



PART I: GENERAL INFORMATION

PROJECT NAME Two Bridges (HealthCare Chaplaincy)

1. Reference Numbers

CEQR REFERENCE NUMBER (To Be Assigned by Lead Agency) 12DCP157M	BSA REFERENCE NUMBER (If Applicable)
ULURP REFERENCE NUMBER (If Applicable) M950078AZSM	OTHER REFERENCE NUMBER(S) (If Applicable) (e.g., Legislative Intro, CAPA, etc.)

2a. Lead Agency Information

NAME OF LEAD AGENCY
New York City Planning Commission

NAME OF LEAD AGENCY CONTACT PERSON
Robert Dobruskin, Director, EARD

ADDRESS
22 Reade Street, Room 4E

CITY New York	STATE NY	ZIP 10007
TELEPHONE (212) 720-3423	FAX (212) 720-3495	
EMAIL ADDRESS rdobrus@planning.nyc.gov		

2b. Applicant Information

NAME OF APPLICANT
HealthCare Chaplaincy, Inc.

NAME OF APPLICANT'S REPRESENTATIVE OR CONTACT PERSON
Claire Haaga Altman, Exec. VP and Chief Operating Officer

ADDRESS
315 East 62nd Street, 4th Floor

CITY New York	STATE NY	ZIP 10065
TELEPHONE 212-644-1111 x122	FAX 212-758-9959	
EMAIL ADDRESS chaltman@healthcarechaplaincy.org		

3. Action Classification and Type

SEQRA Classification

UNLISTED TYPE I; SPECIFY CATEGORY (see 6 NYCRR 617.4 and NYC Executive Order 91 of 1977, as amended):

Action Type (refer to Chapter 2, "Establishing the Analysis Framework" for guidance)

LOCALIZED ACTION, SITE SPECIFIC LOCALIZED ACTION, SMALL AREA GENERIC ACTION

4. Project Description:
See page 1a.

4a. Project Location: Single Site (for a project at a single site, complete all the information below)

ADDRESS	NEIGHBORHOOD NAME Lower East Side/Two Bridges	
TAX BLOCK AND LOT Block 247, Lots 1 and 2, which are part of the Two Bridges Large-Scale Residential Development Plan that also includes Lots 15, 70, 76, and 1001-1057.	BOROUGH Manhattan	COMMUNITY DISTRICT 3
DESCRIPTION OF PROPERTY BY BOUNDING OR CROSS STREETS Rutgers Slip and Clinton Street		
EXISTING ZONING DISTRICT, INCLUDING SPECIAL ZONING DISTRICT DESIGNATION, IF ANY C6-4		ZONING SECTIONAL MAP NO. 12d

4b. Project Location: Multiple Sites (Provide a description of the size of the project area in both City Blocks and Lots. If the project would apply to the entire city or to areas that are so extensive that a site-specific description is not appropriate or practicable, describe the area of the project, including bounding streets, etc.)

5. REQUIRED ACTIONS OR APPROVALS (check all that apply)

<p>City Planning Commission: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p> <p><input type="checkbox"/> CITY MAP AMENDMENT <input type="checkbox"/> ZONING CERTIFICATION</p> <p><input type="checkbox"/> ZONING MAP AMENDMENT <input type="checkbox"/> ZONING AUTHORIZATION</p> <p><input type="checkbox"/> ZONING TEXT AMENDMENT <input type="checkbox"/> HOUSING PLAN & PROJECT</p> <p><input type="checkbox"/> UNIFORM LAND USE REVIEW PROCEDURE (ULURP) <input type="checkbox"/> SITE SELECTION—PUBLIC FACILITY</p> <p><input type="checkbox"/> CONCESSION <input type="checkbox"/> FRANCHISE</p> <p><input type="checkbox"/> UDAAP <input type="checkbox"/> DISPOSITION—REAL PROPERTY</p> <p><input type="checkbox"/> REVOCABLE CONSENT</p> <p>ZONING SPECIAL PERMIT, SPECIFY TYPE</p>	<p>Board of Standards and Appeals: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/></p> <p><input type="checkbox"/> SPECIAL PERMIT</p> <p>EXPIRATION DATE MONTH DAY YEAR</p> <p><input type="checkbox"/> VARIANCE (USE)</p> <p><input type="checkbox"/> VARIANCE (BULK)</p> <p>SPECIFY AFFECTED SECTION(S) OF THE ZONING RESOLUTION</p>
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MODIFICATION OF **Two Bridges Large-Scale Residential Development Plan (CP-21885 and subsequent amendments)**

RENEWAL OF

OTHER

Department of Environmental Protection:		YES <input type="checkbox"/>	NO <input checked="" type="checkbox"/>
Other City Approvals:		YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>
<input type="checkbox"/> LEGISLATION	<input type="checkbox"/> FUNDING OF CONSTRUCTION; SPECIFY	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	POLICY OR PLAN; SPECIFY	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> LANDMARKS PRESERVATION COMMISSION APPROVAL (not subject to CEQR)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	384(B)(4) APPROVAL	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	PERMITS FROM DOT'S OFFICE OF CONSTRUCTION MITIGATION AND COORDINATION (OCMD) (not subject to CEQR)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. State or Federal Actions/Approvals/Funding:		YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/> IF "YES," IDENTIFY
The project requires a license from the New York State Department of Health. The project is also seeking U.S. Department of Housing and Urban Development Section 232 Financing: Mortgage Insurance for Nursing Homes, Intermediate Care, Board and Care, and Assisted-Living Facilities.			
7. Site Description: Except where otherwise indicated, provide the following information with regard to the directly affected area. The directly affected area consists of the project site and the area subject to any change in regulatory controls.			
GRAPHICS The following graphics must be attached and each box must be checked off before the EAS is complete. Each map must clearly depict the boundaries of the directly affected area or areas, and indicate a 400-foot radius drawn from the outer boundaries of the project site. Maps may not exceed 11x17 inches in size and must be folded to 8.5x11 inches for submission.			
<input checked="" type="checkbox"/> Site location map	<input checked="" type="checkbox"/> Zoning map	<input checked="" type="checkbox"/> Photographs of the project site taken within 6 months of EAS submission and keyed to the site location map	
<input checked="" type="checkbox"/> Sanborn or other land use map	<input checked="" type="checkbox"/> Tax map	<input type="checkbox"/> For large areas or multiple sites, a GIS shape file that defines the project sites	
PHYSICAL SETTING (both developed and undeveloped areas)			
Total directly affected area (sq. ft.):	Type of waterbody and surface area (sq. ft.):	Roads, building and other paved surfaces (sq. ft.):	
Site 5 of Large Scale Residential Development: 145,031 (Includes 31,341-sf project site.)	0	145,031	
Other, describe (sq. ft.):	0		
8. Physical Dimensions and Scale of Project (if the project affects multiple sites, provide the total development below facilitated by the action)			
Size of project to be developed:		Approx. 195,000 gross square feet (approx. 185,000 without the parking garage) (gross sq. ft.)	
Does the proposed project involve changes in zoning on one or more sites?		YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
If 'Yes,' identify the total square feet owned or controlled by the applicant:		Total square feet of non-applicant owned development:	
Does the proposed project involve in-ground excavation or subsurface disturbance, including but not limited to foundation work, pilings, utility lines, or grading?		YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	
If 'Yes,' indicate the estimated area and volume dimensions of subsurface disturbance (if known):			
Area:	31,341 sq. ft. (width x length)	Volume:	TBD cubic feet (width x length x depth)
Does the proposed project increase the population of residents and/or on-site workers?		YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> Number of additional residents? 126 Number of additional workers? 125	
Provide a brief explanation of how these numbers were determined:			
Residents: It is expected that all 120 assisted-living units would be single occupancy. However, it is conservatively assumed in this EAS, based on data from a comparable facility, that 5 percent of the units would include residents' spouses or partners.			
Workers: 125: 40 HCC office employees; 35 assisted living facility employees; 2 automated parking garage employees; medical office: 1/450 sf = 17 employees; community facility: 1/250 sf = 31 employees.			
Does the project create new open space?		YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> If Yes: (sq. ft)	
Using Table 14-1, estimate the project's projected operation solid waste generation, if applicable:		7,245* (pounds per week)	
Using energy modeling or Table 15-1, estimate the project's projected energy use:		48,886 million** (annual BTUs)	
* (51 lbs/bed x 120 beds = 6,120 lbs/week) + (125 employees x 9 lbs/wk = 1,125) = 7,245 lbs/wk.			
** 195,000 x 250,700 = 48,886 million BTUs.			
9. Analysis Year CEQR Technical Manual, Chapter 2			
ANTICIPATED BUILD YEAR (DATE THE PROJECT WOULD BE COMPLETED AND OPERATIONAL):		ANTICIPATED PERIOD OF CONSTRUCTION IN MONTHS:	
2015		23 months	
WOULD THE PROJECT BE IMPLEMENTED IN A SINGLE PHASE?		YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> IF MULTIPLE PHASES, HOW MANY PHASES:	
BRIEFLY DESCRIBE PHASES AND CONSTRUCTION SCHEDULE:		Project construction is expected to commence in 2013 and be complete by 2015.	
10. What is the Predominant Land Use in Vicinity of Project? (Check all that apply)			
<input checked="" type="checkbox"/> RESIDENTIAL	<input type="checkbox"/> MANUFACTURING	<input checked="" type="checkbox"/> COMMERCIAL	<input type="checkbox"/> PARK/FOREST/OPEN SPACE
			<input checked="" type="checkbox"/> OTHER, Describe: Transportation and Utility

DESCRIPTION OF EXISTING AND PROPOSED CONDITIONS

The information requested in this table applies to the directly affected area. The directly affected area consists of the project site and the area subject to any change in regulatory control. The increment is the difference between the No-Action and the With-Action conditions.

	EXISTING CONDITION	NO-ACTION CONDITION	WITH-ACTION CONDITION	INCREMENT
Land Use				
Residential	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
If yes, specify the following			Project site dwelling units classified as comm. facility for zoning purposes.	
No. of dwelling units	Project Site: 0 Rest of Site 5: 490	No change.	Project Site: 120 Rest of Site 5: 490	120
No. of low- to moderate-income units	490	No change.	Project Site: 60 Rest of Site 5: 490	60
No. of stories	26	No change.	Project Site: 17 Rest of Site 5: 26	
Gross Floor Area (sq. ft.)	646,036 in two buildings	No change.	Project Site: 195,000 Rest of Site 5: 646,036	195,000
Describe Type of Residential Structures	Two 26-story Section 8 rental buildings on Site 5	No change.	New assisted living facility on project site.	
Commercial	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
If yes, specify the following:				
Describe type (retail, office, other)	Retail in 265 Cherry Street	No change.	No change.	
No. of bldgs	1	No change.	No change.	
GFA of each bldg (sq. ft.)	2,200-sf corner deli in 324,131-sf building	No change.	No change.	
Manufacturing/Industrial	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
If yes, specify the following:				
Type of use				
No. of bldgs				
GFA of each bldg (sq. ft.)				
No. of stories of each bldg.				
Height of each bldg				
Open storage area (sq. ft.)				
If any unenclosed activities, specify				
Community Facility	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
If yes, specify the following				
Type	1 non-profit community development corporation in 275 Cherry Street	No change.	HCC offices, accessory office and residential space, community facility space for non-profit tenant, and medical office plus existing.	
No. of bldgs	1	No change.	1	
GFA of each bldg (sq. ft.)	275 Cherry Street is 324,131 sf	No change.	50,600 sf in 195,000-sf building plus existing	50,600
No. of stories of each bldg	26	No change.	17 and existing 26	
Height of each bldg	235	No change.	200 and existing 235	
Vacant Land	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
If yes, describe				
Publicly Accessible Open Space	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
If yes, specify type (mapped City, State, or Federal Parkland, wetland—mapped or otherwise known, other)				
Other Land Use	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
If yes, describe	Private playgrounds and seating areas	No change.	Private landscaped courtyard area.	
Parking				
Garages	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
If yes, specify the following:				
No. of public spaces			0	
No. of accessory spaces			Up to 117	117
Operating hours			24	
Attended or non-attended			Attended	

	EXISTING CONDITION	NO-ACTION CONDITION	WITH-ACTION CONDITION	INCREMENT
Parking (continued)				
Lots	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
If yes, specify the following:				
No. of public spaces	0	No change.	0	0
No. of accessory spaces	103	No change.	31	-72
Operating hours	24	No change.	24	
Other (includes street parking)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
If yes, describe There is street parking on Cherry Street and Rutgers Slip; these spaces will not be affected by the proposed project.				
Storage Tanks				
Storage Tanks	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
If yes, specify the following:				
Gas/Service stations:	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Oil storage facility:	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Other; identify:	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	Yes <input type="checkbox"/> No <input type="checkbox"/>	
If yes to any of the above, describe:				
Number of tanks			1	
Size of tanks			TBD	
Location of tanks			TBD	
Depth of tanks			TBD	
Most recent FDNY inspection date				
Population				
Residents	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
If any, specify number				
	Project Site: 0 Rest of Site 5: 1,122	No change.	Project Site: 126 Rest of Site 5: No change.	126
Briefly explain how the number of residents was calculated Existing Condition: Based on 2.29 persons per household in Manhattan CD 3. With-Action Condition: it is assumed that there would be one resident per room in the new facility.				
Businesses	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
If any, specify the following:				
No. and type	1 deli at 265 Cherry Street	No change.	HealthCare Chaplaincy offices, medical office, and community facility tenant plus existing	
No. and type of workers by business	TBD	No change.	75 HealthCare Chaplaincy; 2 parking garage; 17 medical office; 31 community facility tenant	125
No. and type of non-residents who are not workers	TBD	No change.	Approx. 47/day plus existing	Approx. 47/day
Briefly explain how the number of businesses was calculated Existing condition: Field Survey. With-Action Condition: The number of businesses is specific to the project program.				
Zoning*				
Zoning classification	C6-4	C6-4	C6-4	
Maximum amount of floor area that can be developed (in terms of bulk)	Site 5: 1,450,310 sf at 10.0 FAR (802,047 less existing) or 1,740,372 with bonus (1,092,109 less existing)		Site 5: 618,347 (or 908,409) remaining after project construction.	
Predominant land use and zoning classification within a 0.25-radius of proposed project Residential, commercial, public facilities, transportation and utility, and open space. C6-2, C6-4, C8-4, R7-2, R8, M1-4, M1-6.				
Attach any additional information as may be needed to describe the project.				
If your project involves changes in regulatory controls that affect one or more sites not associated with a specific development, it is generally appropriate to include the total development projections in the above table and attach separate tables outlining the reasonable development scenarios for each site.				

*This section should be completed for all projects, except for such projects that would apply to the entire city or to areas that are so extensive that site-specific zoning information is not appropriate or practicable.

PART II: TECHNICAL ANALYSES

INSTRUCTIONS: For each of the analysis categories listed in this section, assess the proposed project's impacts based on the thresholds and criteria presented in the *CEQR Technical Manual*. Check each box that applies.

- If the proposed project can be demonstrated not to meet or exceed the threshold, check the 'NO' box.
- If the proposed project will meet or exceed the threshold, or if this cannot be determined, check the 'YES' box.
- For each 'Yes' response, answer the subsequent questions for that technical area and consult the relevant chapter of the *CEQR Technical Manual* for guidance on providing additional analyses (and attach supporting information, if needed) to determine whether the potential for significant impacts exists. Please note that a 'Yes' answer does not mean that EIS must be prepared—it often only means that more information is required for the lead agency to make a determination of significance.
- The lead agency, upon reviewing Part II, may require an applicant to either provide additional information to support the Full EAS Form. For example, if a question is answered 'No,' an agency may request a short explanation for this response.

YES	NO
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1. LAND USE, ZONING AND PUBLIC POLICY: <i>CEQR Technical Manual, Chapter 4</i>		
(a)	Would the proposed project result in a change in land use or zoning that is different from surrounding land uses and/or zoning? Is there the potential to affect an applicable public policy? If 'Yes,' complete a preliminary assessment and attach.	✓
(b)	Is the project a large, publicly sponsored project? If 'Yes,' complete a PlaNYC assessment and attach.	✓
(c)	Is any part of the directly affected area within the City's Waterfront Revitalization Program boundaries? If 'Yes,' complete the Consistency Assessment Form.	✓
2. SOCIOECONOMIC CONDITIONS: <i>CEQR Technical Manual, Chapter 5</i>		
(a)	Would the proposed project:	
	• Generate a net increase of 200 or more residential units?	✓
	• Generate a net increase of 200,000 or more square feet of commercial space?	✓
	• Directly displace more than 500 residents?	✓
	• Directly displace more than 100 employees?	✓
	• Affect conditions in a specific industry?	✓
(b)	If 'Yes' to any of the above, attach supporting information to answer the following questions, as appropriate. If 'No' was checked for each category above, the remaining questions in this technical area do not need to be answered.	
(1)	<i>Direct Residential Displacement</i>	
	If more than 500 residents would be displaced, would these displaced represent more than 5% of the primary study area population?	
	If 'Yes,' is the average income of the directly displaced population markedly lower than the average income of the rest of the study area population?	
(2)	<i>Indirect Residential Displacement</i>	
	Would the expected average incomes of the new population exceed the average incomes of the study area populations?	
	If 'Yes,' would the population increase represent more than 5% of the primary study area population or otherwise potentially affect real estate market conditions?	
	If 'Yes,' would the study area have a significant number of unprotected rental units?	
	Would more than 10 percent of all the housing units be renter-occupied and unprotected?	
	Or, would more than 5 percent of all the housing units be renter-occupied and unprotected where no readily observable trend toward increasing rents and new market rate development exists within the study area?	

		YES	NO
(3) Direct Business Displacement			
Do any of the displaced businesses provide goods or service that otherwise could not be found within the trade area, either under existing conditions or in the future with the proposed project?			
Do any of the displaced businesses provide goods or services that otherwise could not be found within the trade area, either under existing conditions or in the future with the proposed project?			
Or is any category of business to be displaced the subject of other regulations or publicly adopted plans to preserve, enhance, or otherwise protect it?			
(4) Indirect Business Displacement			
Would the project potentially introduce trends that make it difficult for businesses to remain in the area?			
Would the project capture the retail sales in a particular category of goods to the extent that the market for such goods would become saturated as a result, potential resulting in vacancies and disinvestment on neighborhood commercial streets?			
(5) Effects on Industry			
Would the project significantly affect business conditions in any industry or any category of businesses within or outside the study area?			
Would the project indirectly substantially reduce employment or impair the economic viability in the industry or category of businesses?			
3. COMMUNITY FACILITIES: CEQR Technical Manual, Chapter 6			
(a) Would the project directly eliminate, displace, or alter public or publicly funded community facilities such as educational facilities, libraries, hospitals and other health care facilities, day care centers, police stations, or fire stations?			✓
(b) Would the project exceed any of the thresholds outlines in Table 6-1 in Chapter 6?			✓
(c) If 'No' was checked above, the remaining questions in this technical area do not need to be answered. If 'Yes' was checked, attach supporting information to answer the following, if applicable.			
(1) Child Care Centers			
Would the project result in a collected utilization rate of the group child care/Head Start centers in the study area that is greater than 100 percent?			
If 'Yes,' would the project increase the collective utilization rate by 5 percent from the No-Action scenario?			
(2) Libraries			
Would the project increase the study area population by 5 percent from the No-Action levels?			
If 'Yes,' would the additional population impair the delivery of library services in the study area?			
(3) Public Schools			
Would the project result in a collective utilization rate of the elementary and/or intermediate schools in the study area that is equal to or greater than 105 percent?			
If 'Yes,' would the project increase this collective utilization rate by 5 percent from the No-Action scenario?			
(4) Health Care Facilities			
Would the project affect the operation of health care facilities in the area?			
(5) Fire and Police Protection			
Would the project affect the operation of fire or police protection in the area?			
4. OPEN SPACE: CEQR Technical Manual, Chapter 7			
(a) Would the project change or eliminate existing open space?			✓
(b) Is the project located within an underserved area in the Bronx, Brooklyn, Manhattan, Queens, or Staten Island?			✓
(c) If 'Yes,' would the proposed project generate more than 50 additional residents or 125 additional employees?			
(d) Is the project located within a well-served area in the Bronx, Brooklyn, Manhattan, Queens, or Staten Island?			✓
(e) If 'Yes,' would the project generate more than 350 additional residents or 750 additional employees?			
(f) If the project is not located within an underserved or well-served area, would it generate more than 200 additional residents or 500 additional employees?			✓
(g) If 'Yes' to any of the above questions, attach supporting information to answer the following:			✓
• Does the project result in a decrease in the open space ratio of more than 5%?			
• If the project site is within an underserved area, is the decrease in open space between 1% and 5%?			
• If 'Yes,' are there qualitative considerations, such as the quality of open space, that need to be considered?			

		YES	NO
5. SHADOWS: CEQR Technical Manual, Chapter 8.			
(a)	Would the proposed project result in a net height increase of any structure of 50 feet or more?	✓	
(b)	Would the proposed project result in any increase in structure height and be located adjacent to or across the street from a sunlight-sensitive resource?	✓	
(c)	If 'Yes' to either of the above questions, attach supporting information explaining whether the project's shadow reach any sunlight-sensitive resource at any time of the year.		
6. HISTORIC AND CULTURAL RESOURCES: CEQR Technical Manual, Chapter 9			
(a)	Does the proposed project site or an adjacent site contain any architectural and/or archaeological resource that is eligible for, or has been designated (or is calendared for consideration) as a New York City Landmark, Interior Landmark or Scenic Landmark; is listed or eligible for listing on the New York State or National Register of Historic Places; or is within a designated or eligible New York City, New York State, or National Register Historic District? If "Yes," list the resources and attach supporting information on whether the proposed project would affect any of these resources.		✓
7. URBAN DESIGN AND VISUAL RESOURCES: CEQR Technical Manual, Chapter 10			
(a)	Would the proposed project introduce a new building, a new building height, or result in any substantial physical alteration to the streetscape or public space in the vicinity of the proposed project that is not currently allowed by existing zoning?	✓	
(b)	Would the proposed project result in obstruction of publicly accessible views to visual resources that is not currently allowed by existing zoning?	✓	
(c)	If "Yes" to either of the questions above, please provide the information requested in Chapter 10.		
8. NATURAL RESOURCES: CEQR Technical Manual, Chapter 11			
(a)	Is any part of the directly affected area within the Jamaica Bay Watershed? If "Yes," complete the Jamaica Bay Watershed Form.		✓
(b)	Does the proposed project site or a site adjacent to the project contain natural resources as defined in Section 100 of Chapter 11? If "Yes," list the resources: Attach supporting information on whether the proposed project would affect any of these resources.		✓
9. HAZARDOUS MATERIALS: CEQR Technical Manual, Chapter 12			
(a)	Would the proposed project allow commercial or residential use in an area that is currently, or was historically, a manufacturing area that involved hazardous materials?	✓	
(b)	Does the proposed project site have existing institutional controls (e.g., (E) designations or a Restrictive Declaration) relating to hazardous materials that preclude the potential for significant adverse impacts?		✓
(c)	Does the project require soil disturbance in a manufacturing zone or any development on or near a manufacturing zone or existing/historic facilities listed in Appendix 1 (including nonconforming uses)?	✓	
(d)	Does the project result in the development of a site where there is reason to suspect the presence of hazardous materials, contamination, illegal dumping or fill, or fill material of unknown origin?	✓	
(e)	Does the project result in development where underground and/or aboveground storage tanks (e.g., gas stations) are or were on or near the site?	✓	
(f)	Does the project result in renovation of interior existing space on a site with potential compromised air quality, vapor intrusion from on-site or off-site sources, asbestos, PCBs or lead-based paint?		✓
(g)	Does the project result in development on or near a government-listed voluntary cleanup/brownfield site, current or former power generation/transmission facilities, municipal incinerators, coal gasification or gas storage sites, or railroad tracks and rights-of-way?		✓
(h)	Has a Phase I Environmental Site Assessment been performed for the site? If 'Yes,' were RECs identified? Briefly identify: Historic automotive facilities with underground storage tanks (USTs)	✓	
(i)	Based on a Phase I Assessment, is a Phase II Assessment needed? Phase II was conducted in 2008. Spill remediation is ongoing with NYSDEC oversight	✓	
10. WATER AND SEWER INFRASTRUCTURE: CEQR Technical Manual, Chapter 13			
(a)	Would the project result in water demand of more than one million gallons per day?		✓
(b)	Is the proposed project located in a combined sewer area and result in at least 1,000 residential units or 250,000 sq. ft. or more of commercial space in Manhattan or at least 400 residential units or 150,000 sq. ft. or more of commercial space in the Bronx, Brooklyn, Staten Island or Queens?		✓
(c)	Is the proposed project located in a separately sewered area and result in the same or greater development than that listed in Table 13-1 in Chapter 13?		✓
(d)	Does the proposed project involve development on a site five acres or larger where the amount of impervious surface would increase?		✓
(e)	Would the proposed project involve development on a site one acre or larger where the amount of impervious surface would increase and is located within the Jamaica Bay Watershed or in certain specific drainage areas including: Bronx River, Coney Island Creek, Flushing Bay and Creek, Gowanus Canal, Hutchinson River, Newtown Creek, or Westchester Creek?		✓
(f)	Would the proposed project be located in an area that is partially sewered or currently unsewered?		✓
(g)	Is the project proposing an industrial facility or activity that would contribute industrial discharges to a WWTP and/or generate contaminated stormwater in a separate storm sewer system?		✓
(h)	Would the project involve construction of a new stormwater outfall that requires federal and/or state permits?		✓
(i)	If "Yes" to any of the above, conduct the appropriate preliminary analyses and attached supporting documentation.		

