For terrestrial resources, this assessment will take into account future changes assuming the structures on the project site remain but are uninhabited, vegetation management is reduced allowing for some succession of vegetative communities, and human activity is reduced. For aquatic resources, the evaluation would take into account the trend of water quality improvements documented within the New York/New Jersey Harbor Estuary, implementation of planned projects that would result in water quality and aquatic habitat improvements within the East River as identified by sources such as PlaNYC, NYCDEP City-Wide Long Term CSO Control Planning Project, New York/New Jersey Harbor Estuary Program, and Hudson-Raritan Estuary Ecosystem Restoration Project.
- F. Based on the results of the infrastructure analysis (described under Task 11, below), qualitatively assess the potential effects of the proposed project on future water quality of the East River. This analysis will consider the potential effects from stormwater management measures implemented as part of the project's two phases, and the potential short- and long-term effects of possible stormwater discharges to the East River during operation of the proposed project. Assess the potential impacts to the projected future

floodplain resources, taking into consideration projections of sea level rise generated by the New York City Panel on Climate Change (NPCC), and to aquatic and terrestrial resources (e.g., tree removal and loss or modification of other landscaped areas), from the proposed project, including an evaluation of the potential change in daytime and nighttime bird strikes (based on the proposed building locations, heights, lighting, and lower story window reflections). The chapter will also discuss beneficial improvements associated with the development of new open space areas and landscaping, and tree replacement in accordance with the New York City Street Tree Zoning requirements and Local Law 3 of 2010.

- G. Identify the measures that would be developed, as necessary, to mitigate and/or reduce any of the proposed project's potential significant adverse effects on water quality, natural resources, and floodplains.

TASK 10: HAZARDOUS MATERIALS

The EIS will address the potential presence of hazardous materials on the project site. The EIS will summarize the completed Phase 1 Environmental Site Assessments and Phase 2 Subsurface Site Investigations conducted for the project site, and will include any necessary recommendations for additional testing or other activities that would be required either prior to or during construction and/or operation of the project, including a discussion of any necessary remedial or related measures. The EIS will include a general discussion of the health and safety measures that would be implemented during project construction. The appropriate remediation measures specific to the proposed end use of the site, including those recommended by NYCDEP will be provided in the EIS.

TASK 11: WATER AND SEWER INFRASTRUCTURE

The *CEQR Technical Manual* outlines thresholds for analysis of a project's water demand and its generation of wastewater and stormwater. A preliminary analysis of a project's effects on the water supply system is warranted if a project would result in an exceptionally large demand for water (i.e., those that would use more than 1 million gallons per day), or if a project is located in an area that experiences low water pressure (e.g., Rockaway Peninsula or Coney Island). The need for an analysis of a project's effects on wastewater and stormwater conveyance depends on a project's proposed density, its location, and its potential to increase impervious surfaces.

For the proposed project, an analysis of water supply is not warranted because the project would not result in a demand of more than 1 million gallons per day, nor is it located in an area that experiences low water pressure. However, an analysis of the project's effects on wastewater and stormwater infrastructure is warranted because the project would exceed the *CEQR Technical Manual* threshold of 100 residential units or 100,000 square feet of commercial use in a separately sewered area zoned R7. The following describes the scope of analysis of the effects of the proposed project's incremental sanitary and stormwater flows on the capacity of the sewer infrastructure.

EXISTING CONDITIONS

- A. The existing stormwater drainage system and surfaces (pervious or impervious) on the project site will be described, and the amount of stormwater currently generated from the site will be estimated using the NYCDEP's volume calculation worksheet.

- B. The existing sewer system serving the project site will be described and will include information on the current ownership and operation of the system. Records obtained will include sewer network maps, drainage plans, and capacity information for sewer infrastructure components, including pump stations. The existing flows to the Bowery Bay wastewater treatment plant (WWTP) that serves the project site will be obtained for the latest 12-month period, and the average dry weather monthly flow will be presented.

FUTURE NO ACTION CONDITION

- C. Any changes to the project site's stormwater drainage system and surface area expected in the Future No-Action condition will be described for both the 2018 and 2038 analysis years.
- D. Any changes to the sewer system expected to occur in the Future No-Action condition will be described based on information provided by RIOC and NYCDEP; to the extent feasible, information will be gathered on large-scale developments that would affect the sewer system serving Bowery Bay WWTP.

FUTURE WITH THE PROPOSED ACTIONS

- E. Assess future stormwater generation from the proposed project and its potential for impacts for both the 2018 and 2038 analysis years. The assessment will discuss any planned sustainability elements that are intended to reduce sanitary sewage generation and reduce/improve stormwater runoff. Changes to the site's surface area (pervious or impervious) will be described, and runoff coefficients and runoff for each surface type/area will be presented. Volume and peak discharge rates of stormwater from the site in 2018 and 2038 will be determined based on the NYCDEP volume calculation worksheet. Sanitary sewage generation for the project will be estimated. The effects of the incremental demand on the system will be assessed to determine the impact on operations of the pump station that serves the project site, the sewer system that conveys the flow to the WWTP, and the WWTP itself.
- F. Based on the analyses of future stormwater and wastewater generation, the change in flows and volumes to the sewer system and/or waterbodies due to the proposed project will be determined for both analysis years.
- G. The discussion also will include a summary of infrastructure improvements necessary to support the proposed project and identify the responsible parties and timing for such improvements.
- H. The EIS will include an analysis of potential impacts associated with operation of the geothermal well system.

TASK 12: SOLID WASTE AND SANITATION SERVICES

A solid waste assessment determines whether a project has the potential to cause a substantial increase in solid waste production that may overburden available waste management capacity or otherwise be inconsistent with the City's Solid Waste Management Plan (SWMP or Plan) or with state policy related to the City's integrated solid waste management system. The City's solid waste system includes waste minimization at the point of generation, collection, treatment, recycling, composting, transfer, processing, energy recovery, and disposal.

According to the *CEQR Technical Manual*, few projects have the potential to generate substantial amounts of solid waste (50 tons per week or more, the threshold for potentially resulting in a significant adverse impact). Based on Citywide solid waste generation rates identified in Table 14-1 of the *CEQR Technical Manual*, the proposed project would generate less than 50 tons per week of solid waste, and therefore would not result in a significant adverse impact. The EIS will provide the following information with respect to the proposed project:

- A. The existing ownership and operation of the project site's waste collection system will be described.
- B. The solid waste and service demand generated by the project will be disclosed for both analysis years, based on estimates using Table 14-1 of the *CEQR Technical Manual*.
- C. The proposed location and method of storage of refuse and recyclables prior to collection will be disclosed, including description of the planned use of compactors, dumpsters and/or roll on/roll off refuse containers to avoid large piles of bags with refuse on the sidewalk or building perimeter awaiting collection.
- D. The anticipated method of refuse disposal (i.e., private carters, New York City Department of Sanitation, the existing automated vacuum collection (AVAC) system managed by RIOCC).
- E. Project features that enhance recycling (i.e., those that facilitate the separation, storage, collection, processing, or marketing of recyclables) beyond that required by law will be identified.

TASK 13: ENERGY

This chapter of the EIS will assess the additional demands the proposed project would place on the energy supply. The projected amount of energy consumption during operation will be estimated based on project-specific energy modeling, if available, or based on a more conservative estimate using average annual whole-building energy use rates for New York City (per Table 15-1 of the *CEQR Technical Manual*). The assessment will also describe any planned "green measures" to reduce energy consumption, including innovative measures to be incorporated in order to achieve a minimum of LEED[®] Silver certification, and the potential use of solar panels, geothermal energy, and other alternative energy generating strategies.

TASK 14: TRANSPORTATION

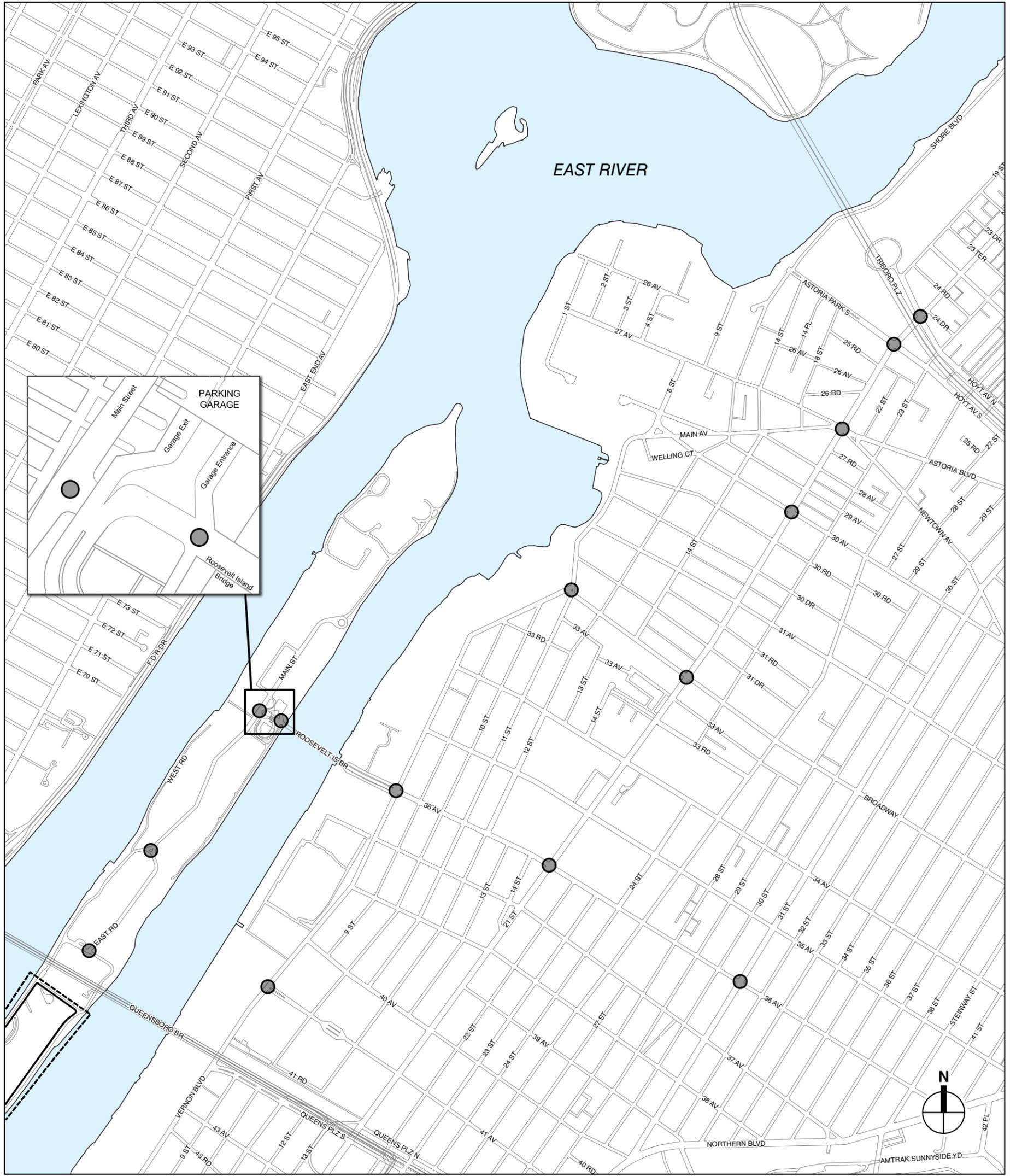
The *CEQR Technical Manual* states that a quantified transportation analysis may be warranted if a proposed action results in 50 or more vehicle-trips and/or 200 or more transit/pedestrian trips during a given peak hour. Based on preliminary population and travel demand estimates for the proposed actions, it is expected that these thresholds will be exceeded for several critical time periods (i.e., weekday AM, midday, and PM). Therefore, the EIS transportation impact assessment will evaluate vehicular and pedestrian access and circulation, and the potential impacts project-generated trips may have on key area intersections, nearby transit services, and pedestrian elements. As part of the operational analyses, an assessment of vehicular and pedestrian safety based on recent accident data will also be prepared. The EIS transportation impact assessment will evaluate the required analysis elements, determined via the methodology described below, for two representative analysis years: 2018 and 2038. The transportation scope will include the following tasks:

TRAVEL DEMAND AND SCREENING ASSESSMENT

- A. Prepare travel demand estimates and transportation analysis screening. Detailed trip estimates of the proposed development program will be prepared using standard sources, including the *CEQR Technical Manual*, U.S. census data, approved studies, other references, and population projections from Cornell University. The trip estimates will be summarized by peak hour, mode of travel, and person vs. vehicle trips. The results of these estimates will be summarized in a Travel Demand Factors memo. For traffic, a detailed vehicle trip assignment will be prepared to determine the appropriate intersections for analysis of potential traffic impacts. The trip estimates will also identify the numbers of peak hour person trips made by transit and the numbers of pedestrian trips traversing the area's sidewalks, corner reservoirs, and crosswalks. As recommended by the *CEQR Technical Manual*, the appropriate transit and pedestrian elements will be selected for analysis.
- B. Prepare travel demand estimates for No Action projects. For the detailed analyses of various transportation elements, the projection of future traffic, transit, and pedestrian volume levels will incorporate trips from known No Action projects. The projection of these trips would be based on the approved set of travel demand factors and other appropriate references.

TRAFFIC

- C. Define traffic study area. The traffic study area will include key intersections along the travel corridors that provide access to and egress from the CornellNYC Tech project. Because the time periods during which trip-making is expected to be the greatest for the project's development components would occur on weekdays, the analysis of the area's traffic conditions will focus on the weekday AM, midday, and PM peak hours. Based on the detailed vehicle trip assignments for these time periods, intersections will be selected for analysis. Focusing on the Roosevelt Island traffic network and circulation to and from the Roosevelt Island Bridge, the analyzed intersections are likely to include those listed below and illustrated in **Figure 7**.
 - 1) Main Street/East Road at Roundabout;
 - 2) Main Street and East Road;
 - 3) Main Street at Roosevelt Island Bridge;
 - 4) Motorgate Garage at Roosevelt Island Bridge;
 - 5) 36th Avenue at Vernon Boulevard;
 - 6) 36th Avenue at 21st Street;
 - 7) 36th Avenue at 31st Street;
 - 8) Broadway at 21st Street;
 - 9) 21st Street at 30th Avenue;
 - 10) Vernon Boulevard at Broadway;
 - 11) Vernon Boulevard at 41st Avenue;
 - 12) Astoria Boulevard at 21st Street;
 - 13) Hoyt Avenue North at 21st Street; and
 - 14) Hoyt Avenue South at 21st Street.
- D. Perform traffic data collection. Traffic volumes and relevant data at the study area intersections will be collected as per CEQR guidelines via a combination of manual and



- Project Site
- Rezoning Area (Special Southern Roosevelt Island District)
- Analyzed Intersection

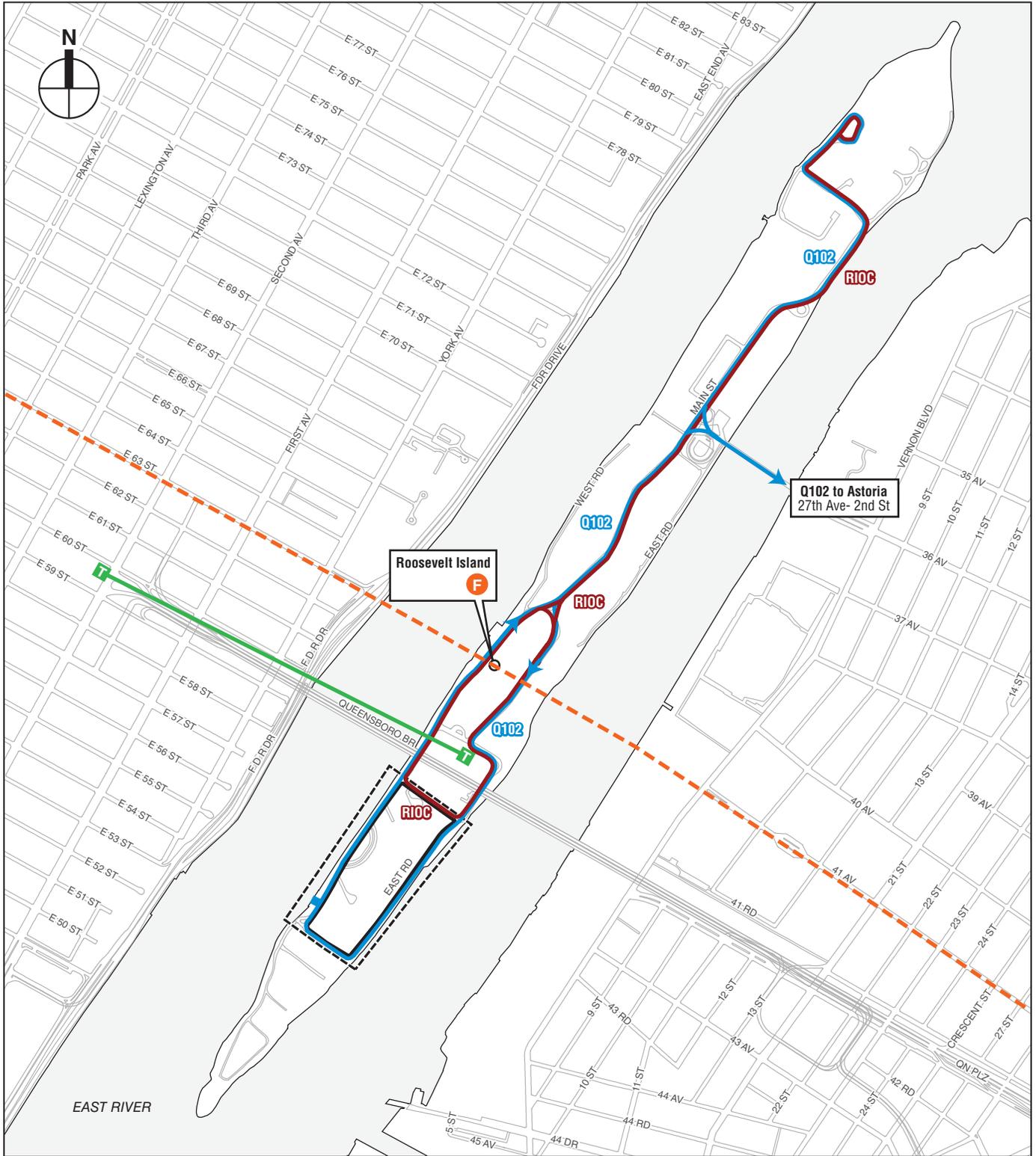
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SCALE