	YES	NO
11. SOLID WASTE AND SANITATION: <u>CEQR Technical Manual, Chapter 14</u>		
(a) Would the proposed project have the potential to generate 100,000 pounds (50 tons) or more of solid waste per week?		✓
(b) Would the proposed project involve a reduction in capacity at a solid waste management facility used for refuse or recyclables generated within the City?		✓
12. ENERGY: <u>CEQR Technical Manual, Chapter 15</u>		
(a) Would the proposed project affect the transmission or generation of energy?		✓
13. TRANSPORTATION: <u>CEQR Technical Manual, Chapter 16</u>		
(a) Would the proposed project exceed any threshold identified in Table 16-1 in Chapter 16?	✓	
(b) If "Yes," conduct the screening analyses, attach appropriate back up data as needed for each stage, and answer the following questions:		
(1) Would the proposed project result in 50 or more Passenger Car Equivalents (PCEs) per project peak hour? If "Yes," would the proposed project result in 50 or more vehicle trips per project peak hour at any given intersection? **It should be noted that the lead agency may require further analysis of intersections of concern even when a project generates fewer than 50 vehicles in the peak hour. See Subsection 313 in Chapter 16 for more information.		✓
(2) Would the proposed project result in more than 200 subway/rail or bus trips per project peak hour? If "Yes," would the proposed project result per project peak hour, in 50 or more bus trips on a single line (in one direction) or 200 subway trips per station or line?		✓
(3) Would the proposed project result in more than 200 pedestrian trips per project peak hour? If "Yes," would the proposed project result in more than 200 pedestrian trips per project peak hour to any given pedestrian or transit element, crosswalk, subway stair, or bus stop?		✓
14. AIR QUALITY: <u>CEQR Technical Manual, Chapter 17</u>		
(a) <i>Mobile Sources:</i> Would the proposed project result in the conditions outlined in Section 210 in Chapter 17? <i>Stationary Sources:</i> Would the proposed project result in the conditions outlined in Section 220 in Chapter 17?	✓	
(b) If "Yes," would the proposed project exceed the thresholds in the Figure 17-3, Stationary Source Screen Graph? (attach graph as needed)	✓	
(c) Does the proposed project involve multiple buildings on the project site?		✓
(d) Does the proposed project require Federal approvals, support, licensing, or permits subject to conformity requirements?	✓	
(e) Does the proposed project site have existing institutional controls (e.g., (E) designations or a Restrictive Declaration) relating to air quality that preclude the potential for significant adverse impacts?		✓
(f) If "Yes," conduct the appropriate analyses and attach any supporting documentation.		
15. GREENHOUSE GAS EMISSIONS: <u>CEQR Technical Manual, Chapter 18</u>		
(a) Is the proposed project a city capital project, a power plant, or would fundamentally change the City's solid waste management system?		✓
(b) If "Yes," would the proposed project require a GHG emissions assessment based on the guidance in Chapter 18?		
(c) If "Yes," attach supporting documentation to answer the following; Would the project be consistent with the City's GHG reduction goal?		
16. NOISE: <u>CEQR Technical Manual, Chapter 19</u>		
(a) Would the proposed project generate or reroute the vehicular traffic?	✓	
(b) Would the proposed project introduce new or additional receptors (see Section 124 in Chapter 19) near heavily trafficked roadways, within one horizontal mile of an existing or proposed flight path, or within 1,500 feet of an existing or proposed rail line with a direct line of sight to that rail line?	✓	
(c) Would the proposed project cause a stationary noise source to operate within 1,500 feet of a receptor with a direct line of sight to that receptor or introduce receptors into an area with high ambient stationary noise?	✓	
(d) Does the proposed project site have existing institutional controls (e.g., E-designations or a Restrictive Declaration) relating to noise that preclude the potential for significant adverse impacts?		✓
(e) If "Yes," conduct the appropriate analyses and attach any supporting documentation.		
17. PUBLIC HEALTH: <u>CEQR Technical Manual, Chapter 20</u>		
(a) Would the proposed project warrant a public health assessment based upon the guidance in Chapter 20?		✓
18. NEIGHBORHOOD CHARACTER: <u>CEQR Technical Manual, Chapter 21</u>		
(a) Based upon the analyses conducted for the following technical areas, check 'Yes' if any of the following technical areas required a detailed analysis: Land Use, Zoning, and Public Policy; Socioeconomic Conditions; Open Space; Historic and Cultural Resources; Urban Design and Visual Resources; Shadows; Transportation; Noise.		✓
(b) If "Yes," explain here why or why not an assessment of neighborhood character is warranted based on the guidance in Chapter 21, "Neighborhood Character." Attach a preliminary analysis, if necessary.		

19. CONSTRUCTION IMPACTS: <i>CEQR Technical Manual, Chapter 22</i>		YES	NO
Would the project's construction activities involve (check all that apply):			
• Construction activities lasting longer than two years;			✓
• Construction activities within a Central Business District or along an arterial or major thoroughfare;	✓		
• Require closing, narrowing, or otherwise impeding traffic, transit or pedestrian elements (roadways, parking spaces, bicycle routes, sidewalks, crosswalks, corners, etc);	✓		
• Construction of multiple buildings where there is a potential for on-site receptors on buildings completed before the final build-out;			✓
• The operation of several pieces of diesel equipment in a single location at peak construction;			✓
• Closure of community facilities or disruption in its service;			✓
• Activities within 400 feet of a historic or cultural resource; or			✓
• Disturbance of a site containing natural resources.			✓

If any boxes are checked, explain why or why not a preliminary construction assessment is warranted based on the guidance of in Chapter 22, "Construction." It should be noted that the nature and extent or any commitment to use the Best Available Technology for construction equipment or Best Management Practices for construction activities should be considered when making this determination.

A preliminary construction assessment is not warranted because project construction would be short term (23 months) and sidewalk and lane closures on Rutgers Slip and South Street would not be in areas with high pedestrian activity or near sensitive land uses. It is expected that staging would primarily occur on Rutgers Slip and the demapped portion of Jefferson Street, but it may be necessary to use a portion of the curbside lane on South Street.

Further, as described in Attachment D, "Hazardous Materials," the proposed project would prepare and implement a Remedial Action Plan and associated Construction Health and Safety Plan in accordance with New York State Department of Environmental Conservation (NYSDEC) requirements to avoid significant adverse impacts related to hazardous materials during construction. In addition, remediation of an existing petroleum spill would continue in accordance with NYSDEC requirements and any tanks unexpectedly encountered during project excavation would be properly closed and removed along with any contaminated soil.

20. APPLICANT'S CERTIFICATION

I swear or affirm under oath and subject to the penalties for perjury that the information provided in this Environmental Assessment Statement (EAS) is true and accurate to the best of my knowledge and belief, based upon my personal knowledge and familiarity with the information described herein and after examination of pertinent books and records and/or after inquiry of persons who have personal knowledge or such information or who have examined pertinent books and records.

Still under oath, I further swear or affirm that I make this statement in my capacity as the

CEO and President
APPLICANT/SPONSOR

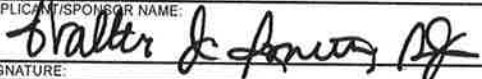
of HealthCare Chaplaincy, Inc.
NAME OF THE ENTITY OR OWNER

the entity which seeks the permits, approvals, funding or other governmental action described in this EAS.

Check if prepared by: APPLICANT/REPRESENTATIVE or LEAD AGENCY REPRESENTATIVE (FOR CITY-SPONSORED PROJECTS)

Rev. Walter Smith, SJ
APPLICANT/SPONSOR NAME

LEAD AGENCY REPRESENTATIVE NAME

SIGNATURE: 

DATE: MAY 2, 2013

PLEASE NOTE THAT APPLICANT MAY BE REQUIRED TO SUBSTANTIATE RESPONSES IN THIS FORM AT THE DISCRETION OF THE LEAD AGENCY SO THAT IT MAY SUPPORT ITS DETERMINATION OF SIGNIFICANCE.

PART 1: 4. PROJECT DESCRIPTION

A. INTRODUCTION

HealthCare Chaplaincy, Inc. (HCC)—a national leader in the research, education, and practice of spirit-centered palliative care—proposes to construct a 17-story National Center for Palliative Care Innovation (the proposed project) on South Street between Rutgers Slip and Clinton Street in Manhattan (see **Figure 1**). The primary component of the proposed project would be an enhanced assisted living residence in which older adults enter needing only help with a few activities of daily living and are able to live through the end of their lives without the need for transfers to hospitals and skilled nursing care.

The project site is located on Site 5 within the boundaries of the former Two Bridges Urban Renewal Area, which expired in 2007. Site 5 is 145,031 square feet and generally bounded by Cherry Street, the former location of Jefferson Street (demapped), South Street, and Rutgers Slip. Special Permits authorized by the City Planning Commission (CPC) in 1977 involving a Large Scale Residential Development permitted the construction of the Land's End IIA Housing Project on Site 5. That 490-unit development, completed around 1979, consists of two 26-story low-income rental apartment buildings at 265 and 275 Cherry Street, a paved parking lot with 103 spaces on South Street, a paved area on the west side of 265 Cherry Street between Cherry and South Streets, and private playgrounds and landscaped seating areas between the two buildings. Site 5 also includes the private Rutgers Park along the Rutgers Slip block frontage. The 31,341-square-foot proposed project site comprises the Land's End IIA parking lot on South Street (see **Figures 2, 3, and 4a**). The area of the proposed project site has recently been severed from the existing Block 247, Lot 1 to create new tax Lot 2, Block 247.

A minor modification of the Two Bridges Large Scale Residential Development Plan is required to allow the proposed project to be built within the area covered by the Plan. The proposed project would otherwise comply with all applicable requirements of the Zoning Resolution of the City of New York.

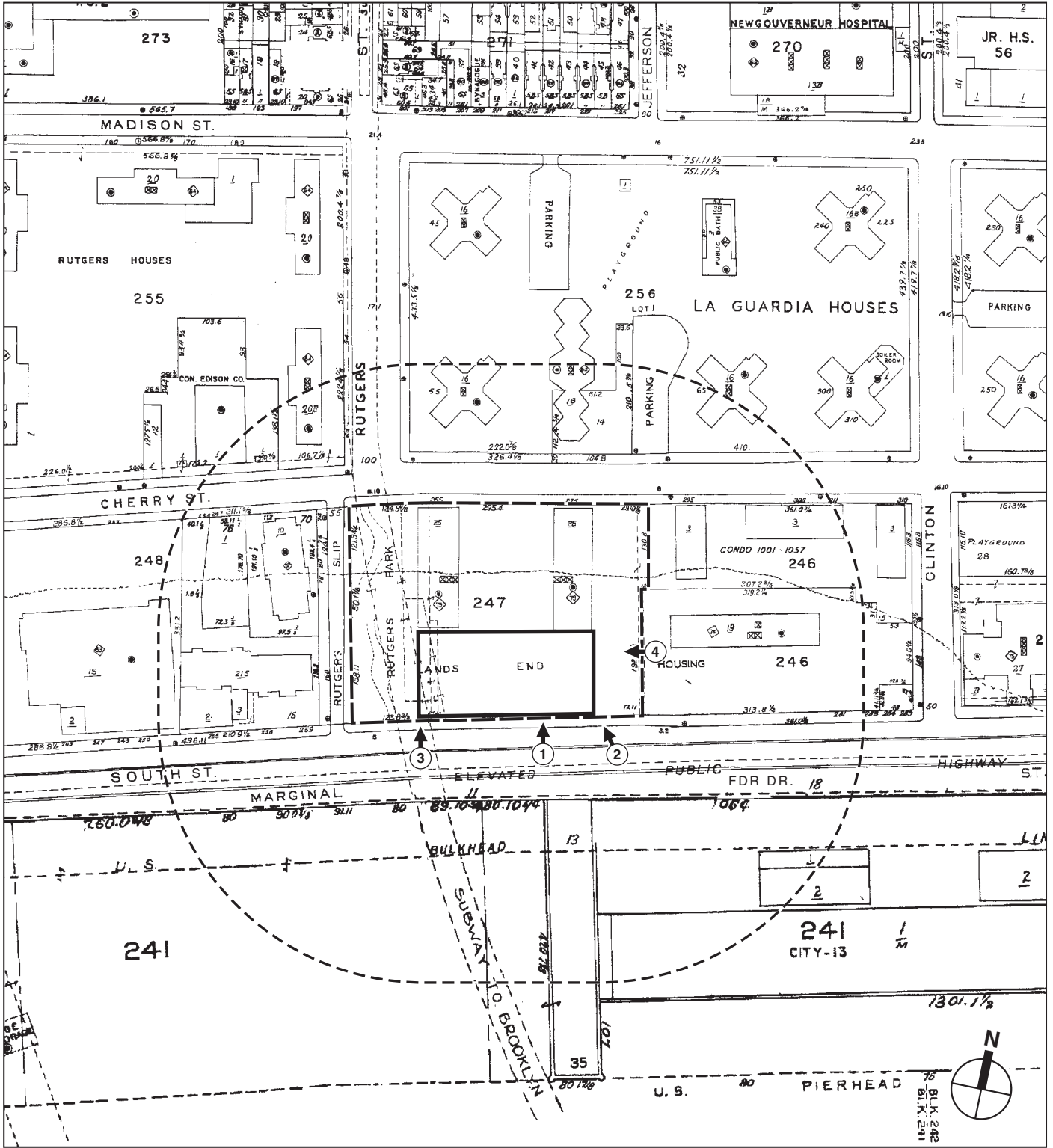
B. THE PROPOSED PROJECT

The proposed National Center for Palliative Care Innovation is a 17-story (plus mechanical level) approximately 195,000-gross-square-foot (gsf) building (approximately 185,000 gsf without the parking garage) that would be constructed on the site of the South Street parking lot (see **Figures 4a and 4b**). Pursuant to the minor modification, the maximum floor area of the building would be 183,700 zoning square feet and all uses in the proposed building would be community facility uses in zoning use groups 3 and 4, plus accessory parking. The 103 existing accessory at-grade parking spaces would be reconfigured and up to 45 new accessory parking spaces would be added, for a total of up to 148 parking spaces (31 of which would be located at-grade and up to 117 of which would be located within the automated parking garage in the proposed new building). Pursuant to the reconfigured site plan, the existing paved area west of 265 Cherry Street would have 28 at-grade accessory parking spaces, including four accessible parking spaces. In addition, three accessible parking spaces would be located adjacent to the southeast corner of the existing building at 275 Cherry Street.

Figures 4a through 4c show the existing site plan, the proposed site site plan, and the building configuration and uses for which approval is sought and that are analyzed as the reasonable maximum build scenario in this EAS. Upon approval, the drawings shown on **Figures 4b and 4c** would become part of the Two Bridges Large Scale Residential Development Plan, with which the project would be required to comply. Thus, the configuration and dimensions set forth on the drawings shown on **Figures 4b and 4c** would be established for the project by the approval of the minor modification.

The proposed National Center for Palliative Care Innovation is organized into a five-story base and a 12-story tower with a mechanical floor above (see **Figures 4b-11**). The base would contain community facility uses, including HCC's headquarters on the fifth floor and an outpatient medical practice on the third floor, as well as an automated parking garage and support spaces. The tower would contain community facility uses, including the assisted living residential units on floors 7 through 16. A three-story covered and lighted opening in the center of the building would provide access to the lobby and a visual connection between the neighborhood north of the National Center for Palliative Care Innovation and the newly constructed East River Esplanade. A loading area would be located on the west side of the building, accessed through the existing curb cut to the at-grade parking lot from South Street near Rutgers Slip. As shown in the application drawings, and on **Figures 4b and 4c**, the upper floors of the building would be set back above the base and would have a curved massing. The area around the building footprint would be landscaped.

10.16.12



- Project Site Boundary
- - -** Two Bridges Urban Renewal Area Site 5
- · - · -** Study Area Boundary (400-Foot Perimeter)
- ① →** Photograph View Direction and Reference Number (see Figures 2 and 3)