machine counts. Manual turning movement and vehicle classification counts will be conducted for peak weekday time periods, including the AM, midday, and PM analysis peak hours. These manual counts will be supplemented with continuous (9-day) automatic traffic recorder (ATR) counts at key locations to identify temporal and daily traffic variations. Information pertaining to street widths, traffic flow directions, lane markings, parking regulations, and bus stop locations at study area intersections will be inventoried. Traffic control devices (including signal timings) in the study area will be recorded and verified with official signal timing data from the New York City Department of Transportation (NYCDOT). Additional data will be collected, as necessary, to address analysis needs.

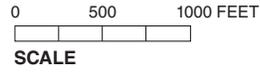
- E. Conduct existing conditions analysis. Balanced peak hour traffic volumes will be prepared for the capacity analysis of study area intersections. This analysis will be conducted using the *2000 Highway Capacity Manual (HCM)* methodology with the latest approved *Highway Capacity Software (HCS)*. The existing volume-to-capacity (v/c) ratios, delays, and levels of service (LOS) for the weekday AM, midday, and PM peak hours will be determined, as appropriate.
- F. Develop the Future No-Action condition. Future No-Action traffic volumes will be estimated by adding a background growth factor, in accordance with CEQR guidelines, to existing traffic volumes, and incorporating incremental changes in traffic resulting from other substantial projects in the area. The Future No-Action condition will also account for the reduction in traffic associated with the closing of Goldwater Memorial Hospital at the project site. Trip estimates generated for future projects and the modes of transportation for these trips will be determined for the three peak analysis hours using standard sources, census data, and information from other environmental studies, where available. Physical and operational changes that are expected to be implemented independently of the proposed project, if any, will also be incorporated into the future traffic analysis network. The Future No-Action v/c ratios, delays, and LOS at the study area intersections will be determined.
- G. Perform traffic impact assessment for the proposed project. Project-generated vehicle trips will be overlaid onto the Future No-Action traffic network. Physical and operational changes, particularly those related to site access to the proposed project, as well as modifications to the ring road adjacent to the site, will be incorporated into the analyses. The potential impact on v/c ratios, delays, and LOS will then be evaluated in accordance with *CEQR Technical Manual* criteria. Where impacts are identified, feasible measures, such as signal retiming, phasing modifications, roadway restriping, addition of turn lanes, revision of curbside regulations, turn prohibitions, and street direction changes, etc. will be explored to mitigate the traffic impacts.

TRANSIT

- H. Define transit study area. The transit study area will include the Roosevelt Island subway station, the tramway, and the two bus routes serving the project site, as illustrated in **Figure 8**. Based on preliminary trip estimates, the detailed subway station analysis will encompass an evaluation of stairways, escalators, and control area elements (i.e., two-way turnstiles) serving the Roosevelt Island Station (F line). The need for a detailed line-haul capacity and loading levels analysis on the F line will be assessed and if warranted, this analysis will be presented in the EIS. The project site is also served by the tramway and two local bus routes—the MTA Q102 bus and the RIOC red bus. If preliminary trip estimates show that



- Project Site
- Rezoning Area (Special Southern Roosevelt Island District)
- Roosevelt Island Red Bus
- Q102 Route
- Subway Line
- Tramway



the tramway or a single bus route would incur 50 or more peak hour trips in one direction of travel, the CEQR threshold for a detailed line-haul analysis, this analysis will be undertaken.

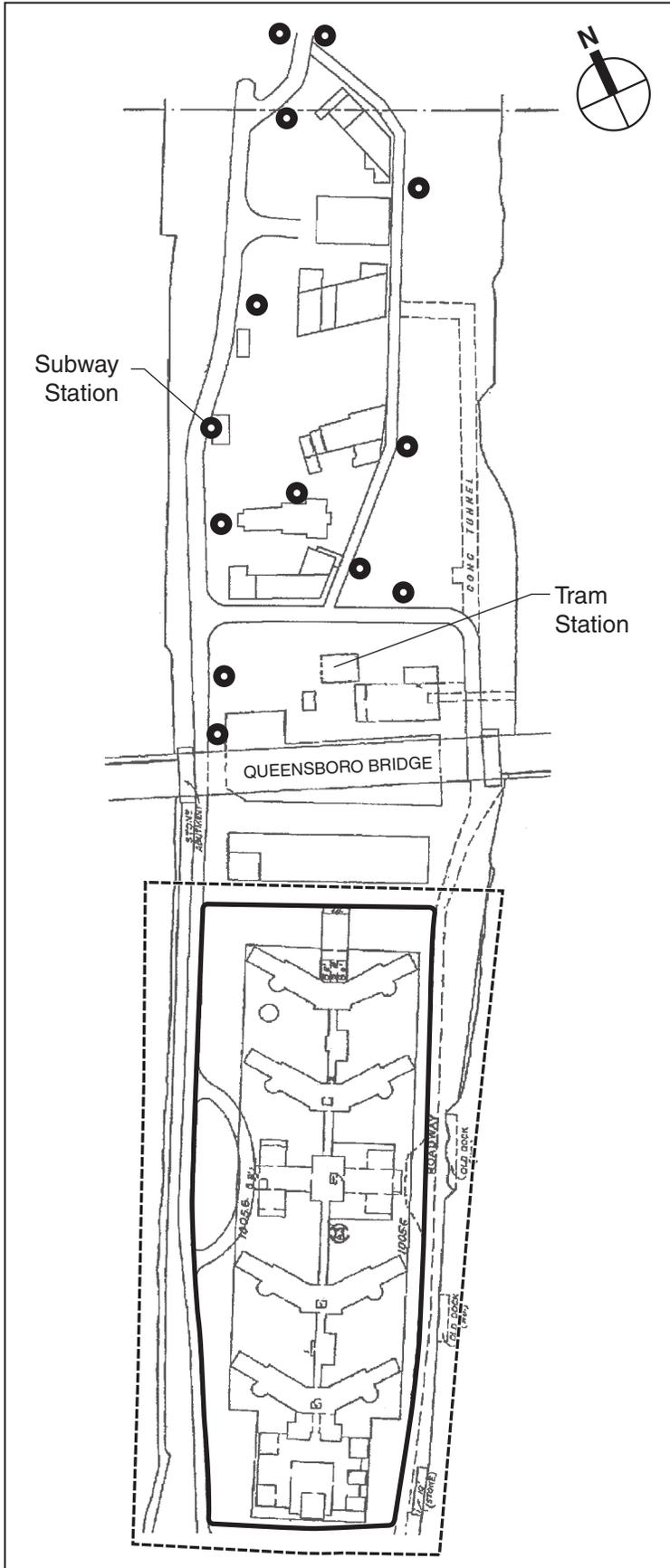
- I. Prepare subway analyses. A distribution of the projected subway trips will be performed to determine the specific analyses required to address potential subway line-haul, control area, and/or vertical circulation impacts. Subway pedestrian data at the various station elements expected to require analysis will be gathered in accordance with CEQR guidelines. Detailed analyses of affected subway elements and the line-haul analysis, if warranted, will be conducted for the critical weekday peak periods: AM and PM peak hours. If significant subway impacts are identified, feasible mitigation measures, including widening stairways and adding turnstiles at the station and increasing the frequency of service will be explored to alleviate these impacts.
- J. Prepare tramway and bus screening analyses. The projected incremental tram and bus trips will be distributed to the tramway and the two bus routes serving Roosevelt Island. If this assessment shows that detailed tramway and bus line-haul analyses would not be warranted, the EIS will present a qualitative discussion of the tramway and bus operations. If one or more of these services were determined to incur incremental trips exceeding the 50 peak hour trip per direction threshold, baseline ridership data will be gathered for a detailed tramway and/or bus line-haul analysis.

PEDESTRIANS

- K. Define pedestrian study area. Given the substantial number of peak hour pedestrians expected to be generated by the proposed project, a detailed analysis of pedestrian operations is expected to be warranted. The pedestrian study area will include key pedestrian pathways to/from the project site and nearby transit services, more specifically those leading to/from the access and exit points bordering the project site (i.e., along Main Street, East Road, and West Road) north of the Ed Koch Queensboro Bridge, as depicted in **Figure 9**.
- L. Prepare pedestrian analyses. An assignment of the projected pedestrian trips will be performed to identify the pedestrian elements that would experience 200 or more incremental peak hour pedestrian trips and thus requiring a detailed analysis of potential impacts. Pedestrian data will be gathered in accordance with CEQR guidelines to develop existing baseline conditions. As with traffic, detailed analyses will be conducted for the critical weekday peak periods: AM, midday, and PM peak hours. If significant pedestrian impacts are identified, feasible mitigation measures, including removal or relocation of sidewalk obstructions, will be explored to alleviate these impacts.

VEHICULAR AND PEDESTRIAN SAFETY

- M. Examine vehicular and pedestrian safety issues. Accident data for the traffic study area intersections and other nearby sensitive locations from the most recent three-year period will be obtained from the New York State Department of Transportation (NYSDOT). These data will be analyzed to determine if any of the studied locations may be classified per CEQR criteria as high vehicle crash or high pedestrian/bike accident locations and whether trips and changes resulting from the proposed project would adversely affect vehicular and pedestrian safety in the area. If high accident locations are identified, feasible improvement measures will be explored to alleviate potential safety issues.



-  Project Site
-  Rezoning Area
(Special Southern Roosevelt Island District)
-  Analysis Locations

Pedestrian Analysis Locations
Figure 9

PARKING

- N. Analyze current and future parking conditions. An inventory of the area's on-street parking supply and utilization on Roosevelt Island within ¼-mile of the site and at the Motorgate Garage will be performed to obtain data for the weekday mid-morning and mid-afternoon hours. A parking analysis will be prepared to determine the anticipated demand of the proposed project and evaluate anticipated parking utilizations on-site and/or within the Motorgate Garage. Where the project design and/or traffic mitigation measures are expected to displace on-street parking spaces, they will also be addressed.

TASK 15: AIR QUALITY

The air quality studies for the proposed actions will include both mobile and stationary source analyses. The mobile source air quality impact analysis will assess potential effects of carbon monoxide (CO) and particulate matter less than 2.5 microns in diameter (PM_{2.5}) from traffic-generated emissions. The stationary source air quality impact analysis will address the effects of emissions from combustion sources of emissions, such as the energy plant systems, on pollutant levels. The academic and research and development buildings are not expected to house chemical or biological laboratories; therefore, no stationary air quality analysis would be required for such facilities.