0 100 250 FEET
SCALE



View north from South Street 1



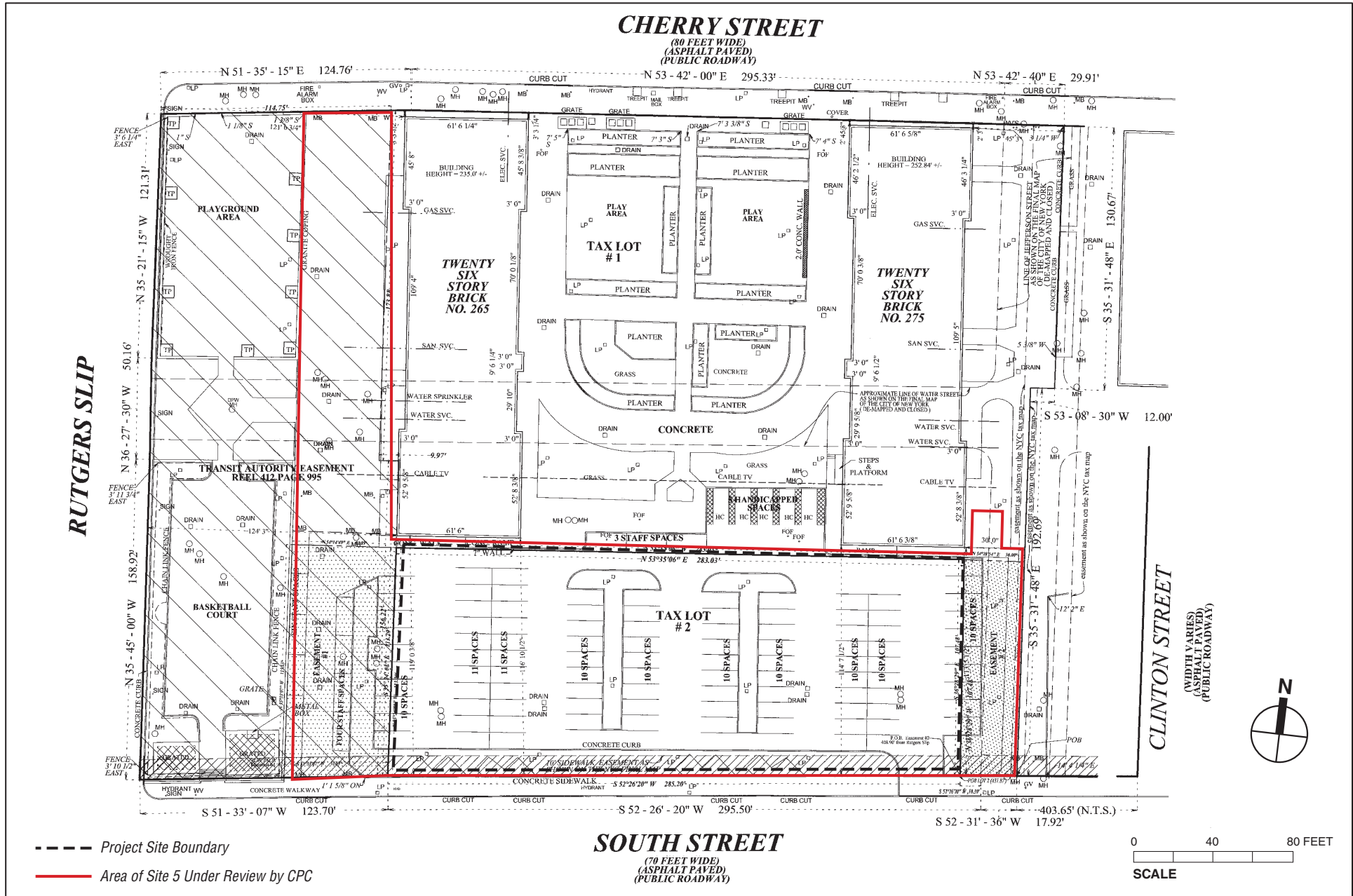
View northwest from South Street 2



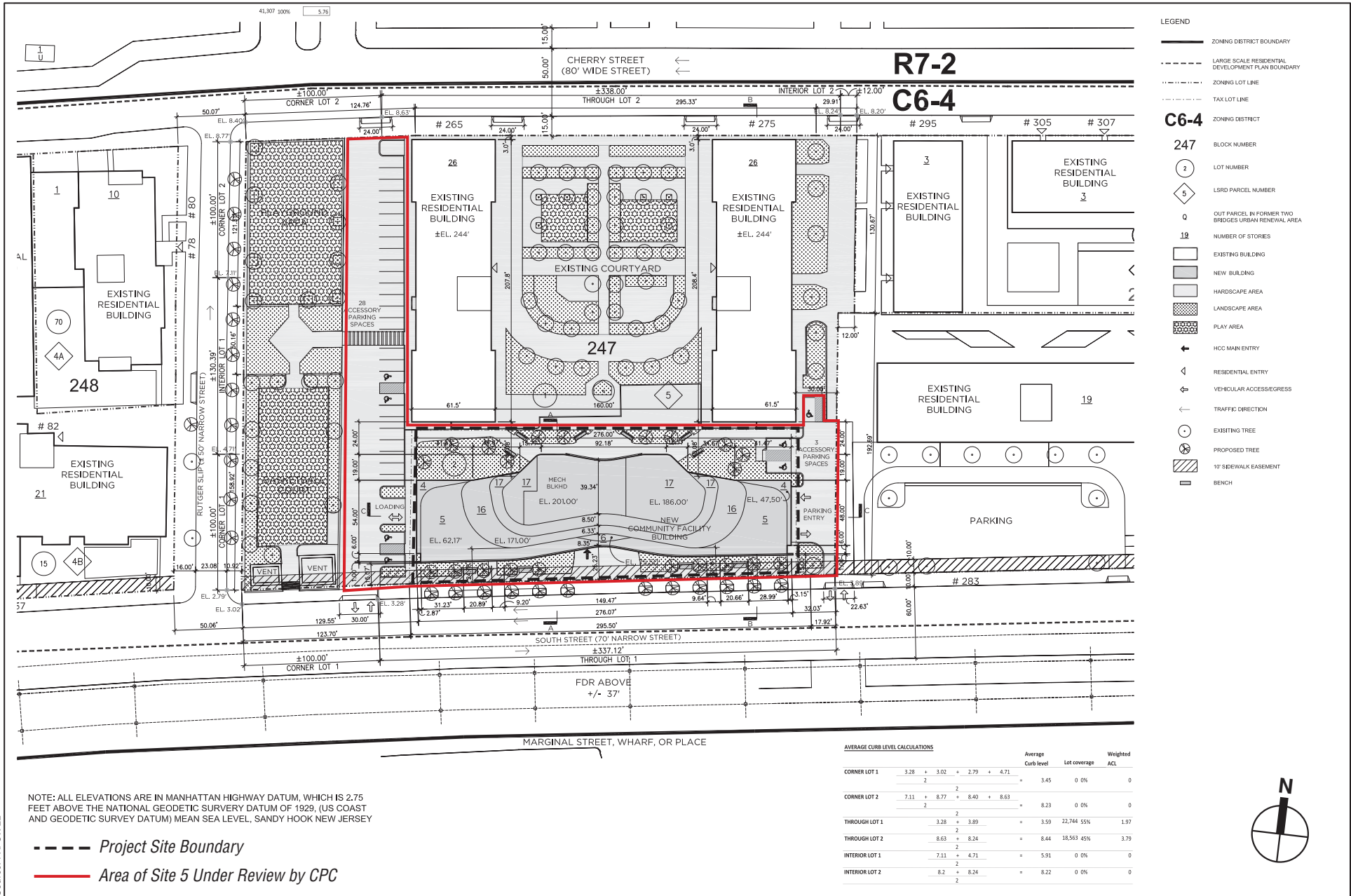
View north from South Street 3



View west from alignment of former Jefferson Street 4

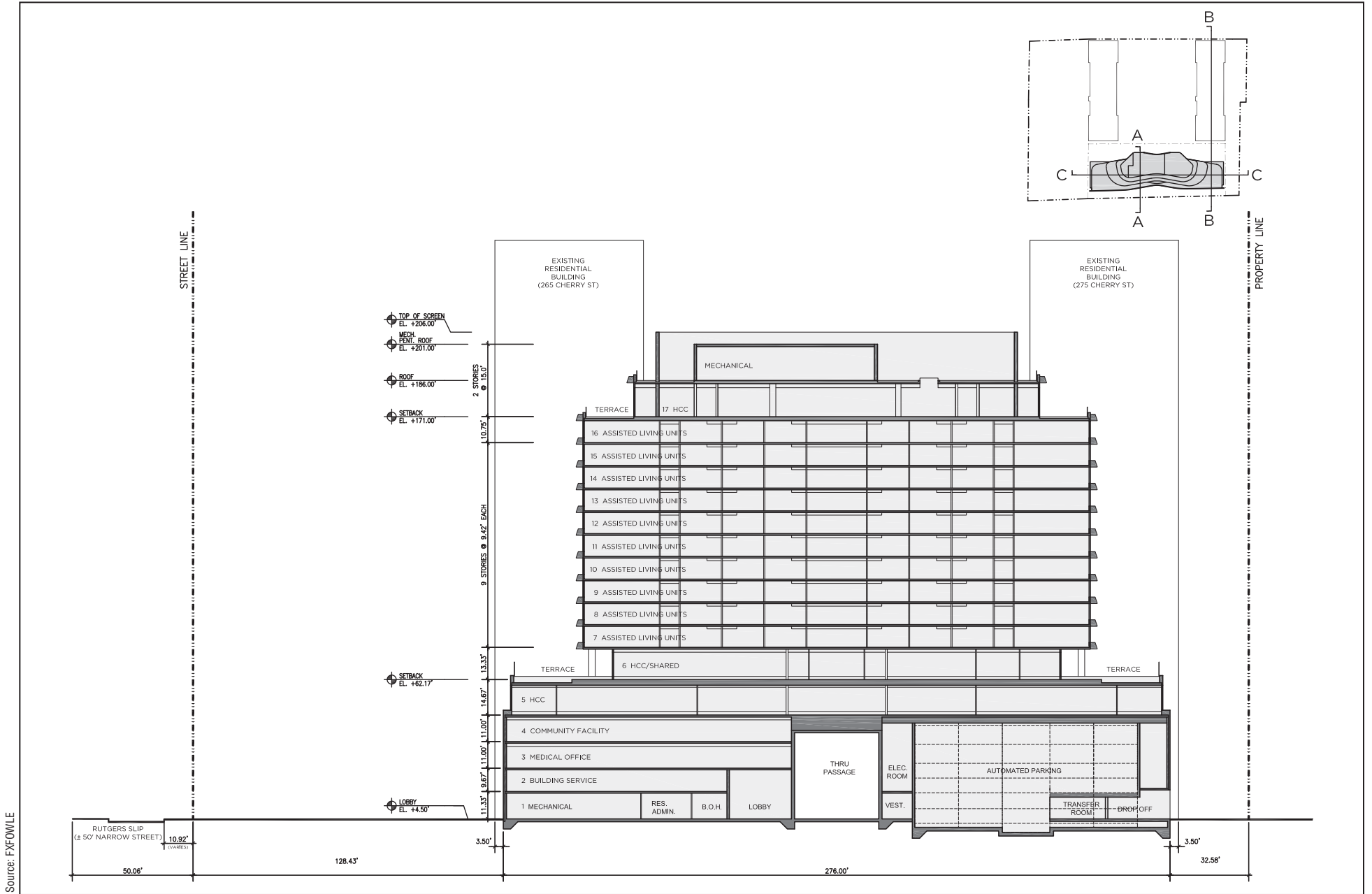


SOURCE: Fehring Surveying, P.C. - Survey: October 28, 2010



Source: FXFOWLE

NOTE: This figure was revised in March 2013 after the EAS was filed May 2012 to show changes to the landscape plan.



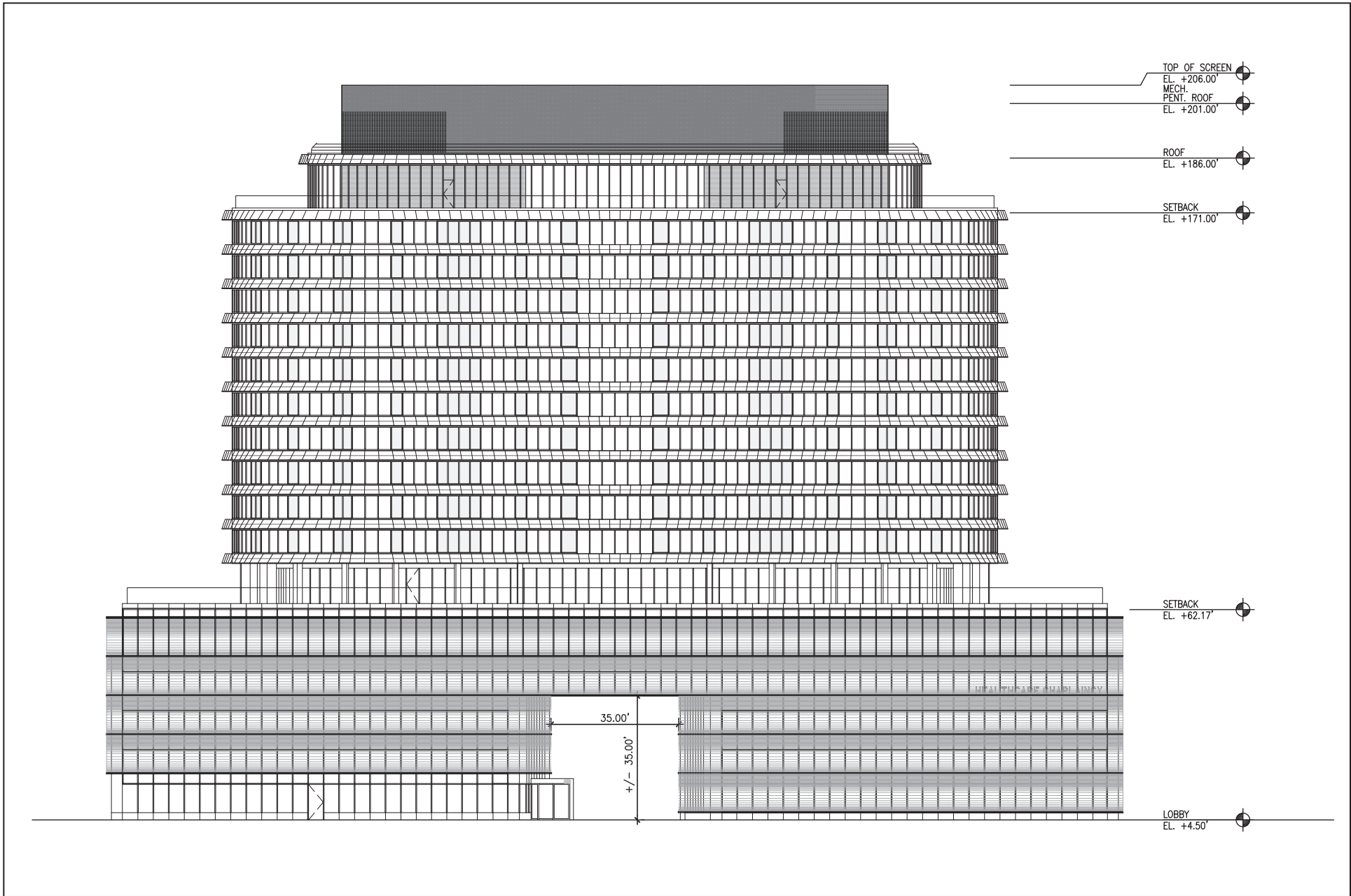
Source: FXFOWLE



Source: FXFOWLE

NOTE: This figure was revised in March 2013 after the EAS was filed May 2012 to show changes to the landscape plan.

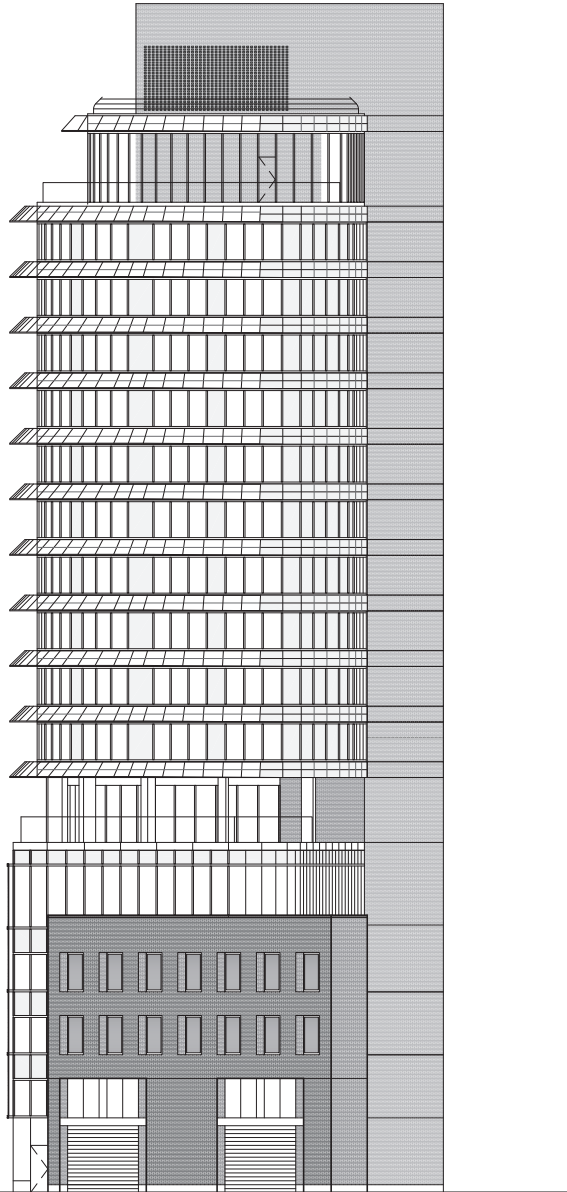
For Illustrative Purposes Only



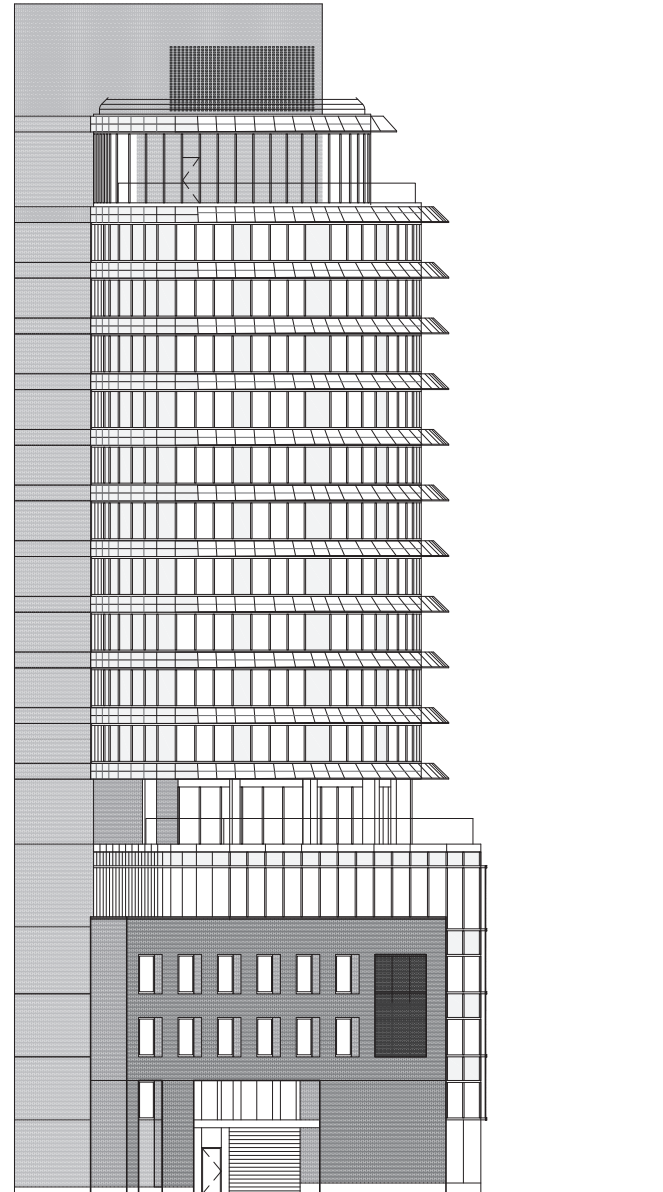
For Illustrative Purposes Only

National Center for Palliative Care Innovation
at HealthCare Chaplaincy

Illustrative South Elevation
Figure 6



EAST ELEVATION



WEST ELEVATION

For Illustrative Purposes Only

National Center for Palliative Care Innovation
at HealthCare Chaplaincy

Illustrative East and West Elevations

Figure 7



Source: FXFOWLE

For Illustrative Purposes Only

National Center for Palliative Care Innovation
at HealthCare Chaplaincy

Illustrative Project Rendering
View Looking West from FDR Drive

Figure 8



Source: FXFOWLE

For Illustrative Purposes Only

National Center for Palliative Care Innovation
at HealthCare Chaplaincy

Illustrative Project Rendering
View Looking East from South Street

Figure 9



Source: FXFOWLE

For Illustrative Purposes Only

National Center for Palliative Care Innovation
at HealthCare Chaplaincy

Illustrative Project Rendering
View Looking at South Street Entry
Figure 10



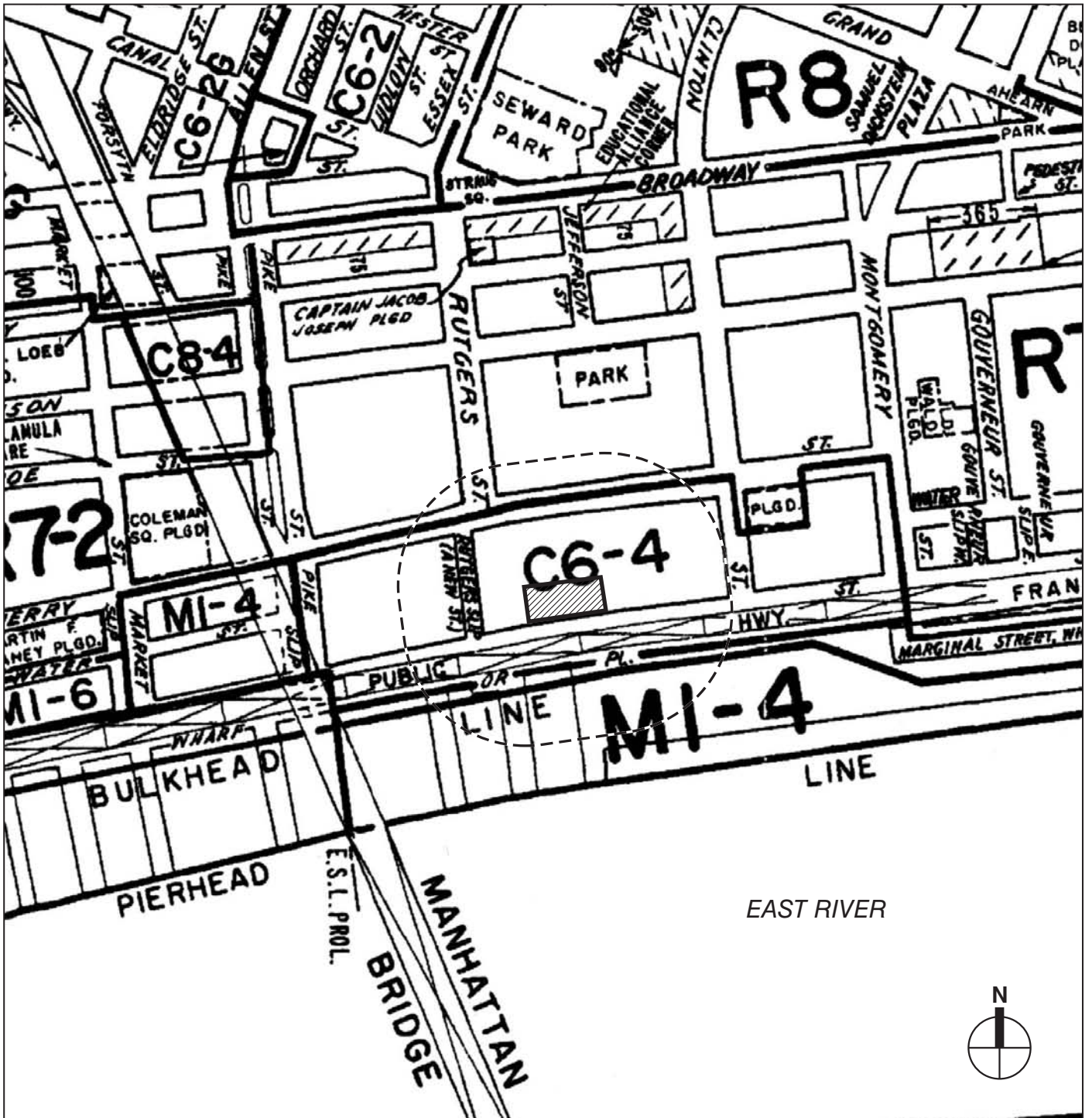
Source: FXFOWLE





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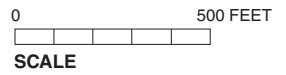
National Center for Palliative Care Innovation
at HealthCare Chaplaincy

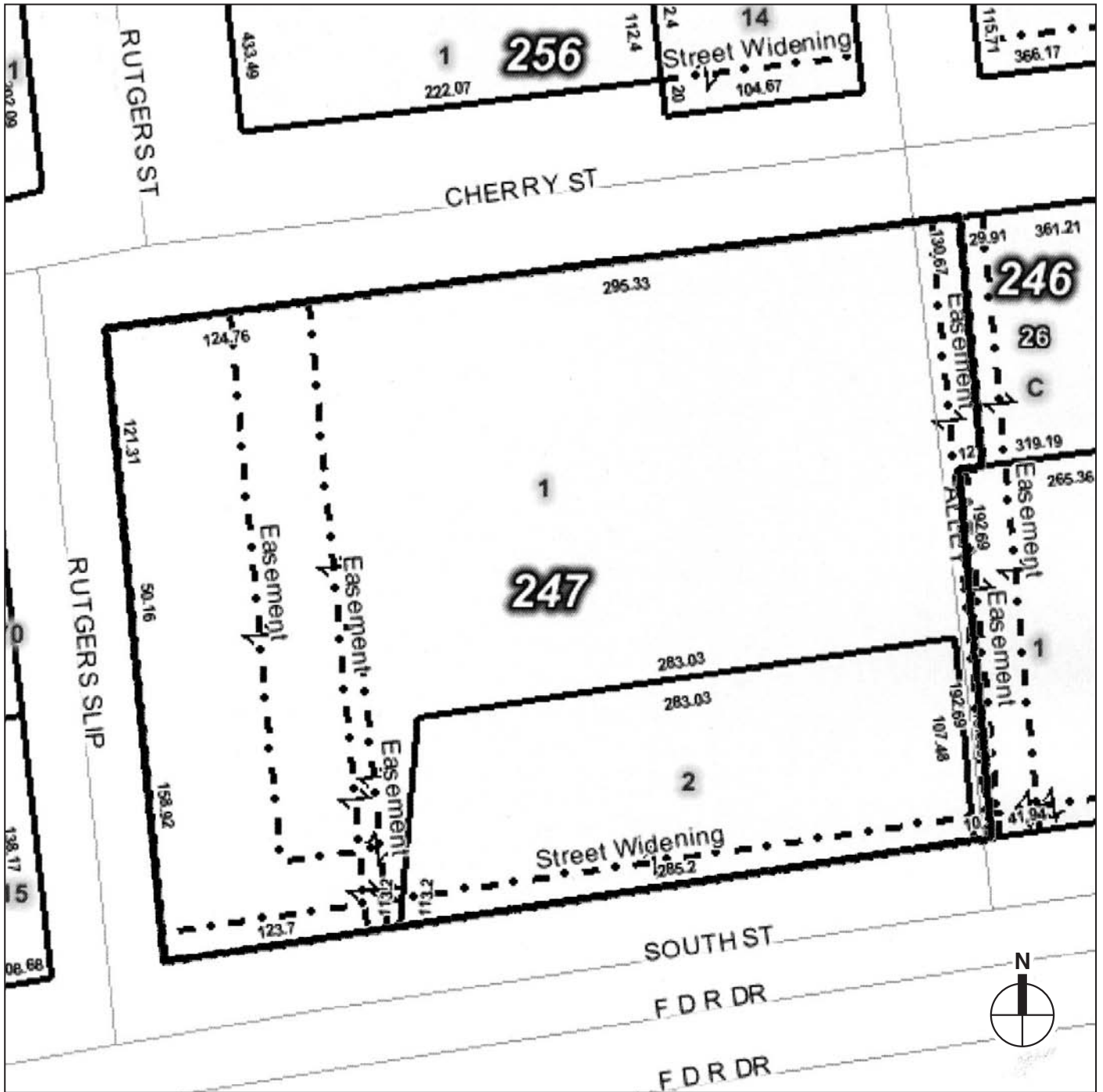
Illustrative Project Rendering
View Looking Southwest from Courtyard