MOBILE SOURCE ANALYSES

The specific work program for the mobile source air quality studies will include the following work tasks:

- A. 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 NYSDEC will be compiled for the analysis of existing and future conditions.
- B. Determine receptor locations for the microscale analysis. Select critical intersection locations in the study area, and outside the study area, based on data obtained as part of Task 14, "Transportation." At each intersection, multiple receptor sites will be analyzed in accordance with CEQR guidelines.
- C. Select dispersion model. At each of the receptor sites, identify the appropriate dispersion model to be used in the microscale analyses. It is anticipated that the CAL3QHC screening dispersion model (Version 2) will be used for the CO microscale analysis. The refined CAL3QHCR intersection model will be used to predict the maximum change in PM_{2.5} concentrations.
- D. 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, or the latest approved emission model. Conservative meteorological conditions to be assumed in the CAL3QHC dispersion modeling are a 1 meter per second wind speed, Class D stability and a 0.70 persistence factor. In addition, the *CEQR Technical Manual* recommended winter temperature of 50 degrees Fahrenheit for the Borough of Manhattan will be used as input to the model. For the CALQHCR analysis, five years of meteorological data from LaGuardia Airport and concurrent upper air data from Brookhaven, NY, will be used for the simulation program.

- E. At each mobile source microscale receptor site, calculate maximum 1- and 8-hour CO concentrations for existing conditions, the Future No-Action and With-Action conditions. 24-Hour and annual average PM_{2.5} concentrations will be determined for the Future No-Action and With-Action conditions. Future year analyses without and with the proposed actions will be performed for two analysis years: 2018 and 2038.
- F. Assess the potential CO impacts associated with proposed on-site parking facilities, if any. Cumulative impacts from on-street sources and emissions from the proposed parking facilities will be calculated, where appropriate.
- G. Compare existing and future levels with standards. Future pollutant levels with and without the proposed actions will be compared with the CO National Ambient Air Quality Standards (NAAQS), the City's CO *de minimis* criteria and PM_{2.5} interim guidance criteria to determine the impacts of the proposed actions.
- H. Evaluate potential impacts of 1-hour nitrogen dioxide (NO₂) concentrations from mobile sources based on applicable CEQR guidance and/or consultation with NYCDEP. If the number of project-generated trips exceeds screening threshold(s), perform a microscale analysis at affected receptor locations following available guidance.
- I. Determine the consistency of the proposed actions with the strategies contained in the State Implementation Plan (SIP) for the area. At any receptor sites where violations of standards occur, analyses would be performed to determine what mitigation measures would be required to attain standards.
- J. Mitigation. Examine mitigation measures, as necessary.

STATIONARY SOURCE ANALYSIS

Combustion Sources

- K. The potential impacts of the proposed project's combustion sources will be evaluated for both the 2018 and 2038 analysis years. The analysis 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 a similar or greater height when compared to the height of the emission source exhaust(s). Project-on-existing and project-on-project impacts will be determined, where applicable. The analyses will use the EPA AERSCREEN model as outlined in the *CEQR Technical Manual*. Concentrations of nitrous oxides (NO₂), sulfur dioxide (SO₂) (if fuel oil is used), particulate matter less than 10 and 2.5 microns in diameter (PM₁₀ and PM_{2.5}, respectively) will be determined. In the event that maximum modeled concentrations are predicted to exceed impact criteria, a refined modeling analysis will be performed.
- L. Potential impacts from any large emission sources within 1,000 feet of the proposed project will be evaluated. Impacts on project buildings of a similar or greater height will be modeled using the EPA AERSCREEN model to estimate maximum pollutant concentrations (SO₂, NO₂, and PM concentrations) for comparison with ambient air quality standards and other relevant criteria.
- M. If a proposed or existing emission source fails the stationary source screening analysis, then a more detailed stationary source analyses with the AERMOD model would be performed. For this analysis, five years (2006-2010) of meteorological data from nearby La Guardia Airport and concurrent upper air data from Brookhaven, New York will be utilized for the

simulation program. Concentrations of NO₂, SO₂, and PM will be determined at sensitive receptor sites. Predicted values will be compared with ambient air quality standards and other relevant criteria. In the event that violations of standards or criteria are predicted, design measures to reduce pollutant levels to within standards will be examined.

TASK 16: GREENHOUSE GAS EMISSIONS

In accordance with the *CEQR Technical Manual*, greenhouse gas (GHG) emissions generated by the proposed project will be quantified. An assessment of consistency with the City's established GHG reduction goal will be performed. Emissions will be estimated for 2038 and will be reported as carbon dioxide equivalent (CO₂e) metric tons per year. GHG emissions other than carbon dioxide (CO₂) will be included if they would account for a substantial portion of overall emissions, adjusted to account for the global warming potential (GWP). Emissions from construction would be quantified if those emissions are determined to be a potentially substantial portion of project emissions. The determination of the need for a quantified assessment would be based on the extent and duration of construction and the expected use of iron, steel, aluminum, and concrete (materials whose production is energy intensive and/or directly generates GHG emissions). Relevant measures that would be implemented to reduce energy consumption and GHG emissions will be discussed, and the potential for those measures to reduce GHG emissions from the proposed project will be assessed to the extent practicable. Since portions of the proposed site are within the 100-year flood plain, potential impacts of climate change on the proposed project and its infrastructure will be discussed. The discussion would focus on the potential sea level rise as a result of climate change.

The GHG analysis would consist of the following subtasks:

- A. The potential effects of climate change on the proposed project will be qualitatively discussed. The discussion would focus on the potential impacts of sea level rise and on early integration of climate change considerations into the project to allow for uncertainties in environmental conditions resulting from climate change.
- B. Direct emissions from on-site systems for heat and hot water and on-site electricity generation, if any, would be quantified. Emissions would be based on available information on the expected energy and fuel demand for the proposed project or the carbon intensity factors specified in the *CEQR Technical Manual*.
- C. Indirect emissions from projected use of electricity and/or steam generated off-site and consumed on-site will be estimated using information on electricity and steam demand developed specifically for the proposed project, or on the carbon intensity factors specified in the *CEQR Technical Manual*.
- D. Indirect mobile source emissions from vehicle trips to or from the proposed project will be quantified using trip distances provided in the *CEQR Technical Manual* and vehicle emission factors from the MOVES model.
- E. Emissions from project construction and emissions associated with the extraction or production of construction materials will be qualitatively discussed. Opportunities for reducing GHG emissions associated with construction will be considered. If the extent and duration of the construction activity, or the use of construction materials, are found to be a significant portion of GHG emissions from the project, total emissions for the duration of construction as well as annualized emissions will be presented. The estimate will include emissions that result from the production of iron, steel, aluminum, and concrete that would

be used in construction. GHG emissions from construction trucks and other construction traffic, as well as non-road construction activity will be quantified. The MOVES model will be used to estimate truck emissions. Construction equipment emissions will be based on the NONROAD model.

- F. Proposed measures to reduce energy use and GHG emissions will be discussed and quantified to the extent that information is available. The GHG emissions from the proposed central energy plants would be accounted for and compared to emissions that would occur if electricity were purchased from the grid instead, with heat generated on-site. The benefits of the central energy plants would be discussed, with an emphasis on GHG emissions and sustainability. If on-site renewable energy facilities (such as solar and geothermal) are found to be feasible, potential GHG emissions reduced through the use of those systems would be quantified to the extent that specific design information for the renewable facilities would be available.
- G. Consistency with the City's GHG reduction goal will be assessed. While the City's overall goal is to reduce GHG emissions by 30 percent below 2005 level by 2030, individual project consistency is evaluated based on proximity to transit, on-site renewable power and distributed generation, efforts to reduce carbon fuel intensity or improve vehicle efficiency for project-generated vehicle trips, and other efforts to reduce the project's carbon footprint.

TASK 17: NOISE

The noise analysis will examine impacts of ambient noise sources (e.g., the Ed Koch Queensboro Bridge traffic) on the proposed academic and residential uses and the impacts of project-generated traffic on noise-sensitive land uses nearby. For CEQR purposes, it is assumed that a detailed analysis of the proposed project's mechanical equipment will not be required, because any HVAC/R equipment would be designed to meet applicable regulations. The noise descriptors will describe the noise environment and the impact of the proposed project following current City criteria regarding noise descriptors. Consequently, where and when appropriate, the L_{10} , day-night (L_{dn}), and/or 1- and 24-hour equivalent ($L_{eq(1)}$ and $L_{eq(24)}$) noise levels will be examined. The tasks are as follows:

- A. Select receptor sites where there is the greatest potential for impacts from the proposed project.
- B. Determine existing noise levels based on noise monitoring. Take measurements during the following time periods—weekday AM, midday, and PM. Record hourly L_{eq} , L_1 , L_{10} , L_{50} , and L_{90} values. Measured noise levels will be supplemented by mathematically modeled values, where necessary.
- C. At each receptor, determine noise levels both with and without the proposed project for both the 2018 and 2038 analysis years using existing noise levels, acoustical fundamentals, and mathematical models. The methodology used will allow for variations in vehicle/truck mixes during the critical analysis periods.
- D. Compare existing and future noise levels both with and without the proposed project for both the 2018 and 2038 analysis years, with various noise standards, guidelines and other noise criteria, including New York City Ambient Noise Quality Criteria, New York City CEQR Noise Standards, and New York City Noise Performance Standards. In addition, compare future noise levels with the proposed project with future noise levels without the proposed project to determine project impacts. (Based on the criteria contained in the *CEQR Technical Manual*, a change of 3 dBA or more will be considered significant impact.)

- E. Examine traffic analysis to determine the potential for significant noise impacts from mobile sources.
- F. Describe window/wall construction and ventilation schemes for future buildings to show whether interior noise levels will meet City standards.
- G. Assess measures to mitigate identified noise impacts as necessary.

TASK 18: PUBLIC HEALTH

According to the *CEQR Technical Manual*, public health is the organized effort of society to protect and improve the health and well-being of the population through monitoring; assessment and surveillance; health promotion; prevention of disease, injury, disorder, disability and premature death; and reducing inequalities in health status. The goal of CEQR with respect to public health is to determine whether adverse impacts on public health may occur as a result of a proposed project, and if so, to identify measures to mitigate such effects.

According to the guidelines of the *CEQR Technical Manual*, a public health assessment may be warranted if an unmitigated significant adverse impact is identified in other CEQR analysis areas, such as air quality, water quality, hazardous materials, or noise. If unmitigated significant adverse impacts are identified in any one of these technical areas and the lead agency determines that a public health assessment is warranted, an analysis will be provided for that specific technical area.

TASK 19: NEIGHBORHOOD CHARACTER

The character of a neighborhood is established by numerous factors, including land use patterns, the characteristics of its population and economic activities, the scale of its development, the design of its buildings, the presence of notable landmarks, and a variety of other physical features that include noise levels, traffic, and pedestrian patterns. The proposed CornellNYC Tech project represents a substantial change that could affect the character of the surrounding area, which includes primarily residential, open space, and institutional uses. Therefore, the EIS analysis will consist of the following:

- A. Based on the other EIS chapters, summarize the predominant factors that contribute to defining the character of the neighborhood, including land use, zoning and public policy; open space; historic and cultural resources; urban design and visual resources; transportation; and noise.
- B. Based on planned development projects, public policy initiatives, and planned public improvements, changes that can be expected in the character of the neighborhood in the future without the project will be described for both 2018 and 2038.
- C. Assess and summarize the project's impact on neighborhood character in both 2018 and 2038.