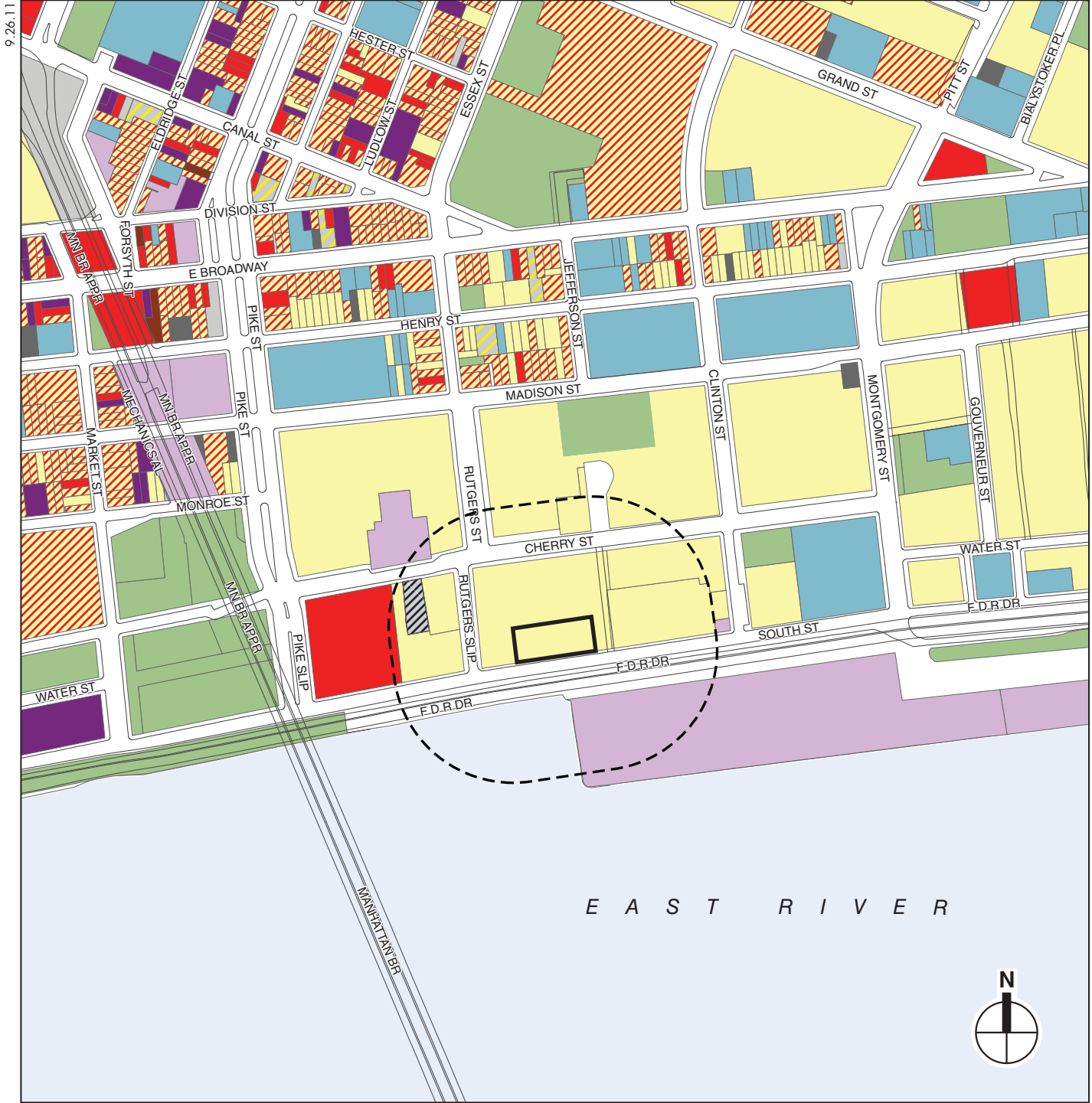
Figure 11

















-  Project Site
-  Study Area Boundary (400-Foot Perimeter)
-  Zoning District Boundary
-  C1-5 Overlay







- | | | | |
|---|---|---|---|
|  | <i>Project Site</i> |  | <i>Public Facilities and Institutions</i> |
|  | <i>Study Area Boundary (400-Foot Perimeter)</i> |  | <i>Open Space and Outdoor Recreation</i> |
|  | <i>Residential</i> |  | <i>Parking Facilities</i> |
|  | <i>Residential with Commercial Below</i> |  | <i>Vacant Land</i> |
|  | <i>Hotels</i> |  | <i>Vacant Building</i> |
|  | <i>Commercial and Office Buildings</i> |  | <i>Under Construction</i> |
|  | <i>Industrial and Manufacturing</i> | | |
|  | <i>Transportation and Utility</i> | | |

0 500 FEET
SCALE



The automated parking garage would be located in one volume, with multiple vehicle storage tiers, between the first and fourth floor levels on the east side of the proposed building. Access to the parking garage would be on the east side of the building from South Street at a paved service drive that follows the former location of Jefferson Street (which has been demapped south of Madison Street) where there is an existing curb cut and access area to the Land's End development. Easements would be granted to the proposed project for use of those curb cuts and existing paved areas. In the envelope and volume proposed for internal parking as part of the minor modification application, it would not be possible to park the number of vehicles proposed without the use of an automated parking system. The footprint of the space would not allow for enough area to create a ramp and circulation that would be required to park cars on multiple levels. Additionally, if a lift were used, the compact footprint could not accommodate many spaces per floor and the height of the volume would not allow for the number of levels of parking needed in a conventional system.

The aspects of the proposed project described above are set forth on the application drawings that would become part of the Large Scale Residential Development Plan upon approval.

C. FRAMEWORK FOR THE ANALYSIS

In order to assess the potential impacts of the proposed actions, a reasonable worst-case development scenario (RWCDs) was established for both the current (Future "No-Action") and proposed (Future "With-Action") conditions, assuming a 2015 build year. The incremental difference between the No-Action and With-Action conditions will serve as the basis for the impact analyses of the EAS.

Future Without the Proposed Action

Any development within the Two Bridges Urban Renewal Area would require modification of the Two Bridges Large Scale Residential Development Plan. Absent the proposed actions, no construction would occur on the project site and the current use, an existing 103-space surface parking lot, would remain.

Future With the Proposed Action

The RWCDs is based on the proposed actions, which would only permit the proposed building as set forth on the proposed site plan. As noted above, the proposed National Center for Palliative Care Innovation is a 17-story, approximately 195,000-gsf community facility (Use Groups 3 and 4) building, with up to 148 accessory parking spaces (31 of which would be located at-grade and up to 117 of which would be located within the automated parking garage in the proposed building). Upon approval, the drawings shown on **Figures 4b and 4c** would become part of the Two Bridges Large Scale Residential Development Plan, with which the project would be required to comply. Thus, the configuration and dimensions set forth on the drawings shown on **Figures 4b and 4c** would be established for the project by the approval of the minor modification.

A detailed program was developed based on aspects of the proposed project that are set forth on the application drawings that would become part of the Large Scale Residential Development Plan upon approval. The size of each program element is based on its location in the proposed new building, as shown on the application drawings (and on **Figures 4b and 4c**), except that the number of enhanced assisted living residence units is based on efficient unit layouts that provide the required exterior window for each unit. The analyses provided in this EAS are based on this program:

- Community facility use group 3 (non-profit with sleeping accommodations): 120 enhanced assisted living residence units (at approximately 500 gsf each), located on floors 7 through 16;
- Community facility use group 4 (non-profit without sleeping accommodations): HCC's headquarters on the fifth floor at approximately 17,000 gsf, and space for a not-for-profit tenant and/or potential HCC expansion space on the fourth floor at approximately 7,700 gsf (the fourth floor is smaller because it covers only the western side of the building);
- Community facility use group 4 (medical offices): an outpatient medical practice on the third floor at approximately 7,700-gsf, expected to provide geriatric and palliative care;
- Community facility accessory uses: a kitchen (1,900 square feet), dining area (1,600 square feet), and meeting rooms (6,400 square feet) on the sixth floor, totaling approximately 9,900 gsf; a chapel, ambulatory, and an accessory assembly space on the seventeenth floor, at approximately 8,300 gsf; and lobby and mechanical and support services on the ground, second, third, fourth, and top floors.

Design of the new building is not complete, although current elevations and renderings are shown in **Figures 6-11** for illustrative purposes. The overall maximum dimensions of the proposed new building are set forth on the application drawings that would become part of the Large Scale Residential Development Plan upon approval. In addition, due to zoning restrictions, there is limited opportunity to design an enhanced assisted living residential building on the project site with a different massing than what is proposed for the National Center for Palliative Care Innovation. Zoning restrictions applicable to the project site that affect the location and configuration of the building include:

- Zoning Resolution Section 23-711, Standard Minimum Distance Between Buildings, which would require that the minimum distance between buildings in a wall-to-wall condition be a minimum of 40 feet to the north;
- Zoning Resolution Section 23-532, Required Rear Yard Equivalent, which would require an open area at the side lot line to the east with a minimum width of 30 feet; and
- Zoning Resolution Section 33-442, Alternate Front Setbacks In Other Commercial Districts, which would require an initial open space of 15 feet to the south and impose a 3.7:1 sky exposure plane.

Alternative designs for the proposed project that would conform to the applicable zoning regulations would be inefficient and would have a poor urban design relationship to the adjacent Land's End IIA development. Alternative designs would locate either the entire building or the tower portion further north on the project site to the edge of the existing courtyard between the apartment buildings at 265 and 275 Cherry Street. These configurations would block off the courtyard from views toward the East River and would place an approximately 17-story building closer to the southern facades of the existing apartment buildings. Further, these alternative designs for a building with the same program would result in much less functional buildings and would not meet the purpose and need of the proposed project. As each enhanced assisted living unit is required to have an exterior window and all of the units would be small units, the depth and corners of the towers in the alternative designs would result in long, inefficiently arranged residential units.

Project Increment

Based on the above, the incremental difference between the No-Action and With-Action conditions for the project site is:

- An increase of 120 dwelling units;
- An increase of 50,600 square feet of community facility space; and
- An increase of up to 45 parking spaces.

Table 1 shows the incremental difference between the With-Action and No-Action conditions.

Table 1
Proposed Project Increment

Use	No-Action Condition	With-Action Condition	Increment
Residential	0	120 units*	120 units
Community Facility	0	50,600 square feet**	50,600 square feet
Parking	103 spaces	148 spaces	45 spaces

Notes:

* The project site enhanced assisted living residence units are classified as a community facility use for zoning purposes.

** This space includes the Use Group 4 spaces on the fourth and fifth floors, the Use Group 4 space (medical offices) on the third floor, and the community facility accessory uses on the sixth and seventeenth floors.

The analysis of the proposed actions will be based on this incremental difference.

D. PURPOSE AND NEED FOR THE PROJECT

The elderly population in New York City is expected to grow from approximately 900,000 projected in 2010 to close to 1,400,000 in 2030 with an estimated 35 percent over 75 years of age. In 2005, 35 percent of all persons in the City over 65 years of age lived alone. As the current care-givers age over the next 20 years, the following generation, which is not as large, will not be able to provide the same number of care-givers.

In 2005, 36.6 percent of persons over 65 years of age in New York City had mobility and self-care limitations. The leading causes of death of those over 65 in 2005 were heart disease, malignant neoplasms, influenza and pneumonia,

diabetes mellitus, and chronic lower respiratory diseases. The leading causes of hospitalization were heart disease, injuries and poisoning, diabetes, and pneumonia and influenza. Extrapolating this data shows that the length of life from time of major diagnosis to death is an average of three years. Many of these conditions/diseases are likely to be exacerbated in those living alone due to lack of day-to-day care, inadequate nutrition, falls, and poor diet management. As the population lives longer with these chronic diseases and opts for less institutionalized care, the need for community-based residences will grow.

Currently, there are only six licensed adult care facilities in Manhattan with 654 beds, 127 of which are assisted living program (ALP/Medicaid) beds. Given the growing population of those persons 75 or over, there is likely to be a strong demand for enhanced assisted living units as opposed to skilled nursing facilities. New York is also seeing less emigration of the 65 and over population, suggesting that population growth statistics may be understated.

With the proposed on-site geriatric and palliative care outpatient services, residents of the National Center for Palliative Care Innovation and the residents of Community Board 3 would be able to receive regular medical care in one location thereby reducing the stress and strain of travelling to multiple locations for routine care. In addition, as the first geriatric and palliative care practice connected with a residence, HCC's National Center for Palliative Care Innovation would offer unique opportunities for training healthcare professionals in palliative care and care for those with serious progressive chronic illnesses. In addition, the National Center for Palliative Care Innovation would provide a unique opportunity for educating health care providers in palliative care—currently HCC is the largest and most established provider of educational services to chaplains in the United States. This National Center for Palliative Care Innovation would serve as a national demonstration of how to provide quality and cost-efficient palliative care for persons with serious progressive illness.

Because the Large Scale Residential Development Plan sets forth the size and configuration of all development on the project site, the proposed project would not be permitted without the requested minor modification to the Plan.

E. ACTIONS AND APPROVALS

Minor modification: Approval of a minor modification to the Two Bridges Large Scale Residential Development Plan is requested from the Chairperson of the City Planning Commission to revise and update the calculations in the Large Scale Residential Development documents to:

1. increase community facility and total floor area by 183,700 zoning square feet, community facility and total lot coverage by 16,972 square feet, and the floor area ratio by 1.23;
2. relocate the 103 existing accessory on-grade parking spaces and add 45 new accessory parking spaces, for a total of 148 parking spaces (31 of which would be located on-grade and 117 of which would be located within an automated parking garage); and
3. correct minor errors in dimensions shown in existing Large Scale Residential Development documentation.

The proposed building would otherwise comply with the C6-4 zoning district and any other applicable requirements of the Zoning Resolution of the City of New York. No special permits, authorizations or other zoning approvals or action by the City Planning Commission would be required.

Other approvals: The proposed project requires a license from the New York State Department of Health. The project is also seeking U.S. Department of Housing and Urban Development Section 232 financing (Mortgage Insurance for Nursing Homes, Intermediate Care, Board and Care, and Assisted-Living Facilities), New York City Department of Housing Preservation and Development (HPD) low income housing tax credits, New York City Housing Development Corporation tax exempt financing, and New York City Economic Development Corporation (Build NYC Resource Corporation) tax exempt financing. In addition, HPD, and City Council, approval is required to release the land on which the new building would be built from the requirements of Article 5 of the Private Housing Finance Law (which would remain in effect as to the Land's End IIA Housing Project existing on the remainder of Site 5 of the Large Scale Residential Development).

F. CONCLUSION

The requested modification to the Large Scale Residential Development Plan would facilitate new community facility development on Parcel 5 in furtherance of the objectives of the Large Scale Residential Development Plan and to the benefit of area residents, as described in the application and this EAS.

Further, the proposed National Center for Palliative Care Innovation is intended to meet high levels of sustainability. The project would be designed to achieve a LEED Platinum Rating, and HCC is considering pursuing certification under the Green Guide for Healthcare standards. There would be a landscaped terrace on the roof of the base and there would be a green roof above the sixteenth floor. In addition, a feasibility study for providing a geothermal energy generation system is currently underway. HCC anticipates incorporating New York City's Active Design Guidelines into the design and operation of the building.

PART II: TECHNICAL ANALYSES — SUPPORTING INFORMATION

HISTORIC AND CULTURAL RESOURCES

In a letter dated July 25, 2012, the New York City Landmarks Preservation Commission (LPC) determined that the project site has no archaeological sensitivity (see Appendix A for LPC correspondence). Therefore, no further consideration of archaeological resources is warranted. The proposed site and surrounding 400-foot study area of the National Center for Palliative Care Innovation do not contain any architectural resources that are eligible for or have been designated (or are calendared for consideration) as a New York City Landmark, Interior Landmark or Scenic Landmark; or are listed or determined eligible for listing on the New York State or National Register of Historic Places. Further, the project site is not located within a designated or eligible New York City, New York State, or National Register Historic District. Therefore, the proposed project would not have any significant adverse impacts on historic and cultural resources.

Project information was submitted to the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) in accordance with Section 106 of the National Historic Preservation Act of 1966, because the project is seeking U.S. Department of Housing and Urban Development Section 232 Financing. In a letter dated February 10, 2011, the OPRHP determined that the proposed project would have No Impact on cultural resources in or eligible for inclusion in the State and National Registers of Historic Places (see Appendix A for OPRHP correspondence).

NATURAL RESOURCES

A natural resources assessment is conducted when a natural resource is present on or near a development site and the proposed project may involve the direct or indirect disturbance of that resource. The *CEQR Technical Manual* defines natural resources as water resources, including surface water bodies and groundwater; wetlands, including freshwater and tidal wetlands; terrestrial resources, such as grasslands and thickets; shoreline resources, such as beaches, dunes, and bluffs; gardens and other ornamental landscaping; and natural resources that may be associated with built resources, such as old piers and other waterfront structures.

There are no known natural resources within or adjacent to the project site. The site of the proposed National Center for Palliative Care Innovation consists of a paved parking lot with some perimeter landscaped areas that include trees. The surrounding area is developed with apartment buildings set in landscaped grounds. The FDR Drive (an elevated six-lane expressway) and South Street are an intervening structure and road between the project site and the East River. As shown in Attachment B, “Shadows” of this EAS, the proposed project would not cast incremental shadow on the East River on for the window of analysis on any of the representative analysis days. Therefore, as there are no natural resources present on or near the project site, and the project would not cast incremental shadow on the East River, the proposed project would not result in a significant adverse natural resource impact.

The proposed project would collect stormwater runoff through a series of catch basins, area drains, and manholes and direct it, along with the building’s roof drainage, to a new detention tank. This below-grade tank would be sized in accordance with the requirements of the New York City Department of Environmental Protection (DEP). Restricted flow from the detention tank would discharge to the existing combined sewer along South Street in accordance with DEP permits and approvals. Further, the design of the storm structures, detention facilities, and the new connection to the existing combined sewer would be coordinated with DEP. Therefore, there would be no adverse stormwater impacts from the proposed project.

PART III: DETERMINATION OF SIGNIFICANCE (To Be Completed By Lead Agency)**INSTRUCTIONS:**

In completing Part III, the lead agency should consult 6 NYCRR 617.7 and 43 RCNY §6-06 (Executive Order 91 of 1977, as amended) which contain the State and City criteria for determining significance.

1. For each of the impact categories listed below, consider whether the project may have a significant effect on the environment. For each of the impact categories listed below, consider whether the project may have a significant adverse effect on the environment, taking into account its (a) location; (b) probability of occurring; (c) duration; (d) irreversibility; (e) geographic scope; and (f) magnitude.	Potential Significant Adverse Impact	
	YES	NO
IMPACT CATEGORY		
Land Use, Zoning, and Public Policy		✓
Socioeconomic Conditions		✓
Community Facilities and Services		✓
Open Space		✓
Shadows		✓
Historic and Cultural Resources		✓
Urban Design/Visual Resources		✓
Natural Resources		✓
Hazardous Materials		✓
Water and Sewer Infrastructure		✓
Solid Waste and Sanitation Services		✓
Energy		✓
Transportation		✓
Air Quality		✓
Greenhouse Gas Emissions		✓
Noise		✓
Public Health		✓
Neighborhood Character		✓
Construction Impacts		✓
2. Are there any aspects of the project relevant to the determination whether the project may have a significant impact on the environment, such as combined or cumulative impacts, that were not fully covered by other responses and supporting materials? If there are such impacts, explain them and state where, as a result of them, the project may have a significant impact on the environment.		✓

3. LEAD AGENCY'S CERTIFICATION

Deputy Director, Environmental Review and Assessment Division

New York City Department of City Planning

TITLE

LEAD AGENCY

Celeste Evans



NAME

SIGNATURE

A. INTRODUCTION

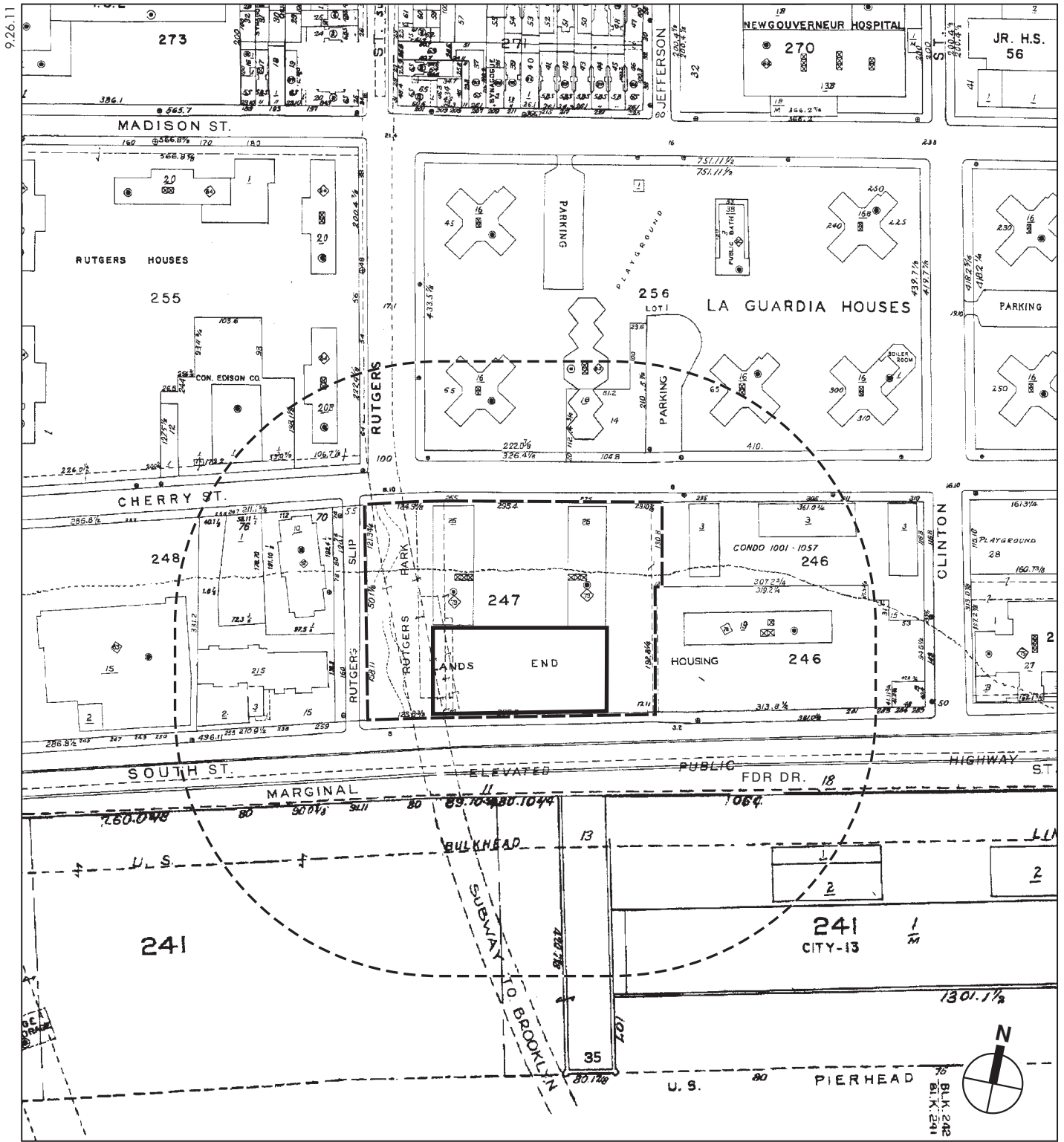
As described in the Environmental Assessment Statement, HealthCare Chaplaincy's (HCC) proposed National Center for Palliative Care Innovation is an approximately 195,000-gross square foot building with 120 planned assisted living units, space for HCC's headquarters, geriatric and palliative care outpatient medical offices, and community facility space for a not-for-profit tenant. The proposed project would also include a parking garage. This attachment considers the potential impacts of the proposed project on land use, zoning, and public land use policies on the project site and in the surrounding 400-foot study area. Based on the analyses presented below, the proposed project would not result in any significant adverse impacts to land use, zoning, or public policy.

B. EXISTING CONDITIONS**LAND USE***PROJECT SITE*

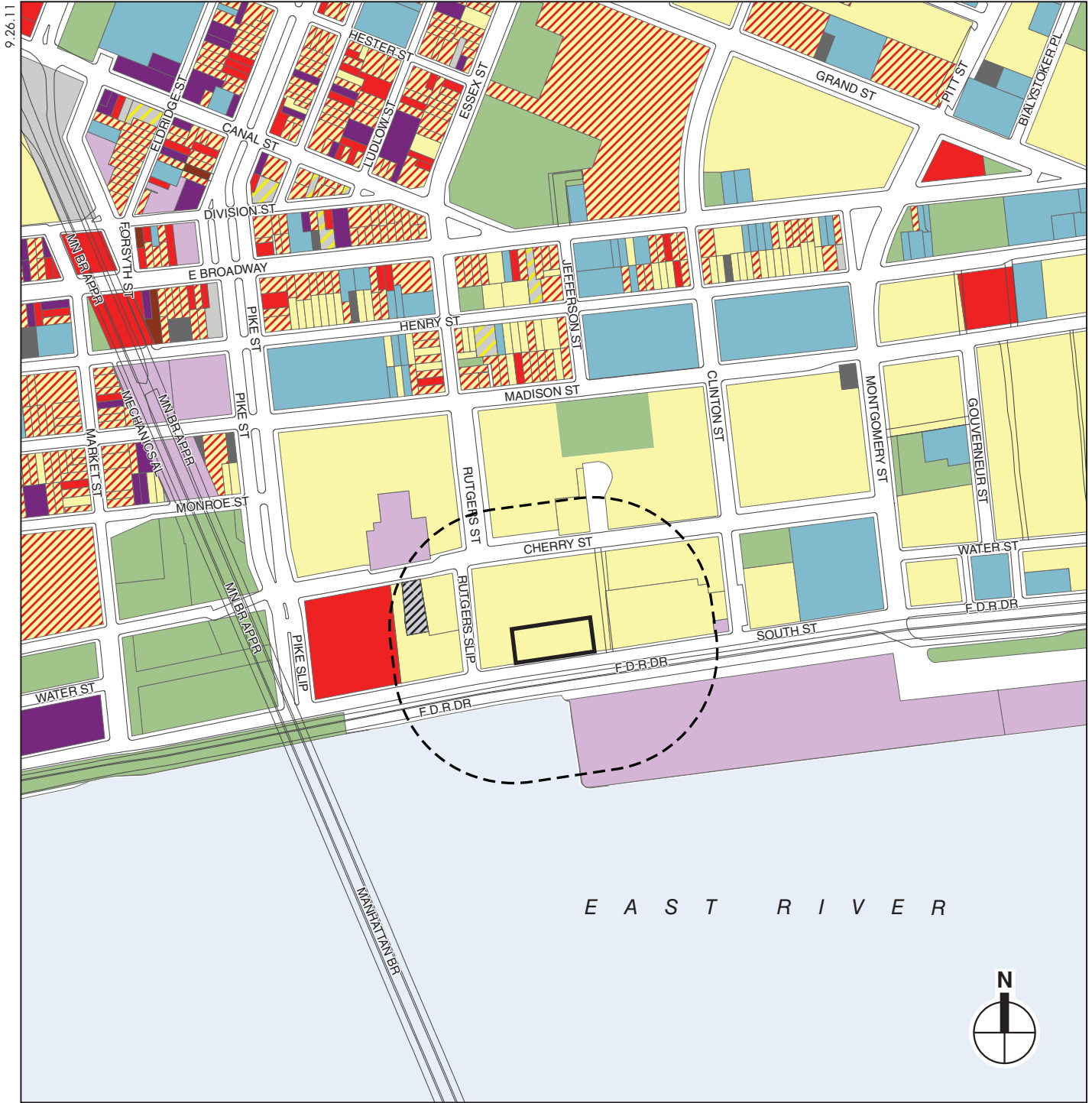
The project site is located on South Street between Rutgers Slip and Clinton Street on Block 247, Lot 2 in Manhattan Community District 3 (see **Figure A-1**). The project site is part of Site 5 in the former Two Bridges Urban Renewal Area (TBURA). Site 5, which is 145,031 square feet, is bounded by South Street, Rutgers Slip, Cherry Street, and the former alignment of Jefferson Street (demapped). A Large Scale Residential Development Plan (LSRD), authorized by the City Planning Commission (CPC) in 1977, permitted construction of the Land's End IIA Housing Project on Site 5. Completed in 1979, it includes two 26-story rental apartment buildings (totaling 648,263 zoning square feet [zsf]) for low-income households at 265 and 275 Cherry Street, a paved parking lot with 103 parking spaces on South Street, a paved area west of the 265 Cherry Street building, and private playgrounds and landscaped seating areas between the two buildings. Site 5 also includes the private Rutgers Park along the Rutgers Slip block frontage. That private park contains playgrounds, seating areas, and basketball courts. The 31,341-square-foot project site comprises the Land's End II A parking lot on South Street.















STUDY AREA

The study area is primarily residential with some commercial and transportation and utility uses (see **Figure A-2**). The residential buildings that surround the project site are generally high-rise buildings between 16 and 26 stories in height. As discussed above, directly north of the project site are two 26-story residential towers that have 490 units of low-income housing. Further north are two New York City Housing Authority (NYCHA) housing complexes. The La Guardia Houses, which are between Cherry, Rutgers, Madison, and Montgomery Streets, include nine 16-story residential buildings with 1,092 apartments. The La Guardia Addition, a 16-story



- Project Site Boundary
- - - Two Bridges Urban Renewal Area Site 5
- - - Study Area Boundary (400-Foot Perimeter)



- | | | | |
|---|---|---|---|
|  | <i>Project Site</i> |  | <i>Public Facilities and Institutions</i> |
|  | <i>Study Area Boundary (400-Foot Perimeter)</i> |  | <i>Open Space and Outdoor Recreation</i> |
|  | <i>Residential</i> |  | <i>Parking Facilities</i> |
|  | <i>Residential with Commercial Below</i> |  | <i>Vacant Land</i> |
|  | <i>Hotels</i> |  | <i>Vacant Building</i> |
|  | <i>Commercial and Office Buildings</i> |  | <i>Under Construction</i> |
|  | <i>Industrial and Manufacturing</i> | | |
|  | <i>Transportation and Utility</i> | | |

0 500 FEET
SCALE

residential building for seniors at 282 Cherry Street, has 148 apartments and a senior center. The Rutgers Houses, which are between Rutgers, Cherry, Pike, and Madison Streets, include five 20-story buildings with 721 apartments and a mental health clinic.

West of the project site is the 21-story Two Bridges Tower at 82 Rutgers Slip. In addition to having 198 mixed-income residential units, Two Bridges Tower has on-site social services, including after school programs for children and a rehabilitation center. Also west of the project site is the Two Bridges Helen Harris Senior Residence at 80 Rutgers Slip. This building has 109 housing units for the elderly and disabled and also provides on-site social services.

East of the project site is a 19-story residential building at 257 South Street. North of this building are the Two Bridges Townhouses, 3-story residential buildings on Cherry Street between Clinton Street and Jefferson Street.

There are few commercial uses in the study area. Closest to the project site is a bodega on the ground floor of the residential building at 265 Cherry Street, which is located on Site 5 of the former Two Bridges Urban Renewal Area. In addition, a Pathmark supermarket and a Western Union are located west of the project site on Cherry Street at Pike Slip.

Two transportation and utility uses are near the project site. Northwest of the project site is a Con Edison substation on Cherry Street between Pike Slip and Rutgers Slip. A New York City Department of Sanitation facility is located southeast of the project site at Pier 36.

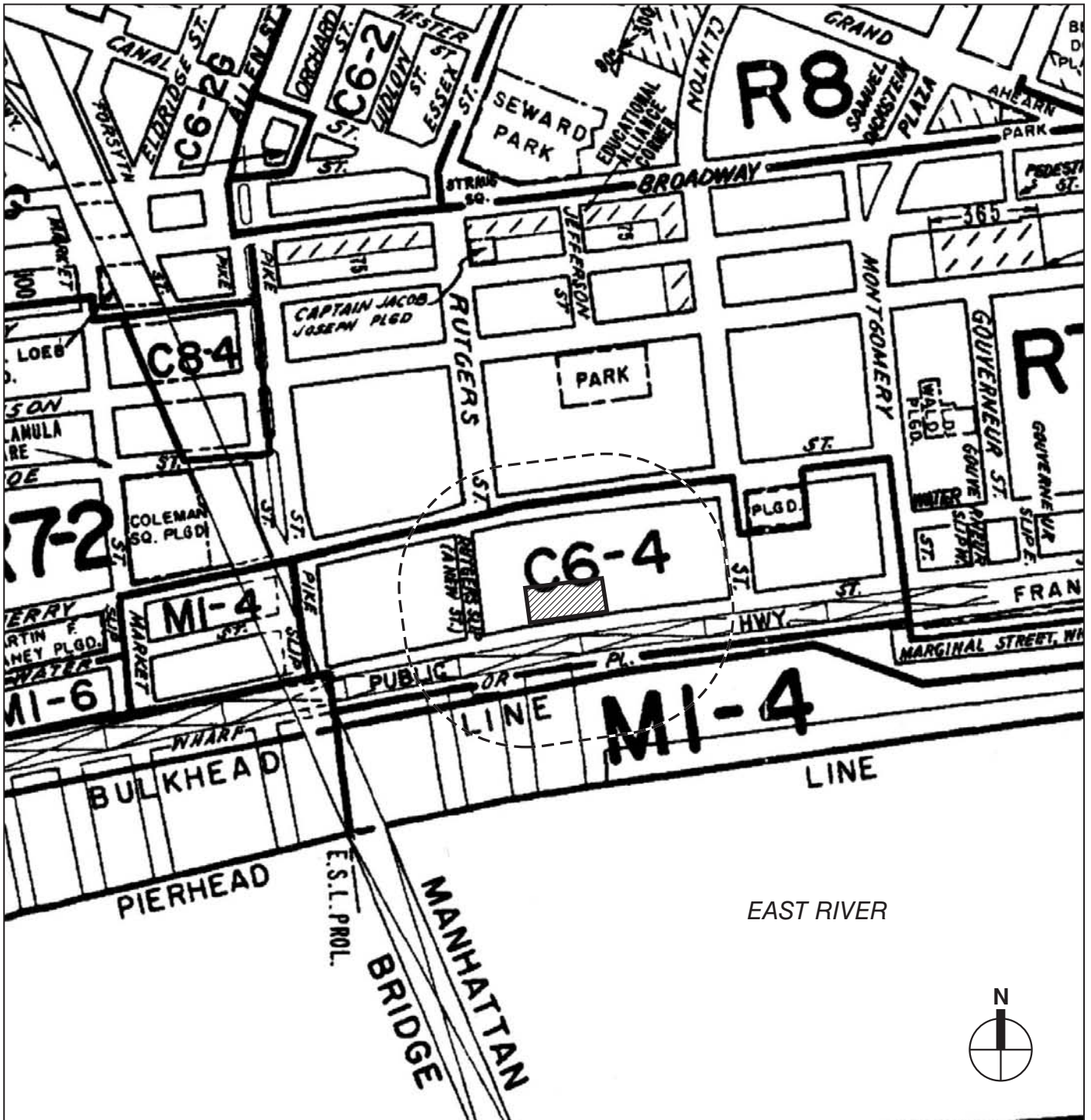
Along the East River waterfront, a pedestrian esplanade with benches and a bike paths runs between Pier 35 (near Rutgers Slip) and the South Street Seaport. The elevated Franklin Delano Roosevelt (FDR) Drive is located between the project site and the esplanade.





ZONING

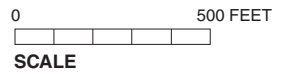
PROJECT SITE

The project site is located in a C6-4 zoning district (see **Figure A-3**). As shown in Table A-1, C6 districts are commercial districts that permit a wide range of high-bulk commercial uses that require a central location. C6 districts permit corporate headquarters, community facilities, and high-rise residences in mixed-use buildings. C6-4 districts permit a maximum floor area ratio (FAR) of 10.0 for commercial, community facility, or residential uses. There are no front- or side-yard requirements in C6-4 districts, and rear yards are not required for community facility use. However, a rear yard equivalent is required for residential use. There are no restrictions on lot coverage or requirements for open space in C6-4 districts. Height and setback are controlled through standard regulations, alternate height and setback regulations, or tower regulations. A minimum distance of 40 feet is required where the wall of a building faces the wall of another building and neither contains a legally required window (the “wall to wall” condition). As C6-4 districts are typically mapped in districts that are well served by mass transit, off-street parking is generally not required. One space per 4,000 zsf of new community facility or commercial space is permitted and limited to 100 spaces, or 225 spaces for mixed-use developments. All new spaces must be located in an enclosed building.

Zoning on the project site is modified by the Two Bridges LSRD, authorized in 1977 to permit the construction of the Land’s End IIA Housing Project on Site 5 of the former Two Bridges Urban Renewal Area. LSRDs are allowed as CPC discretionary actions, and are created to promote good site planning on large zoning lots or several zoning lots planned as a unit that are contiguous or only separated by a street. LSRDs allow greater flexibility of bulk and open space



-  Project Site
-  Study Area Boundary (400-Foot Perimeter)
-  Zoning District Boundary
-  C1-5 Overlay



on these sites, and can be implemented for general developments, residential developments, or community facility developments. An LSRD is only approved if the CPC finds that the redistribution of bulk and open space on the site will result in a better site plan and a better relationship among buildings and open areas with the neighborhood than would be possible without modifying the underlying zoning.

In general, an LSRD must be located entirely in a residence district or a C1, C2, C3, or C4-1 district, on at least three acres of vacant land planned for a minimum of 500 residential units, or on at least 1.5 acres of land planned for at least three principal residential buildings. The plan must ensure a mix of apartment sizes to accommodate different family groups, variations in building configuration and siting, passive and active open space for residents, and protection and preservation of natural features on the site. In addition, community facility uses are encouraged on the site. Commercial uses in the development are regulated by the underlying commercial zoning.

STUDY AREA

Like the project site, the areas east and west of the project site are zoned C6-4, and modified by the Two Bridges LSRD (see above).

The study area north of Cherry Street is within an R7-2 district. R7 districts are medium-density apartment housing districts and are the predominant zoning classification along the East River in Manhattan from the Brooklyn Bridge to East 23rd Street. R7 districts encourage lower apartment buildings on smaller zoning lots and taller buildings with low lot coverage on larger lots. R7 districts have a maximum FAR of between 0.87 and 3.44. In R7-2 districts, parking is required for 50 percent of the units. In an R7 district, developers may choose the optional Quality Housing regulations to build lower buildings with higher lot coverage set on or near the street line. Under the Quality Housing Option, the maximum FAR is 4.0 on wide streets and 3.44 on narrow streets.

The study area south of South Street is zoned M1-4. M1 districts can include light industries, such as woodworking shops, auto storage and repair shops, and wholesale service and storage facilities. Nearly all industrial uses can locate in M1 districts if they meet the M1 zoning performance standards. In addition, M1 districts can include offices and most retail uses. Certain community facilities, such as hospitals, are permitted in M1 districts only by special permit. M1-4 districts have a maximum FAR of 2.0 for manufacturing or commercial uses and 6.5 for community facility uses.

Table A-1
C6-4 Zoning District: Zoning Regulations

Permitted Use Groups	Use Group 1	Single-family detached residential development
	Use Group 2	All other types of residential development designed for permanent occupancy
	Use Group 3	Community facilities like schools, libraries, museums, college dormitories, nursing homes and residential facilities for special needs populations
	Use Group 4	Community facilities like houses of worship, community centers, hospitals, ambulatory health care facilities and other facilities without sleeping accommodations
	Use Group 5	Transient hotels
	Use Group 6	Retail and service establishments that serve local shopping needs, like food and small clothing stores, beauty parlors, and dry cleaners
	Use Group 7	Home maintenance and repair services that serve nearby residential areas (like plumbing and electrical shops)
	Use Group 8	Amusement establishments like small bowling alleys and movie theaters, and service uses like upholstery and appliance repair shops
	Use Group 9	Services to business establishments and other services like printers or caterers
	Use Group 10	Large retail establishments like department stores and appliance stores which serve a large area
	Use Group 11	Custom manufacturing activities like art needlework and jewelry manufacturing
	Use Group 12	Large entertainment facilities like arenas and indoor skating rinks which draw large numbers of people
Floor Area Ratio	Commercial FAR	10.0
	Residential FAR	10.0 ¹
	Community Facility FAR	10.0 ^{1,2}
Notes: ¹ Up to 20 percent increase for a plaza bonus		
² Up to 12 FAR with Inclusionary Housing bonus		
Sources: New York Department of City Planning's <i>Zoning Handbook</i> .		

PUBLIC POLICY

The public policy initiatives applicable to the project site and the surrounding study area are described below.

PROJECT SITE

Two Bridges Urban Renewal Area

TBURA was designated as an urban renewal area on January 15, 1961. This area covered 14 acres along the East River in Lower Manhattan bounded by Market Street to the west, South Street to the south, Montgomery Street to the east, and Cherry Street to the north. Historically, TBURA was an industrial area that served the East River piers 50 years earlier. At that time, the uses in the area were warehousing, storage, waste paper handling, garages, and some

manufacturing. There were also a small number of dwelling units. In the 1960s, this area was considered a blighted area. The buildings were in poor condition, and no new construction had taken place in several decades.

Development in TBURA was governed by the Two Bridges Urban Renewal Plan (URP), the goals of which included eliminating blight and restoring the residential character of the area; providing well-designed low, moderate, and middle income housing; providing convenient recreational, commercial, and community facility uses; achieving high quality urban design, architecture, street and open space elements; and strengthening the City's tax base by encouraging development and employment opportunities in the area. The Two Bridges URP was originally approved by the CPC and the Board of Estimate (BOE) in 1967. Over the years, the URP was amended and the TBURA was developed. The Two Bridges URP expired in June 2007.

In 1977, the BOE and CPC approved the LSRD plan for Site 5 (Land's End IIA). As described above, Site 5 is bounded by the former alignment of Jefferson Street (demapped), South Street, Rutgers Slip, and Cherry Street and it includes the proposed project site. The LSRD plan proposed 490 moderate-income dwelling units in two high-rise buildings on the south side of Cherry Street between Rutgers Street on the west and the former alignment of Jefferson Street (demapped) on the east. It also included on-site parking for 103 cars. The Land's End IIA project was considered an important step towards the realization of the Two Bridges URA by providing moderate income housing and by eliminating the blighting influence of the unsafe and obsolete structures that occupied the site. Land's End IIA was completed in 1979.

PlaNYC

Nearly 30 years later, in April 2007, the Mayor's Office of Long Term Planning and Sustainability released *PlaNYC: A Greener, Greater New York*. It includes policies to address three key challenges the City faces over the next 20 years: (1) population growth; (2) aging infrastructure; and (3) global climate change. Elements of the plan are organized into six categories—land, water, transportation, energy, air quality, and climate change—with corresponding goals and objectives for each. The core elements of PlaNYC are summarized below.

- **Land:** The City projects that population will increase by approximately 1,000,000 residents by 2030, but the City's land mass will remain fixed. PlaNYC 2030 strives to create more housing while, at the same time, increasing access to units for low- and moderate-income residents. It also aims to reclaim underdeveloped industrial land and to improve quality of life through improved access to open space. Its affordability initiatives include expanding inclusionary housing programs, developing new financing strategies, preserving the existing supply of affordable housing, and encouraging home ownership.
- **Water:** New York City was founded for its superior access to water, but the industrial history of the City has resulted in contamination of waterbodies as well as restricted recreational access. New York maintains a high quality of drinking water, but the delivery infrastructure has aged. PlaNYC strives to improve water quality by opening 90 percent of the City's waterways to public access, preserving natural areas, and reducing water pollution. The plan also intends to create critical backup systems to ensure the long-term reliability of the City's potable water systems.
- **Transportation:** To support the long-term growth of the City while reducing congestion, PlaNYC calls for aggressive investment in transportation infrastructure and improved access

to transit. The plan calls for alternative funding sources to provide grants for state-of-good-repair projects and to alleviate the funding gaps for critical transit expansion projects.

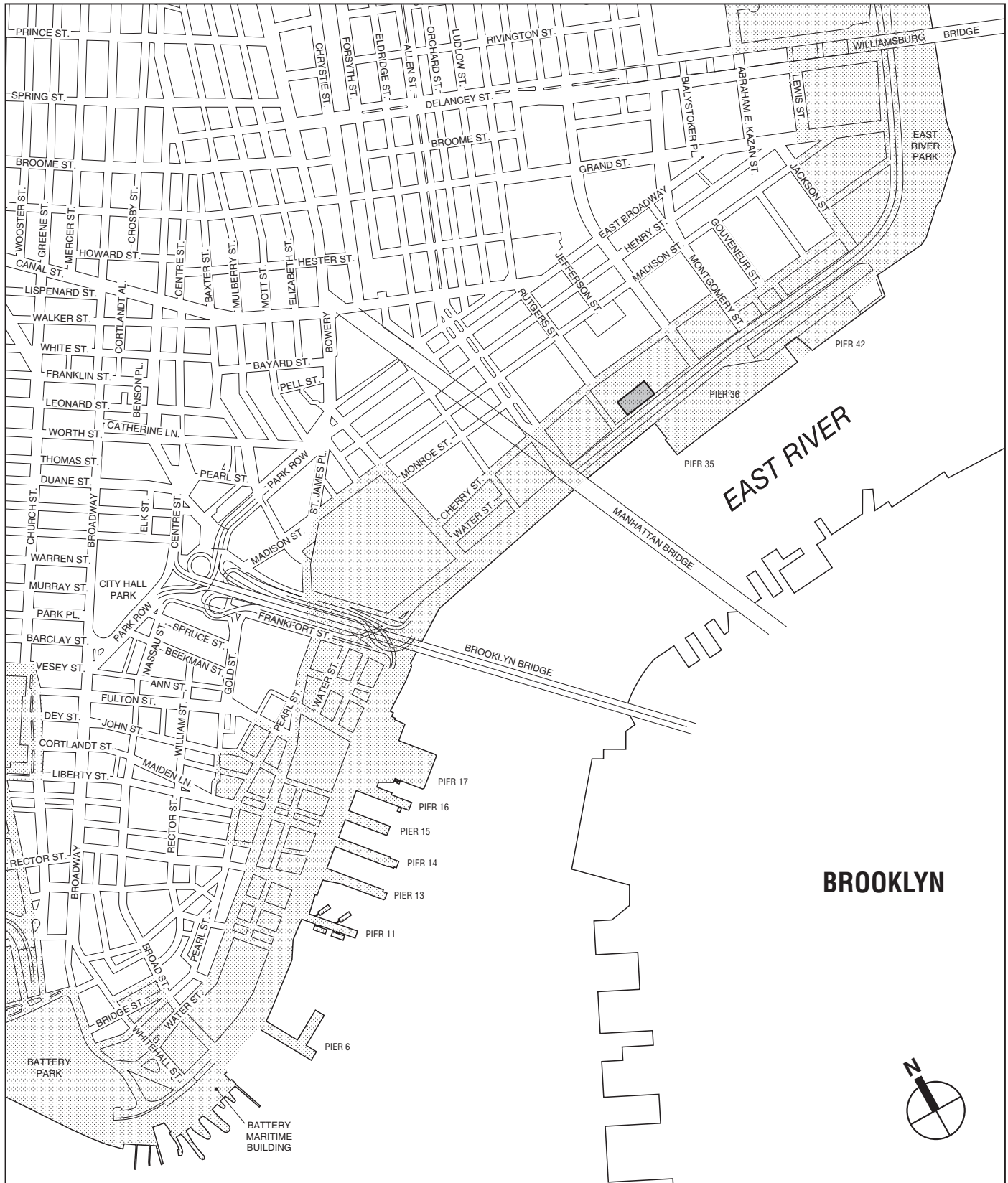
- **Energy:** Energy prices and carbon emissions continue to increase as a result of an aging infrastructure, market conditions, and growth. PlaNYC will implement a two-pronged strategy to meet energy challenges. First, to increase supply, the City will promote clean energy plants; the revamping of older, inefficient plants; and creation of a market for renewable energy sources. Second, to reduce demand, the City will target large consumers to accelerate efficiency upgrades.
- **Air Quality:** The City fails to meet certain State and Federal air quality standards. PlaNYC seeks to reduce automobile travel, improve the efficiency of power plants and buildings, and implement natural strategies such as planting one million trees. Cumulatively, these policies aim to improve the City's air quality.
- **Climate Change:** PlaNYC's strategies to improve the efficiency of the City's energy supply and demand, reduce congestion, improve transit access, and reduce emissions will together reduce greenhouse gases. In developing and implementing these strategies, the plan aims to reduce greenhouse gas emissions by 30 percent. The plan also recognizes the eminent effects of climate change and includes provisions to protect the City's natural and built structures from catastrophic weather events.



WATERFRONT REVITALIZATION PROGRAM

The project site is located within the coastal zone designated by New York State and New York City (see **Figure A-4**); therefore, the proposed project is subject to a review for compliance with the City's Coastal Zone management policies. This section provides a description of existing Coastal Zone policies and the City's Waterfront Revitalization Program (WRP).