As suggested in the *CEQR Technical Manual*, the study area for neighborhood character is typically consistent with the study areas in the relevant technical areas assessed under CEQR.

TASK 20: CONSTRUCTION IMPACTS

Construction impacts can have a disruptive and noticeable effect on the adjacent community, as well as people passing through the area, and can result in significant adverse impacts. Construction impacts are usually important when construction activity could affect

transportation conditions, archaeological resources and the integrity of historic resources, community noise patterns, air quality conditions, and mitigation of hazardous materials.

Construction of the proposed project would occur in two phases over an extended period of time between approximately 2014 and 2038. Development in Phase 1 would occur at the northern portion of the project site, while development in Phase 2 would mostly occur at the southern portion. This chapter will describe the construction schedule and provide an estimate of activity on site, including the demolition of the existing Goldwater Memorial Hospital buildings. A construction scheme will be outlined focusing on phasing and duration, likely staging areas, placement of equipment, material transports via barges (if feasible), the temporary loss of traffic lanes, and number of workers. Since the project site is south of the Ed Koch Queensboro Bridge and not within a Central Business District or along a major thoroughfare, and generally located at some distance away from sensitive uses, the analysis will assess the potential impacts of construction activities. Mitigation measures to avoid or reduce potential significant adverse impacts will be included in the discussion. The effect of Phase 2 construction activities on occupied Phase 1 buildings and open spaces will also be described. Technical areas to be analyzed include:

- A. **Transportation Systems.** This assessment will consider losses in lanes, sidewalks, and other transportation services, if any, during the construction periods, and identify the increase in vehicle trips from construction workers and equipment, particularly as it relates to the roadway system on Roosevelt Island, the Roosevelt Island Bridge, and nearby intersections in Queens. Based on the trip projections of activities associated with peak construction and completed portions of the proposed project, an assessment of potential impacts during construction and how they are compared to the project's operational impacts will be provided. Where appropriate, the relevant mitigation measures will be discussed.
- B. **Air Quality.** The construction air quality impact section will contain a qualitative discussion of both mobile source emissions from construction equipment and worker and delivery vehicles, and fugitive dust emissions. It will discuss measures to reduce impacts.
- C. **Noise.** The construction noise impact section will contain a qualitative discussion of noise from each phase of construction activity.
- D. **Hazardous Materials.** In coordination with the hazardous materials summary, determine whether the construction of the project has the potential to expose construction workers to contaminants.
- E. **Other Technical Areas.** As appropriate, discuss other areas of environmental assessment—such as historic resources, and natural resources and water quality—for potential construction-related impacts. The potential for impacts from construction of the geothermal well system will also be addressed in the DEIS.

TASK 21: MITIGATION

If significant project impacts are identified in the analyses discussed above, measures will be identified and assessed to mitigate those impacts. This task summarizes the findings and prepares the mitigation chapter for the EIS. Where impacts cannot be mitigated, they will be described as unavoidable adverse impacts.

TASK 22: ALTERNATIVES

The purpose of an alternatives analysis is to examine reasonable and practicable options that avoid or reduce project-related significant adverse impacts while achieving the goals and objectives of the proposed project. The specific alternatives to be analyzed are typically finalized as project impacts become clarified. However, they will likely include a Reduced Impact Alternative and a Lesser Density Alternative in addition to the No Action Alternative.

The analysis will be primarily qualitative, except where specific project impacts have been identified (e.g., traffic intersections with significant impacts). However, the qualitative analysis will be of sufficient detail to allow comparisons of associated environmental impacts and attainment of project goals and objectives.

TASK 23: SUMMARY CHAPTERS

The executive summary will summarize relevant material from the body of the EIS to describe the proposed project, the necessary approvals, study areas, environmental impacts predicted to occur, measures to mitigate those impacts, unmitigated and unavoidable impacts (if any), and alternatives to the proposed project. In addition, summary chapters for the EIS may include the following (as appropriate):

- Unavoidable significant adverse impacts that cannot be mitigated;
- Growth-inducing aspects of the proposed project; and
- Irreversible and irretrievable commitment of resources.

These analyses will draw from the work done in the technical areas, as relevant. They are intended to inform the decision maker of the environmental “costs” and benefits of the proposed project. *

APPENDIX A

ENVIRONMENTAL REVIEW

Final Sign-Off

Project number: OFFICE OF ENVIRONMENTAL COORD. / LA-CEQR-M
Project: CORNELL NYC TECH
Date received: 2/9/2012

Archaeological Review Only

Properties with Archaeological significance:

- 1) ADDRESS: ROOSEVELT ISLAND, BBL: 1013730020
- 2) ADDRESS: 40 RIVER ROAD, BBL: 1013730001

Comments: LPC review of archaeological sensitivity models and historic maps indicates that there is potential for the recovery of remains from 19th Century and Native American occupation on the project site. Accordingly, the Commission recommends that an archaeological documentary study be performed for this site to clarify these initial findings and provide the threshold for the next level of review, if such review is necessary (see CEQR Technical Manual 2010).



2/10/2012

SIGNATURE
Gina Santucci, Environmental Review Coordinator

DATE

File Name: 27899_FSO_DNP_02102012.doc

ARCHAEOLOGY

Project number: OFFICE OF ENVIRONMENTAL COORD. / 12DME004M
Project: CORNELL NYC TECH
Date received: 3/19/2012

Comments:

The LPC is in receipt of the, "Phase 1A Archaeological Documentary Study for Cornell/NYC Tech Roosevelt Island Campus B 1373, Lot 20 and Block 1371, Lot 1 (in part), New York, New York," prepared by AKRF, Inc and dated March 2012. The LPC concurs that there are no further archaeological concerns. Please submit two bound copies of the reports to LPC for our archives.



3/26/2012

SIGNATURE
Amanda Sutphin, Director of Archaeology

DATE

File Name: 27899_FSO_ALS_03262012.doc