The Federal Coastal Zone Management Act (CZMA) of 1972 was enacted to support and protect the distinctive character of the waterfront and to set forth standard policies for reviewing proposed development projects along coastlines. The program responded to City, State, and federal concerns about the deterioration and inappropriate use of the waterfront. The CZMA emphasizes the primacy of State decision-making regarding the coastal zone. In accordance with the CZMA, New York State adopted its own Coastal Management Program (CMP), designed to balance economic development and preservation by promoting waterfront revitalization and water-dependent uses while protecting fish and wildlife, open space and scenic areas, farmland, and public access to the shoreline, and minimizing adverse changes to ecological systems and erosion and flood hazards. The New York State CMP provides for local implementation when a municipality adopts a local waterfront revitalization program, as is the case in New York City.

The Waterfront Revitalization Program (WRP) is the City's principal coastal zone management tool. The WRP was originally adopted in 1982 and approved by the New York State Department of State (NYSDOS) for inclusion in the New York State Coastal Management Program. The WRP establishes the City's policies for the development and use of the waterfront and provides a framework for evaluating activities proposed in the Coastal Zone. The City's WRP was amended in 1999 to include 10 consolidated policies. This amendment was adopted by the City Council in October 1999. In May 2002, NYSDOS approved the City's amended WRP, and the United States Department of Commerce concurred in August 2002. The New York City Department of City Planning proposed revisions to the WRP that were referred for public review by the CPC in March 2012. The proposed revisions aim to advance the long-term goals laid out in *Vision 2020: The New York City Comprehensive Waterfront Plan*, released in 2011. The



-  Project Site
-  Coastal Zone Boundary



revisions are undergoing the approvals process, which requires public review following the 197-a process for community input and adoption, and approval from the New York State Department of State and the United States Department of Commerce. Completion of the approvals process is anticipated in mid-2013. This chapter reviews the current 10 New York City Coastal Zone policies and assesses the consistency of the proposed project with the policies. A discussion of the proposed project's consistency with those policies is included below in the section "Probable Impacts of the Proposed Project." The *WRP Coastal Assessment Form* is included as Appendix B.

C. THE FUTURE WITHOUT THE PROPOSED PROJECT

LAND USE

PROJECT SITE

Absent the proposed project, no changes are expected to occur at the project site. The project site would continue to be a surface parking lot.

STUDY AREA

There is one known project in the 400-foot study area that will be developed in the future without the proposed project. Pier 35, southeast of the project site, was a disused pier west of the Department of Sanitation shed (see **Figure A-5**, number 1). This site is part of New York City's East River Waterfront Esplanade and Piers project funded by the Lower Manhattan Development Corporation (LMDC). The pier is currently under construction to become a public open space providing access to the waterfront, including picnic tables, outdoor grills, and possibly a boat launch. The public plaza is expected to be complete by 2013.

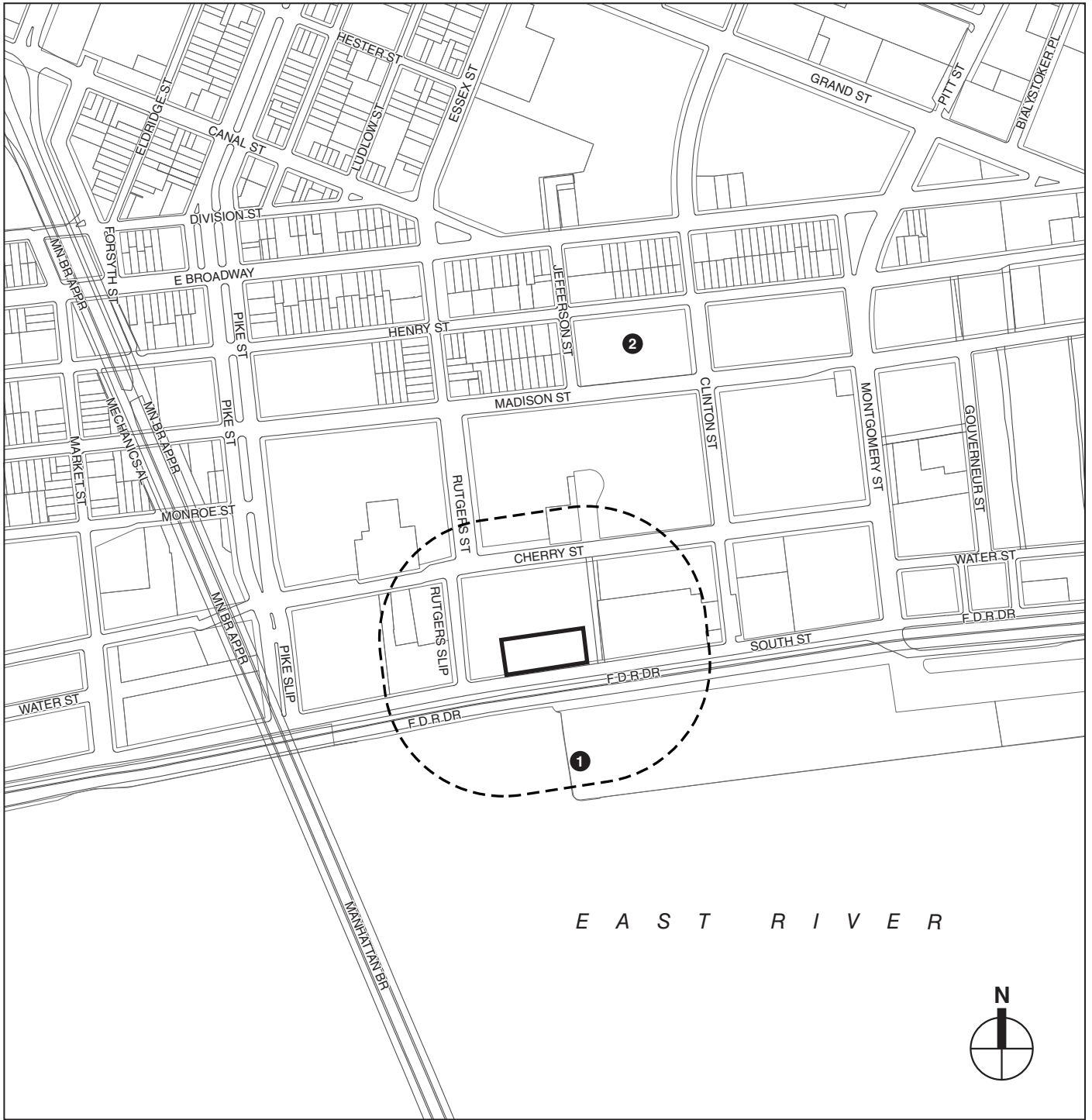
Although located north of the 400-foot study area, Gouverneur Healthcare Services, a long-term care nursing facility at Madison and Jefferson Streets, recently undertook renovations that were completed in late 2012 (see **Figure A-5**, number 2). The renovations expanded the facility from a 210-bed nursing facility that provides 24-hour care for individuals in need of short- or long-term care to a larger, modern, 295-bed nursing facility to serve the Lower East Side and Chinatown communities.


Prior to finalizing this EAS, the Extell Development Company purchased the property at 250 South Street (Block 248, Lot 1) that contains a 1-story, approximately 45,000-square-foot former Pathmark supermarket and a surface parking lot. This site is located at the western edge of the project study area. Although the development program for the redevelopment of that site is unknown at this time, it is likely to be a large residential development completed after the proposed project.

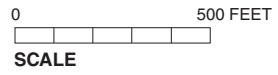
ZONING

PROJECT SITE

There are no rezoning proposals specific to the project site in the future without the proposed project. The zoning of the project site would remain C6-4 in the future without the proposed project.



-  Project Site
-  Study Area Boundary (400-Foot Perimeter)
-  No Build Project



STUDY AREA

In the future without the proposed project, no changes to zoning are anticipated in the study area.

PUBLIC POLICY

No changes to public policy in the study area are expected in the future without the proposed actions.

D. THE FUTURE WITH THE PROPOSED PROJECT

LAND USE

PROJECT SITE

The proposed National Center for Palliative Care Innovation would replace the surface parking lot on South Street. As described above, it would be a 17-story (plus mechanical level) building with enhanced assisted living residential units, medical offices, the HCC headquarters offices, community meeting space, and an automated parking garage. In addition, the paved area between Cherry and South Streets would be repaved to create approximately 28 surface parking spaces (including four accessible spaces) and three new accessible spaces would be created adjacent to the southeast corner of the existing building at 275 Cherry Street.

STUDY AREA

The proposed project is consistent with land uses in the surrounding area and would serve area residents. In particular, the doctors' offices and the meeting space would be available to the community. As discussed above, the study area is primarily residential with some commercial uses. There are medical facilities and other community facilities in the surrounding area, including Gouverneur Healthcare Services, which is a long-term-care nursing facility. An on-site rehabilitation center is located at the Two Bridges Tower. In addition, 103 of the proposed 148 parking spaces (29 on the surface lots and 74 in the parking garage) would be replacement spaces for those removed on the existing Land's End IIA parking lot. Therefore, no significant adverse impacts to land use are expected to result from the proposed project.

ZONING

PROJECT SITE

The proposed project would not change the existing C6-4 zoning district covering the project site and it would be consistent with the C6-4 zoning regulations. All uses in the proposed building would be community facility uses in zoning use groups 3 and 4, which are permitted in C6-4 districts. The proposed building would comprise 183,700 zoning square feet, which would bring the total zoning floor area on Site 5 to 831,963 zsf. This zoning floor area would fall within the allowable 10.0 FAR in the C6-4 district, which permits a maximum of 1,450,310 zsf of residential, commercial, or community facility use on Site 5. The proposed project would comply with the rear yard equivalent required for the existing residential use by maintaining the rear yard equivalent as a 30-foot-wide yard along the side lot line with Site 6A of the LSRD to the east. The interior lot portion, which comprises a 12-foot-wide strip adjacent to Parcel 6B to the east, would be maintained as a 30-foot-deep yard at its rear lot line. The proposed project

would comply with minimum distance regulations in relation to the two existing residential buildings on Site 5 by maintaining a minimum distance of 40 feet in the “wall to wall” condition.

The proposed building would be 17 stories (plus mechanical level) and approximately 200 feet tall, and would consist of a five-story base with a 12-story tower set back from the base. The proposed building design would comply with alternate height and setback regulations, which require a minimum of 15 feet of front open area at grade and compliance with a sky exposure plane. The proposed project would provide a front open area that would vary from a minimum of 15 feet from the street line to a maximum of approximately 25 feet, and the proposed building would be located behind the sky exposure plane except a certain points where specific obstructions, such as parapets and sun shading devices, are permitted.

Also as part of the proposed project, the 103 existing accessory at-grade parking spaces would be reconfigured and up to 45 new accessory parking spaces would be added, for a total of 148 parking spaces (31 of which would be located at-grade and 117 of which would be located within the automated parking garage in the proposed new building). The existing 103 accessory parking spaces that would be reconfigured would continue to be subject to the applicable zoning district regulations in effect prior to April 29, 1982 and would be allowed under the Two Bridges LSRD plan. However, enlargements, extensions or any increase in the number of off-street parking facilities would be subject to current regulations. Therefore, the 45 new accessory parking spaces would be subject to and permitted under current regulations in C6-4 zoning districts, which allow one space per 4,000 zsf of new community facility space, limited to 100 spaces. The proposed parking reconfigurations and new spaces would all be allowable under the C6-4 zoning. Pursuant to the reconfigured site plan, the existing paved area west of 265 Cherry Street would have 28 at-grade accessory parking spaces, including four accessible parking spaces. In addition, three accessible parking spaces would be located adjacent to the southeast corner of the existing building at 275 Cherry Street.

Implementation of the proposed project would require a minor modification to the existing LSRD plan for Site 5 to increase the community facility and total floor area by 183,700 zoning square feet, community facility and total lot coverage by 16,972 square feet, and the floor area ratio by 1.23, and to relocate the 103 existing accessory at-grade parking spaces and add 45 new accessory parking spaces, for a total of 148 parking spaces. Upon approval, the drawings shown on Figures 4b and 4c of the EAS would become part of the Two Bridges LSRD, with which the project would be required to comply. Thus, the configuration and dimensions set forth on the drawings shown on Figures 4b and 4c would be established for the project by the approval of the minor modification.

STUDY AREA

No changes to zoning in the study area are expected to result from the proposed project. The proposed project would introduce uses compatible with the study area’s zoning districts, which permit corporate headquarters, community facilities, and high-rise mixed-use buildings with residential units. Therefore, the proposed project would not result in any significant adverse impacts on zoning in the study area.

PUBLIC POLICY

The proposed project would be consistent with all applicable public policy initiatives as discussed below.

TWO BRIDGES URBAN RENEWAL AREA

Although the Two Bridges URP expired in 2007, the proposed project would support the URP's commitment to provide a broad range of housing for the community through the provision of assisted living units. In addition, the proposed project would be consistent with the goals of the former URP by providing medical office and community facility space, and by providing high quality urban design and architecture.

PLANYC

The proposed project would be consistent with the goals of *PlaNYC* with regard to housing by providing enhanced assisted living units. In addition, the proposed project would be consistent with *PlaNYC's* energy goals as it would be designed to achieve a LEED Platinum Rating. Therefore, the proposed project would be consistent with and would advance the housing goals and energy reduction goals of *PlaNYC*.

WATERFRONT REVITALIZATION PROGRAM

New York City's Waterfront Revitalization Program (WRP) includes 10 policies designed to maximize the benefits derived from economic development, environmental preservation, and public use of the waterfront, while minimizing the conflicts among those objectives. This section provides additional information for the policies that have been checked "yes" in the WRP Coastal Assessment Form (that follows this attachment).

Policy 1.1: Encourage commercial and residential redevelopment in appropriate coastal zone areas.

The proposed project would add enhanced assisted living units, a geriatric and palliative care outpatient medical practice, HCC's educational, research, clinical practice, and administrative facilities, and ancillary parking. The proposed project would be added in an area that is already developed with residential uses with some commercial uses. Therefore, the proposed project is consistent with this policy.

Policy 4.2: Protect and restore tidal and freshwater wetlands.

The proposed project would not involve any activity in tidal or freshwater wetlands. However, the project site is near the East River, which is classified as littoral wetland by the New York State Department of Environmental Conservation regulations. In addition, the United States Fish and Wildlife Service National Wetlands Inventory classifies the East River as estuarine subtidal wetlands with unconsolidated bottom (E1UBL). There would be no in-water work associated with the proposed project, which would be separated from the East River by South Street, the elevated FDR Drive, and the East River Esplanade and Piers 35 and 36. Therefore, the proposed project is consistent with this policy.

Policy 5.1: Manage direct or indirect discharges to waterbodies.

The proposed project would collect stormwater runoff through a series of catch basins, area drains, and manholes and direct it, along with the building's roof drainage, to a new detention tank. This below-grade tank would be sized in accordance with the requirements of the New York City Department of Environmental Protection (DEP). Restricted flow from the detention tank would discharge to the existing combined sewer along South Street in accordance with DEP permits and approvals. Further, the design of the storm structures, detention facilities, and the

new connection to the existing combined sewer would be coordinated with DEP. Therefore, the proposed project would be consistent with this policy.

Policy 6: Minimize the loss of life, structures, and natural resources caused by flooding and erosion.

The project area is within the 100-year floodplain (area with a 1 percent chance of flooding each year). Although the ground floor of the proposed National Center for Palliative Care Innovation would not be elevated at or above the floodplain due to site restrictions that would preclude the ability to provide ramps to the ground floor, it is expected that a dry flood proofing system with removable barriers at glass storefront locations would be used to minimize losses from flooding and erosion. Furthermore, the proposed project would comply with all applicable Federal Emergency Management Agency (FEMA) and City of New York requirements to minimize flood damage and with applicable City and FEMA requirements on construction and occupancy. Therefore, the proposed project would be consistent with this policy.

Policy 7: Minimize environmental degradation from solid waste and hazardous substances.

The applicant would follow all applicable guidelines for the management of hazardous materials. Solid waste generated by the National Center for Palliative Care Innovation would be collected by private carters and the New York City Department of Sanitation (DSNY). Therefore, the proposed project would be consistent with this policy (also see Attachment D, “Hazardous Materials”).

Policy 7.2: Prevent and remediate discharge of petroleum products.

See response to Policy 7 above.

Policy 7.3: Transport solid waste and hazardous substances, and site solid and hazardous waste facilities in a manner that minimizes potential degradation of coastal resources.

Solid waste resulting from the proposed project would be hauled by licensed private contractors and DSNY according to applicable laws and regulations, thereby complying with this policy. Any hazardous waste encountered during construction activities associated with the proposed project would be handled in conformance with all applicable laws, rules, and regulations, thus minimizing the potential for adverse impacts to coastal resources. Therefore, the proposed project is consistent with this policy.

Policy 8.3: Provide visual access to coastal lands, waters, and open space where physically practical.

The project would be located on a block occupied by an existing private residential development so providing visual access to the East River is not physically practical. Although the proposed building (as described in Attachment C, “Urban Design and Visual Resources”) would block some limited views of the East River vista from Cherry Street adjacent to the Land’s End IIA development, those views are not important public views in the study area as their viewpoints are narrowly limited and they are partially obscured by trees and the elevated FDR Drive. In the future with the proposed project, there would continue to be views of the East River from the sidewalk along South Street adjacent to the project site and clear, unimpeded river views from the nearby waterfront esplanade. In addition, by the project’s Build year there would be new views of the river from the public open space on Pier 35 that is currently under construction. Therefore, the proposed project would not conflict with this policy.

Based on the information presented above, the proposed project complies with New York State’s Coastal Management Program as expressed in New York City’s approved WRP. *

For Internal Use Only:

WRP no. _____

Date Received: _____

DOS no. _____

NEW YORK CITY WATERFRONT REVITALIZATION PROGRAM Consistency Assessment Form

Proposed actions that are subject to CEQR, ULURP or other local, state or federal discretionary review procedures, and that are within New York City's designated coastal zone, must be reviewed and assessed for their consistency with the New York City Waterfront Revitalization Program (WRP). The WRP was adopted as a 197-a Plan by the Council of the City of New York on October 13, 1999, and subsequently approved by the New York State Department of State with the concurrence of the United States Department of Commerce pursuant to applicable state and federal law, including the Waterfront Revitalization of Coastal Areas and Inland Waterways Act. As a result of these approvals, state and federal discretionary actions within the city's coastal zone must be consistent to the maximum extent practicable with the WRP policies and the city must be given the opportunity to comment on all state and federal projects within its coastal zone.

This form is intended to assist an applicant in certifying that the proposed activity is consistent with the WRP. It should be completed when the local, state, or federal application is prepared. The completed form and accompanying information will be used by the New York State Department of State, other state agencies or the New York City Department of City Planning in their review of the applicant's certification of consistency.

A. APPLICANT

1. Name: _____
2. Address: _____
3. Telephone: _____ Fax: _____ E-mail: _____
4. Project site owner: _____

B. PROPOSED ACTIVITY

1. Brief description of activity:

2. Purpose of activity:

3. Location of activity: (street address/borough or site description):

Proposed Activity Cont'd

- 4. If a federal or state permit or license was issued or is required for the proposed activity, identify the permit type(s), the authorizing agency and provide the application or permit number(s), if known:

- 5. Is federal or state funding being used to finance the project? If so, please identify the funding source(s).

- 6. Will the proposed project require the preparation of an environmental impact statement?
 Yes _____ No _____ If yes, identify Lead Agency:

- 7. Identify **city** discretionary actions, such as a zoning amendment or adoption of an urban renewal plan, required for the proposed project.

C. COASTAL ASSESSMENT

Location Questions:

Yes No

- 1. Is the project site on the waterfront or at the water's edge? _____
- 2. Does the proposed project require a waterfront site? _____
- 3. Would the action result in a physical alteration to a waterfront site, including land along the shoreline, land underwater, or coastal waters? _____

Policy Questions

Yes No

The following questions represent, in a broad sense, the policies of the WRP. Numbers in parentheses after each question indicate the policy or policies addressed by the question. The new Waterfront Revitalization Program offers detailed explanations of the policies, including criteria for consistency determinations.

Check either "Yes" or "No" for each of the following questions. For all "yes" responses, provide an attachment assessing the effects of the proposed activity on the relevant policies or standards. Explain how the action would be consistent with the goals of those policies and standards.

- 4. Will the proposed project result in revitalization or redevelopment of a deteriorated or under-used waterfront site? (1) _____
- 5. Is the project site appropriate for residential or commercial redevelopment? (1.1) _____
- 6. Will the action result in a change in scale or character of a neighborhood? (1.2) _____

Policy Questions cont'd

Yes No

7. Will the proposed activity require provision of new public services or infrastructure in undeveloped or sparsely populated sections of the coastal area? (1.3) _____
8. Is the action located in one of the designated Significant Maritime and Industrial Areas (SMIA): South Bronx, Newtown Creek, Brooklyn Navy Yard, Red Hook, Sunset Park, or Staten Island? (2) _____
9. Are there any waterfront structures, such as piers, docks, bulkheads or wharves, located on the project sites? (2) _____
10. Would the action involve the siting or construction of a facility essential to the generation or transmission of energy, or a natural gas facility, or would it develop new energy resources? (2.1) _____
11. Does the action involve the siting of a working waterfront use outside of a SMIA? (2.2) _____
12. Does the proposed project involve infrastructure improvement, such as construction or repair of piers, docks, or bulkheads? (2.3, 3.2) _____
13. Would the action involve mining, dredging, or dredge disposal, or placement of dredged or fill materials in coastal waters? (2.3, 3.1, 4, 5.3, 6.3) _____
14. Would the action be located in a commercial or recreational boating center, such as City Island, Sheepshead Bay or Great Kills or an area devoted to water-dependent transportation? (3) _____
15. Would the proposed project have an adverse effect upon the land or water uses within a commercial or recreation boating center or water-dependent transportation center? (3.1) _____
16. Would the proposed project create any conflicts between commercial and recreational boating? (3.2) _____
17. Does the proposed project involve any boating activity that would have an impact on the aquatic environment or surrounding land and water uses? (3.3) _____
18. Is the action located in one of the designated Special Natural Waterfront Areas (SNWA): Long Island Sound- East River, Jamaica Bay, or Northwest Staten Island? (4 and 9.2) _____
19. Is the project site in or adjacent to a Significant Coastal Fish and Wildlife Habitat? (4.1) _____
20. Is the site located within or adjacent to a Recognized Ecological Complex: South Shore of Staten Island or Riverdale Natural Area District? (4.1and 9.2) _____
21. Would the action involve any activity in or near a tidal or freshwater wetland? (4.2) _____
22. Does the project site contain a rare ecological community or would the proposed project affect a vulnerable plant, fish, or wildlife species? (4.3) _____
23. Would the action have any effects on commercial or recreational use of fish resources? (4.4) _____
24. Would the proposed project in any way affect the water quality classification of nearby waters or be unable to be consistent with that classification? (5) _____
25. Would the action result in any direct or indirect discharges, including toxins, hazardous substances, or other pollutants, effluent, or waste, into any waterbody? (5.1) _____
26. Would the action result in the draining of stormwater runoff or sewer overflows into coastal waters? (5.1) _____
27. Will any activity associated with the project generate nonpoint source pollution? (5.2) _____
28. Would the action cause violations of the National or State air quality standards? (5.2) _____

Policy Questions cont'd

Yes No

29. Would the action result in significant amounts of acid rain precursors (nitrates and sulfates)? (5.2C)

30. Will the project involve the excavation or placing of fill in or near navigable waters, marshes, estuaries, tidal marshes or other wetlands? (5.3)

31. Would the proposed action have any effects on surface or ground water supplies? (5.4)

32. Would the action result in any activities within a federally designated flood hazard area or state-designated erosion hazards area? (6)

33. Would the action result in any construction activities that would lead to erosion? (6)

34. Would the action involve construction or reconstruction of a flood or erosion control structure? (6.1)

35. Would the action involve any new or increased activity on or near any beach, dune, barrier island, or bluff? (6.1)

36. Does the proposed project involve use of public funds for flood prevention or erosion control? (6.2)

37. Would the proposed project affect a non-renewable source of sand ? (6.3)

38. Would the action result in shipping, handling, or storing of solid wastes, hazardous materials, or other pollutants? (7)

39. Would the action affect any sites that have been used as landfills? (7.1)

40. Would the action result in development of a site that may contain contamination or that has a history of underground fuel tanks, oil spills, or other form or petroleum product use or storage? (7.2)

41. Will the proposed activity result in any transport, storage, treatment, or disposal of solid wastes or hazardous materials, or the siting of a solid or hazardous waste facility? (7.3)

42. Would the action result in a reduction of existing or required access to or along coastal waters, public access areas, or public parks or open spaces? (8)

43. Will the proposed project affect or be located in, on, or adjacent to any federal, state, or city park or other land in public ownership protected for open space preservation? (8)

44. Would the action result in the provision of open space without provision for its maintenance? (8.1)

45. Would the action result in any development along the shoreline but NOT include new water-enhanced or water-dependent recreational space? (8.2)

46. Will the proposed project impede visual access to coastal lands, waters and open space? (8.3)

47. Does the proposed project involve publicly owned or acquired land that could accommodate waterfront open space or recreation? (8.4)

48. Does the project site involve lands or waters held in public trust by the state or city? (8.5)

49. Would the action affect natural or built resources that contribute to the scenic quality of a coastal area? (9)

50. Does the site currently include elements that degrade the area's scenic quality or block views to the water? (9.1)

Policy Questions cont'd

Yes No

51. Would the proposed action have a significant adverse impact on historic, archeological, or cultural resources? (10)

52. Will the proposed activity affect or be located in, on, or adjacent to an historic resource listed on the National or State Register of Historic Places, or designated as a landmark by the City of New York? (10)

D. CERTIFICATION

The applicant or agent must certify that the proposed activity is consistent with New York City's Waterfront Revitalization Program, pursuant to the New York State Coastal Management Program. If this certification cannot be made, the proposed activity shall not be undertaken. If the certification can be made, complete this section.

"The proposed activity complies with New York State's Coastal Management Program as expressed in New York City's approved Local Waterfront Revitalization Program, pursuant to New York State's Coastal Management Program, and will be conducted in a manner consistent with such program."

Applicant/Agent Name: Nathan Riddle, AKRF, Inc. (applicant's agent)

Address: 440 Park Avenue South, New York, NY 10016

Telephone 212-696-0670

Applicant/Agent Signature:  Date: 12-28-11

A. INTRODUCTION

Sunlight and shadows affect people and their use of open space all day long and throughout the year, although the effects vary by season. Sunlight can entice outdoor activities, support vegetation, and enhance architectural features, such as stained glass windows and carved detail on historic structures. Conversely, shadows can affect the growth cycle and sustainability of natural features, and the architectural significance of built features.

The purpose of this attachment is to examine whether the proposed building would cast new shadows on any sunlight-sensitive publicly accessible resources or other resources of concern, and to assess the potential effects of any such new shadows. Public open spaces, historic, cultural, and natural resources are all potentially sunlight-sensitive resources and therefore this chapter is closely linked to the data and analyses presented in the Environmental Assessment Statement.

According to the *City Environmental Quality Review (CEQR) Technical Manual*, a shadows assessment is required only if the project would result in structures (or additions to existing structures) of 50 feet or more, or be located adjacent to, or across the street from, a sunlight-sensitive resource. Since the proposed building would be approximately 200 feet tall from the ground floor to the top of the rooftop screenwall, a shadow assessment is required.

The detailed analysis concluded that the proposed project would not have any significant adverse impacts on sunlight-sensitive resources. As described below, the proposed building would cast new shadows on several nearby benches at certain times; however, these new shadows would be of limited extent and duration, and sunlit seating areas would be available at other nearby locations during the periods when new shadows would occur.

B. DEFINITIONS AND METHODOLOGY

DEFINITIONS

Incremental shadow is the additional, or new, shadow that a structure resulting from a proposed project would cast on a sunlight-sensitive resource.

Sunlight-sensitive resources are those resources that depend on sunlight or for which direct sunlight is necessary to maintain the resource's usability or architectural integrity. Such resources generally include:

- *Public open space* (e.g. parks, beaches, playgrounds, plazas, schoolyards, greenways, landscaped medians with seating). Planted areas within unused portions of roadbeds that are part of the Greenstreets program are also considered sunlight-sensitive resources.
- *Features of architectural resources that depend on sunlight for their enjoyment by the public.* Only the sunlight-sensitive features need be considered, as opposed to the entire

resource. Such sunlight-sensitive features might include: design elements that depend on the contrast between light and dark (e.g. recessed balconies, arcades, deep window reveals); elaborate, highly carved ornamentation; stained glass windows; historic landscapes and scenic landmarks; and features for which the effect of direct sunlight is described as playing a significant role in the structure's importance as a historic landmark.

- *Natural resources* where the introduction of shadows could alter the resource's condition or microclimate. Such resources could include surface water bodies, wetlands, or designated resources such as coastal fish and wildlife habitats.

Non-sunlight-sensitive resources include, for the purposes of CEQR:

- *City streets and sidewalks* (except Greenstreets);
- *Private open space* (e.g. front and back yards, stoops, vacant lots, and any private, non-publicly-accessible open space);
- *Project-generated open space* cannot experience a significant adverse shadow impact from the project, according to CEQR, because without the project the open space would not exist. However, if project generated open space is included in a detailed qualitative analysis, the extent and duration of shadows that fall on it must be assessed and documented in the same fashion as the other sunlight-sensitive resources.

A significant adverse shadow impact occurs when the incremental shadow added by a proposed project falls on a sunlight-sensitive resource and substantially reduces or completely eliminates direct sunlight, thereby significantly altering the public's use of the resource or threatening the viability of vegetation or other resources. Each case must be considered on its own merits.

METHODOLOGY

Following the guidelines of the 2012 *City Environmental Quality Review (CEQR) Technical Manual*, a preliminary screening assessment must first be conducted to ascertain whether a project's shadow could reach any sunlight-sensitive resources at any time of year. The preliminary screening assessment consists of three tiers of analysis. The first tier determines a simple radius around the proposed building representing the longest shadow that could be cast. If there are sunlight-sensitive resources within this radius, the analysis proceeds to the second tier, which reduces the area that could be affected by project shadow by accounting for the fact that shadows can never be cast between a certain range of angles south of the project site due to the path of the sun through the sky at the latitude of New York City.

If the second tier of analysis does not eliminate the possibility of new shadows on sunlight-sensitive resources, a third tier of screening analysis further refines the area that could be reached by project shadow by looking at specific representative days in each season and determining the maximum extent of shadow over the course of each representative day.

If the third tier of analysis does not eliminate the possibility of new shadows on sunlight-sensitive resources, a detailed shadow analysis is required to determine the extent and duration of the incremental shadow resulting from the project. The detailed analysis provides the data needed to assess the shadow impacts. The effects of the new shadows on the sunlight-sensitive resources are described, and their degree of significance is considered. The results of the analysis and assessment are documented with graphics, a table of incremental shadow durations, and narrative text.

C. PRELIMINARY SCREENING ASSESSMENT

A base map was developed showing the location of the project block and the surrounding street layout (see **Figure B-1**). Potentially sunlight-sensitive resources were identified and shown on the map¹.

TIER 1 SCREENING ASSESSMENT

For the Tier 1 assessment, the longest shadow that the proposed building could cast is calculated, and, using this length as the radius, a perimeter is drawn around the proposed building footprint. Anything outside this perimeter representing the longest possible shadow could never be affected by project generated shadow, while anything inside the perimeter needs additional assessment.

According to the 2012 *CEQR Technical Manual*, the longest shadow that a structure can cast at the latitude of New York City occurs on December 21, the winter solstice, at the start of the analysis day at 8:51 AM, and is equal to 4.3 times the height of the structure.

Therefore, at a maximum height of 202 feet above curb level, including rooftop mechanical structures, the proposed building could cast a shadow up to 869 feet in length (202 x 4.3). Using this length as the radius, a perimeter was drawn around the project site (see **Figure B-1**). Since a number of sun-sensitive resources lay within the perimeter or longest shadow study area, the next tier of screening assessment was conducted.

TIER 2 SCREENING ASSESSMENT

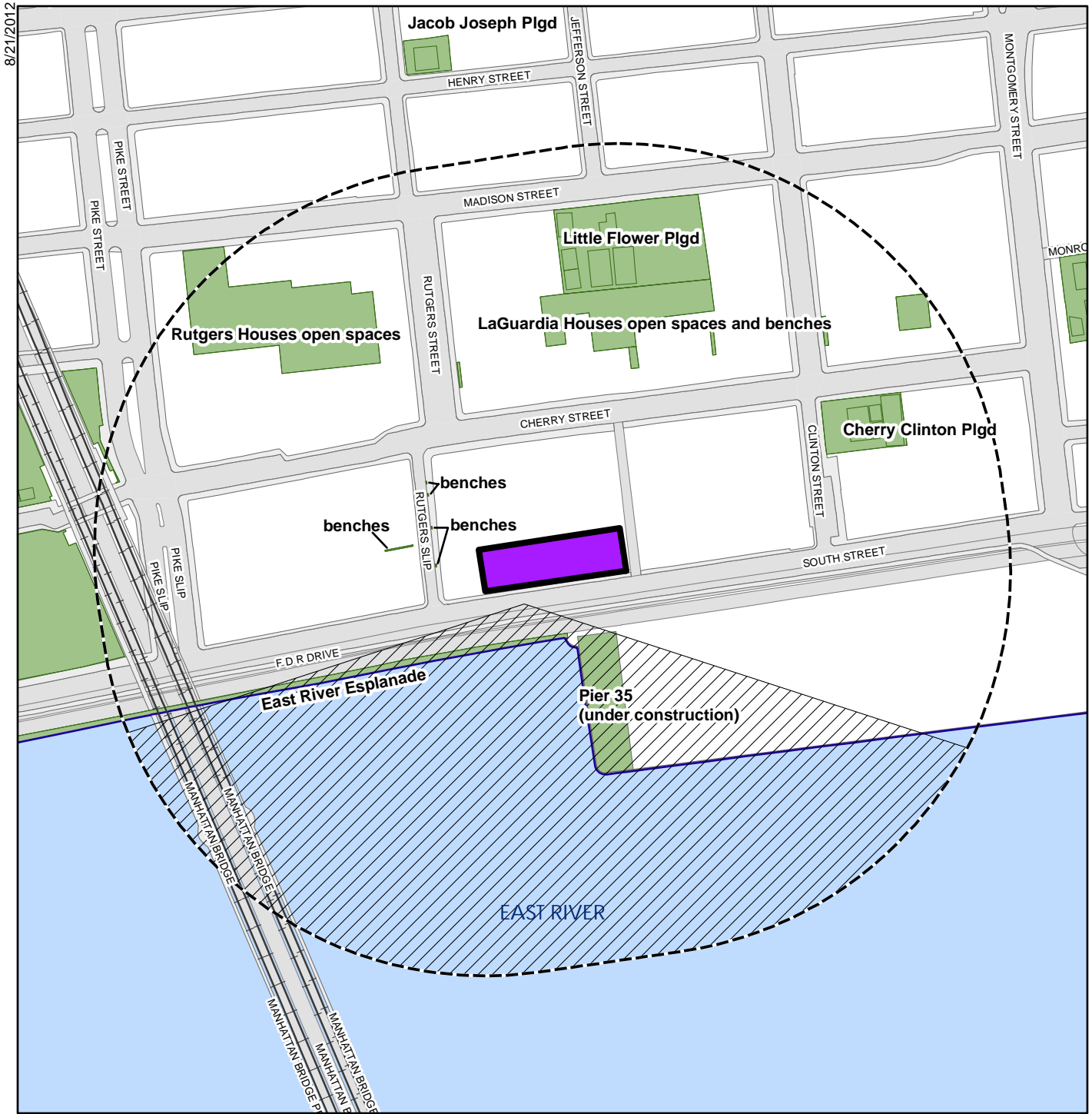
Because of the path that the sun travels across the sky in the northern hemisphere, no shadow can be cast in a triangular area south of any given project site. In New York City this area lies between -108 and +108 degrees from true north. **Figure B-1** illustrates this triangular area south of the project site. The complementing area to the north within the longest shadow study area represents the remaining area that could potentially experience new project generated shadow.

A number of resources with sunlight-sensitive features are located within the remaining shadow study area, and the analysis therefore proceeded to the Tier 3 screening assessment.

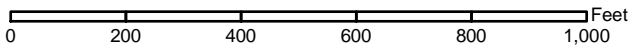
TIER 3 SCREENING ASSESSMENT

The direction and length of shadows vary throughout the course of the day and also differ depending on the season. In order to determine if and when project-generated shadow could fall on a sunlight-sensitive resource, computer mapping software is used in the Tier 3 assessment to calculate and display the proposed project's shadows over the course of individual representative days of the year.

¹ As noted in the EAS Full Form Part 1: 4. Project Description, the project site is located on Site 5 of the Two Bridges Large Scale Residential Development Plan. Site 5 also includes private open spaces associated with the Land's End IIA Housing Project: a playground and basketball courts along the Rutgers Slip block frontage, and landscaped seating areas between the two Land's End buildings. These Site 5 open spaces are not publicly-accessible and are therefore not included in the analysis per CEQR guidelines.



8/21/2012



- Publicly-accessible open space
- Development site (maximum height of 202 feet)
- Tier 1: Perimeter around site with a radius of 869 feet (4.3 x 202 feet)
- Tier 2: Area south of site that could never be shaded by proposed building



No sunlight-sensitive features of historic resources are located in the Tier 1/Tier 2 Longest Shadow Study Area

REPRESENTATIVE DAYS FOR ANALYSIS

Shadows on the summer solstice (June 21), winter solstice (December 21) and spring and fall equinoxes (March 21 and September 21, which are approximately the same in terms of shadow patterns) are modeled, to represent the full range of possible shadows over the course of the year. An additional representative day during the growing season is also modeled, generally the day halfway between the summer solstice and the equinoxes, i.e. May 6 (or August 6, which is approximately the same in terms of shadows).

TIMEFRAME WINDOW OF ANALYSIS

The shadow assessment only considers shadows occurring between 1.5 hours after sunrise and 1.5 hours before sunset. At times earlier or later than this timeframe window of analysis, the sun is down near the horizon and the sun's rays reach the Earth at very tangential angles, diminishing the amount of solar energy and producing shadows that are very long, move fast, and generally blend with shadows from existing structures until the sun reaches the horizon and sets. Consequently, shadows occurring outside the timeframe window of analysis are not considered significant under CEQR, and their assessment is not required.

TIER 3 SCREENING ASSESSMENT RESULTS

Figure B-2 illustrates the range of shadows that would occur from a 202-foot-tall building occupying the full project site footprint on the four representative days of the year. For each day, the figure shows the shadows occurring approximately every 60 minutes from the start of the analysis day (1.5 hours after sunrise) until the end of the analysis day (1.5 hours before sunset).

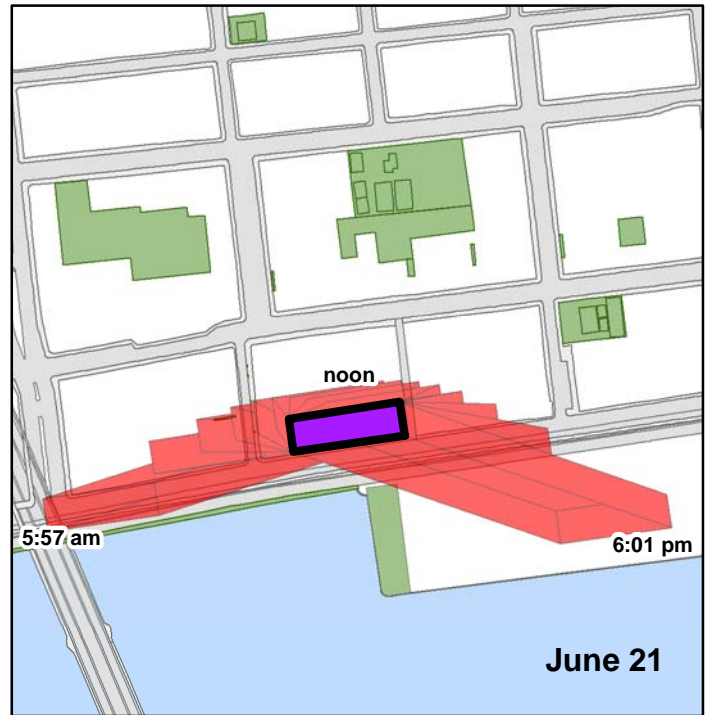
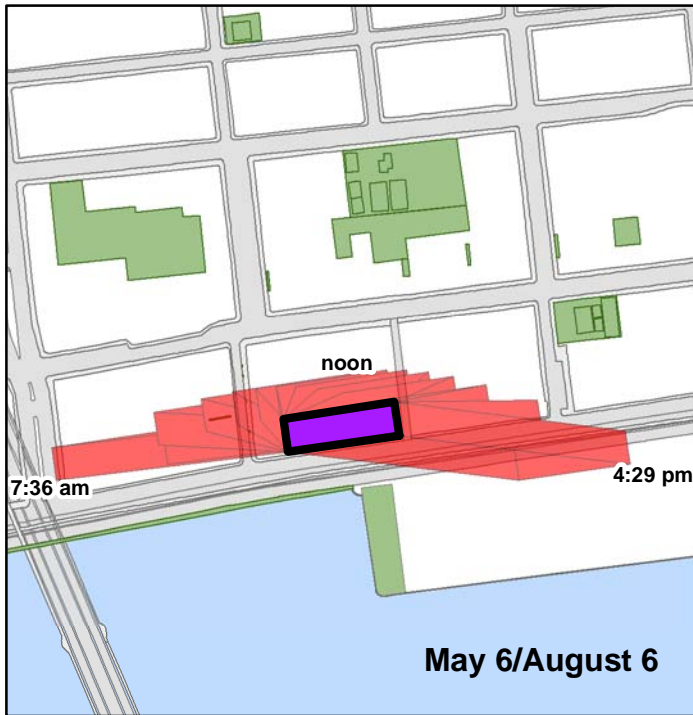
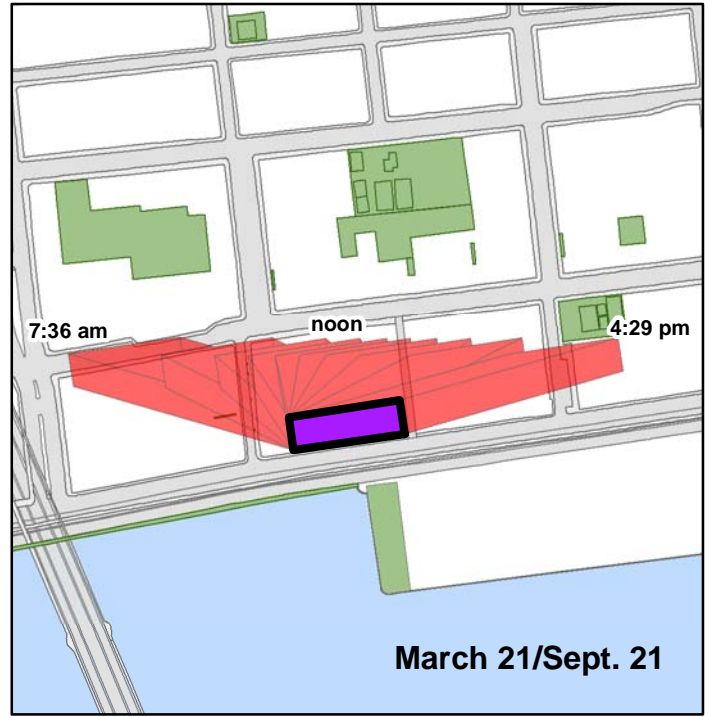
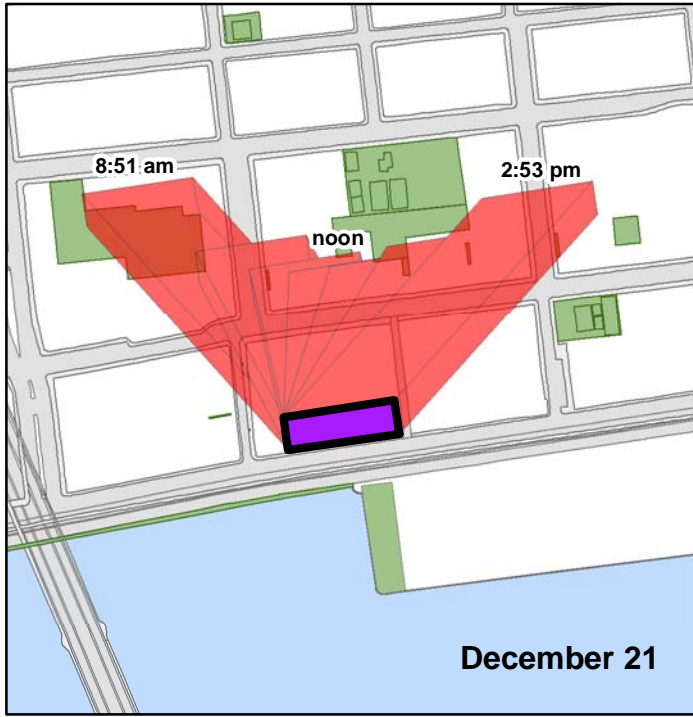
The results of the screening assessment for the December 21 analysis day show that shadow from the project could reach the central open spaces of the Rutgers Houses complex at the start of the analysis day, but would move off that area by around 10:00 AM. Project-generated shadow could also fall in the morning on the northern three of the four benches located along the east side of Rutgers Slip between South Street and Cherry Street. Project-generated shadow could also pass across some of the seating areas in and around the LaGuardia Houses complex.




On the March 21/September 21 analysis day, the only sun-sensitive resources that project-generated shadow could affect would be the row of benches located west of Rutgers Slip in a paved driveway or walkway associated with the Hamilton Madison House (the Two Bridges Tower) at 253 South Street (corner of South Street and Rutgers Slip), and the four benches on the east side of Rutgers Slip (see the base map **Figure B-1**).

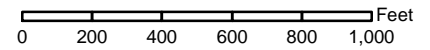
Similarly, on the May 6/August 6 analysis day, the row of benches associated with Hamilton Madison House benches, and the southern two of the four benches on the east side of Rutgers Slip could be affected by project shadow. No other resources could be reached by the proposed building's shadow on this day.

On the June 21 analysis day, the row of benches behind the Hamilton Madison House and one or two of the four benches on the east side of Rutgers Slip could be affected in the morning, and a small area of the Pier 35 open space (currently under construction and expected to be completed by 2014) could be shaded at the end of the analysis day.

In summary, the Tier 3 assessment shows that, in the absence of intervening buildings, shadows from a 202-foot-tall building occupying the full project site footprint would reach portions of the Rutgers Houses and LaGuardia Houses open spaces and benches on December 21; the benches along



-  Publicly-accessible open space
 -  Development site (maximum height of 202 feet)
 -  Shadow from proposed building, shown in one-hour intervals
- Note: Daylight Saving Time not used*



the Hamilton Madison House driveway on three of the four analysis days; between one and all four of the benches on the east side of Rutgers Slip on all four analysis days; and a small area of the Pier 35 open space at the end of the June 21 analysis day. Therefore, a detailed analysis using three-dimensional computer modeling software was undertaken for these resources.

D. DETAILED SHADOW ANALYSIS

The purpose of the detailed analysis is to determine the extent and duration of incremental shadows on sunlight-sensitive resources and to assess their effects. A baseline or future No Action condition is established, containing existing buildings and any future developments planned in the area, to illustrate the existing shadows. The future condition with the proposed project and its shadow can then be compared to the baseline condition with its shadows to determine the incremental shadows that would result with the proposed project.

For the detailed analysis, three-dimensional computer modeling software was used to accurately calculate shadow patterns. Three-dimensional representations of the existing buildings and topography shown on the base map were developed using data obtained from Fugro EarthData, Inc., DoITT, Sanborn maps, and photos taken during site visits. Other developments in the area expected to be completed by the build year were also added to the model as accurately as current information allowed. Finally, a model of the proposed building was placed on the project site in the three-dimensional model (**Figure B-3**).

Shadow analyses were performed for the window of analysis for each of the representative days indicated in the Tier 3 assessment.

Table B-1 shows the entry and exit times and total duration of incremental shadows on each affected resource. **Figures B-4 to B-10** depict shadows at various moments in time, with incremental increases in shadows highlighted in red on the sunlight-sensitive resources. The extent, duration, and effects of the incremental shadows are discussed below.

DECEMBER 21 ANALYSIS DAY

From 8:51 AM, the start of the analysis day, until 14 minutes later at 9:05 AM, a narrow shadow from the western edge of the proposed building's tower would fall on a small portion of the central open space area of Rutgers Houses (see **Figure B-4**). Most of the proposed tower's shadow would fall on the façade of the intervening Rutgers Houses building at this time, rather than beyond it onto the open space, and the open space would continue to receive substantial sunlight.

There are some benches along the sidewalk on the east side of Rutgers Street associated with the LaGuardia Houses complex (see **Figure B-5**). Incremental shadow from the proposed building would pass across these benches from 9:00 AM to 9:50 AM. These benches would already be in some existing shadow and the incremental shadow would remove the remaining sunlight for just about the entire 50 minute duration.

No other sun-sensitive resources would be affected by project-generated shadow on December 21.



Three-Dimensional Computer Model with Proposed Building
View Northeast



- Public open spaces
- Incremental shadow on sunlight-sensitive resources



11.26.11



- Public open spaces
- Incremental shadow on sunlight-sensitive resources



11.26.11



- Public open spaces
- Incremental shadow on sunlight-sensitive resources





- Public open spaces
- Incremental shadow on sunlight-sensitive resources



11.26.11



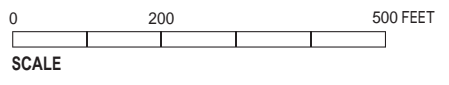
- Public open spaces
- Incremental shadow on sunlight-sensitive resources



11.26.11



- Public open spaces
- Incremental shadow on sunlight-sensitive resources





Public open spaces

No incremental shadow would occur at this time.

0 200 500 FEET

SCALE

**Table B-1
Incremental Shadow Durations**

Analysis day and timeframe window	December 21 8:51 AM-2:53 PM	March 21 / Sept. 21 7:36 AM-4:29 PM	May 6 / August 6 6:27 AM-5:18 PM	June 21 5:57 AM-6:01 PM
OPEN SPACES				
Rutgers Houses open spaces	8:51 AM–9:05 AM Total: 14 min	—	—	—
LaGuardia Houses benches – Rutgers St.	9:00 AM–9:50 AM Total: 50 min	—	—	—
Hamilton Madison House benches	—	—	6:50 AM–8:05 AM Total: 1 hr 15 min	—
Rutgers Slip (east side) benches	—	7:36 AM–8:45 AM Total: 1 hr 9 min	6:27 AM–8:00 AM 8:15 AM–8:30 AM Total: 1 hr 48 min	6:40 AM–8:20 AM Total: 1 hr 40 min
Notes: Table indicates entry and exit times and total duration of incremental shadow for each sunlight-sensitive resource. Analysis does not include cases where duration of incremental shadow on resource would be less than 10 minutes, per the 2012 <i>CEQR Technical Manual</i> guidelines. Daylight saving time is not used.				

MARCH 21 / SEPTEMBER 21 ANALYSIS DAY

The proposed building’s shadow would fall just short of the benches across Rutgers Slip behind the Hamilton Madison House at the start of this analysis day at 7:36 AM (see **Figure B-6**). The incremental shadow would fall on the southernmost bench on the east side of Rutgers Slip for a few minutes at the start of the analysis day and on the next bench to the north until 8:45 AM. No other sun-sensitive resources would be affected at any time on March 21/September 21.

MAY 6 / AUGUST 6 ANALYSIS DAY

The proposed building’s shadow would move onto the benches behind Hamilton Madison House at 6:50 AM, shade them completely from about 7:00 AM to 7:40 AM, and exit the benches at 8:05 AM (see **Figures B-7** and **B-8**).

The southernmost of the four benches on the east side of Rutgers Slip would be in shadow from the proposed building from the start of the analysis day at 6:27 AM until 8:00 AM; the next bench to the north, which would be in existing shadow during this period, would then receive a brief duration of incremental shadow from 8:15 AM to 8:30 AM.

No other sun-sensitive resources would be affected by project-generated shadow on this analysis day.

JUNE 21 ANALYSIS DAY

The proposed building’s shadow would fall on the southernmost of the benches on the east side of Rutgers Slip from 6:40 AM until 8:20 AM; it would be too short to reach the other three benches to the north.

No other sun-sensitive resources would be affected on this analysis day. The proposed building’s shadow would be too short to reach the Hamilton Madison House benches in the morning (see

Figure B-9) and would not fall far enough to the south at the end of the analysis day to reach the Pier 35 open space, which would be in existing shadow at that point in any case (see **Figure B-10**).

E. ASSESSMENT OF SHADOW EFFECTS BY RESOURCE

RUTGERS HOUSES OPEN SPACES

From 8:51 AM to 9:05 AM, a small new area of shadow from the proposed building would fall into the Rutgers Houses open space area, primarily on a row of benches and an adjacent paved area of a playground. Other benches, located immediately to the northwest, along the main east-west landscaped walk through this housing development, would remain in sun.

The limited extent and duration (14 minutes) of incremental shadow on December 21 would not cause a significant adverse impact.

LAGUARDIA HOUSES BENCHES ON RUTGERS STREET

These benches, located along the sidewalk and facing Rutgers Street at the southwest edge of the western LaGuardia Houses superblock, are one of many seating areas scattered among the surrounding Rutgers Houses and LaGuardia Houses complexes. During the 50 minute duration of incremental shadow on the morning of December 21 on this one set of benches facing Rutgers Street, the surrounding housing complexes and the East River Esplanade would continue to provide sunlit seating areas at other nearby locations (see **Figures B-4** and **B-5**). Further, on December 21, the use of the benches would likely be limited, because outdoor passive recreational activities are limited by the weather. Therefore, the 50 minute duration of incremental shadow would not cause a significant adverse impact to this resource.

RUTGERS SLIP (EAST SIDE) BENCHES

There are four benches on the east side of Rutgers Slip between South Street and Cherry Street. The northern two benches would never be affected by project-generated shadow.

The southernmost bench would experience about an hour and 40 minutes of incremental shadow from the proposed building early in the late spring and summer mornings, and negligible or no incremental shadow in other seasons. The bench would be completely in incremental shadow for most of the hour and forty minute period. However, during this period of new shadow, sunny seating areas would be available across South Street on the East River Esplanade and, for portions of the hour and forty minute period, across Rutgers Slip on the Hamilton Madison House benches.

The second southernmost bench would receive just over an hour of incremental shadow in the early spring and fall (March 21/September 21 analysis day), and 15 minutes on the May 6/August 6 analysis day. The bench would be completely in incremental shadow for most of the hour and nine minute period. However, the southernmost Rutgers Slip bench would be in sun for nearly the entire hour and nine minute period. In addition, sunlit benches would be available across South Street on the East River Esplanade and across Rutgers Slip on the Hamilton Madison House benches.

Despite the new early-morning shadow, the two southernmost Rutgers Slip benches would be in direct sun from mid-morning through early afternoon during these spring, summer and fall seasons. Further, as noted above, during the limited times that these benches would be in

incremental shadow, other nearby seating areas, such as at the East River Esplanade, the Rutgers Houses or the LaGuardia Houses, would be in sun. Therefore, the new project-generated shadow would not significantly impact these benches or their users.

HAMILTON MADISON HOUSE BENCHES

These benches, located along an otherwise featureless paved area in the rear of the Hamilton Madison House (a voluntary non-profit settlement house), would experience an hour and 15 minutes of incremental shadow on the May 6/August 6 analysis day, in the morning. The limited duration of incremental shadow would not significantly impact this space or its users, particularly since the East River Esplanade, the Rutgers Houses and the LaGuardia Houses all provide sunlit seating areas within a single block. These benches would not experience incremental shadow on the other three analysis days.

F. CONCLUSION

As described above, the proposed building would cast new shadows on several nearby benches at certain times. These new shadows, however, would be of limited extent and duration, and sunlit seating areas would be available at other nearby locations during the periods when new shadows would occur. Therefore, the proposed project would not cause any significant adverse shadow impacts. *

A. INTRODUCTION

This attachment considers the potential of the proposed National Center for Palliative Care Innovation to affect the urban design and visual resources of the study area. The project site consists of a parking lot on South Street between Rutgers Slip and Clinton Street that is part of a larger parcel that also includes two 26-story residential buildings and private playgrounds and landscaped seating areas (see **Figure C-1**). In the future with the proposed project, the parking lot would be redeveloped with a 17-story assisted living facility.

As defined in the *City Environmental Quality Review (CEQR) Technical Manual*, urban design is the totality of components that may affect a pedestrian's experience of public space. A visual resource can include views of the waterfront, public parks, landmark structures and districts or otherwise distinct buildings, and natural resources. An urban design assessment under CEQR must consider whether and how a project may change the experience of a pedestrian in a project area. The *CEQR Technical Manual* guidelines recommend the preparation of a preliminary assessment of urban design and visual resources, followed by a detailed analysis, if warranted based on the conclusions of the preliminary assessment. The following analysis addresses the urban design and visual resources of the study area for existing conditions, the future without the proposed project, and the future with the proposed project in 2015 when the project is expected to be completed.

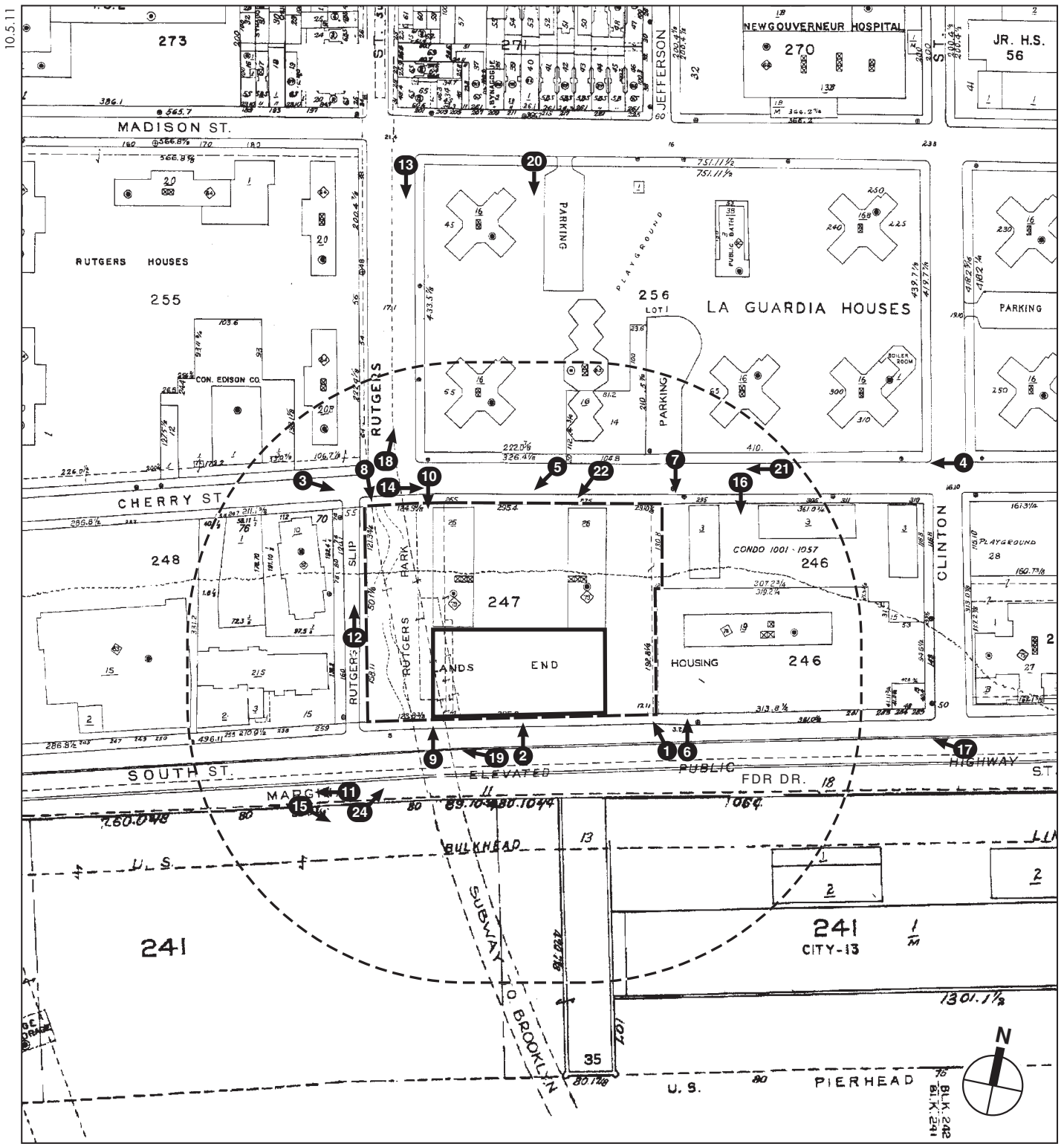
As described below, the proposed project would not have any significant adverse impacts to the urban design or visual resources of the study area.

B. METHODOLOGY

Based on the *CEQR Technical Manual*, a preliminary assessment of urban design and visual resources is appropriate when there is the potential for a pedestrian to observe, from the street level, a physical alteration beyond that allowed by existing zoning. Examples include projects that permit the modification of yard, height, and setback requirements, and projects that result in an increase in built floor area beyond what would be allowed 'as-of-right' or in the future without the proposed project.

The proposed minor modification of the Two Bridges Large Scale Residential Development Plan would result in a physical alteration of the project site observable by pedestrians that is not allowed by existing zoning. Therefore, the proposed project meets the threshold for a preliminary assessment of potential impacts to urban design and visual resources.

According to the *CEQR Technical Manual*, the study area for urban design is the area where the project may influence land use patterns and the built environment, and is generally consistent with that used for the land use analysis. For visual resources, the view corridors within the study area from which such resources are publicly viewable should be identified. The land use study area may serve as the initial basis for analysis; however, in cases where significant visual



- Project Site Boundary
- Two Bridges Urban Renewal Area Site 5
- Study Area Boundary (400-Foot Perimeter)
- 1 ➔ Photograph View Direction and Reference Number



resources exist, it may be appropriate to look beyond the land use study area to encompass views outside of this area, as is often the case with waterfront sites or sites within or near historic districts.

Views to the project site from inland are primarily limited to the immediately surrounding streets; however, there are longer views to the site from the Brooklyn waterfront and the Manhattan Bridge. Therefore, the study area where impacts would be expected to occur has been defined as the area within approximately 400 feet of the project site but it also accounts for those longer views to the site.

C. EXISTING CONDITIONS

PROJECT SITE AND SITE 5

URBAN DESIGN

Located on a superblock bounded by Rutgers Slip and Cherry, Clinton, and South Streets, the project site is part of Site 5 of the former Two Bridges Urban Renewal Plan, as described in Attachment A, “Land Use, Zoning and Public Policy.” The project site consists of a large paved parking lot on South Street. The parking lot has a rectangular footprint and is landscaped with perimeter grass beds planted with trees and raised concrete medians planted with grass and trees (see **Figure C-2**). The entrance is at the eastern end of the parking lot, on South Street.

Site 5 was developed pursuant to special permits for a Large Scale Residential Development. That development—Land’s End IIA—consists of two 26-story (235-foot-tall) residential buildings (with a total square footage of 648,236 gross square feet), a large courtyard between the two buildings, the project site parking lot, and a narrow paved area. The two buildings are large brick slabs with narrow rectangular footprints (61 feet by 196 feet) set perpendicularly to Cherry Street (see view 1 of **Figure C-2** and **Figure C-3**). The courtyard between the two buildings is landscaped with planting beds and trees and contains seating areas and two playgrounds (see view 5 of **Figure C-4**). A low metal fence encloses the site along Cherry Street. On the east side of Site 5, a paved service drive follows the former alignment of Jefferson Street (demapped) between Cherry and South Streets (see view 6 of **Figure C-4** and view 7 of **Figure C-5**). Site 5 also includes the private Rutgers Park, which occupies the Rutgers Slip frontage of the block. Entirely enclosed with tall metal fences, the private park contains mature trees, playgrounds, seating areas, and basketball courts (see view 8 of **Figure C-5** and **Figure C-6**). As Site 5 includes large landscaped areas and the project site parking lot in addition to the two residential buildings, its lot coverage is low.

VISUAL RESOURCES

The paved and landscaped project site is not a visual resource, nor is the Land’s End IIA development. As Rutgers Park is enclosed with tall metal fences and is only visible in its immediate vicinity, it is not a visual resource either.



View northwest from South Street at former Jefferson Street 1



View north from South Street 2



View east on Cherry Street from Rutgers Slip 3



View west on Cherry Street from Clinton Street 4



Land's End IIA courtyard from Cherry Street 5



View north on former Jefferson Street from South Street 6



View south on former Jefferson Street from Cherry Street 7



Rutgers park. View southeast at Cherry Street and Rutgers Slip 8



View north from South Street 9



View south from Cherry Street 10

STUDY AREA

URBAN DESIGN

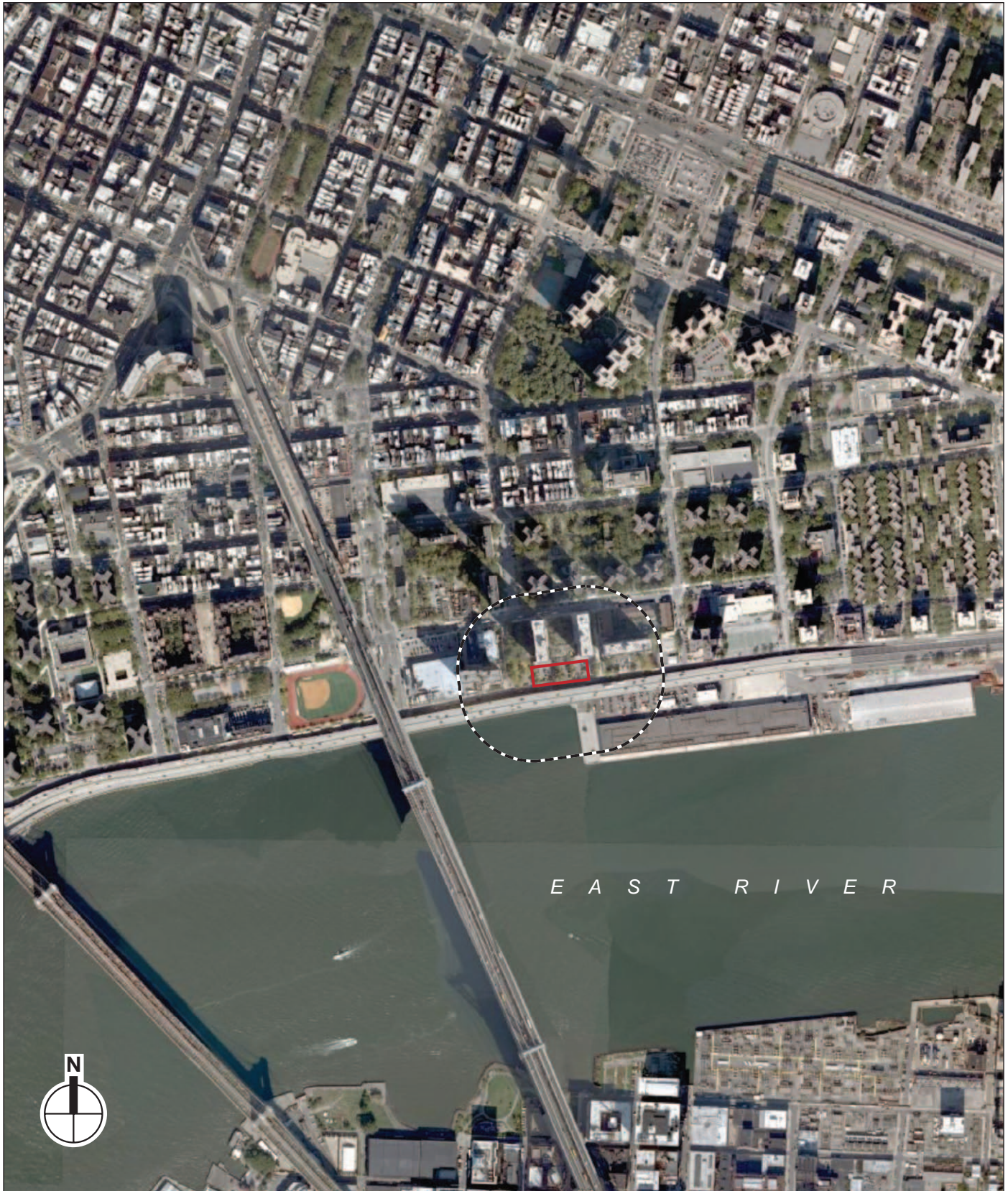
The majority of buildings in the study area are freestanding brick residential structures that are set back from the street, massed without setbacks, and range in height from 10 to 25 stories. As a result, most streets in the study area are lined by yards enclosed by fences rather than by the streetwalls of buildings. The lot coverage of buildings in the study area is generally low. (See **Figure C-7** for an aerial photograph of the study area.)

Portions of the Rutgers and LaGuardia Houses New York City Housing Authority (NYCHA) complexes are located directly north of the project site and Site 5. The LaGuardia Houses consists of nine buildings, three of which fall within the study area, along with the LaGuardia Houses Addition. The LaGuardia Houses buildings located within the study area are 16-story (139-foot-tall) X-shaped brick residential buildings of approximately 105,408 square feet each (see view 14 of **Figure C-9** and view 18 of **Figure C-11**). The buildings are set far back from the street within landscaped grounds and are spaced far apart from each other as well. The LaGuardia Houses Addition is located on Cherry Street. Set back from the street and perpendicular to it, the Addition is 16 stories (145 feet) tall and has an approximately rectangular footprint with angled façades, which are given some interest through the use of different colors of brick. One of the five Rutgers Houses buildings is located within the study area, at the northwest corner of the Rutgers Street and Cherry Street intersection. It is a 20-story (174-foot-tall) brick building of approximately 107,921 square feet. Further, it is a tall brick slab with a rectangular footprint, no setbacks, and little architectural ornamentation (see view 13 of **Figure C-9**). As with the LaGuardia Houses, the Rutgers Houses buildings are set back from the street within landscaped grounds.

East of Site 5, the Two Bridges Townhouses—three three-story rectangular buildings—are set back from Cherry Street behind small grassy strips enclosed by fences (see view 4 of **Figure C-3** and view 16 of **Figure C-10**). The east and west buildings are set perpendicular to Cherry Street, and the middle building is set lengthwise along the street. Immediately south of the Two Bridges Townhouses is another Land's End building—a 19-story (175-foot-tall) building located in the middle of the block. That building has a rectangular footprint and is massed as a large slab (of 262,857 square feet) with no setbacks but six bays of projecting balconies on the north and south facades (see view 4 of **Figure C-3**, view 16 of **Figure C-10**, and view 17 of **Figure C-11**). The east and west facades of the building are largely blank.

West of Site 5, the Two Bridges Helen Harris Senior Residence is a 10-story (90-foot-tall) building of approximately 84,000 square feet, set back from the southwest corner of Cherry and South Streets at a slight angle behind a landscaped yard, enclosed by a fence. Clad in brick and concrete, it has an approximately rectangular footprint with some projecting sections but no horizontal setbacks. At the South Street end of Rutgers Slip, south of the Helen Harris facility, is the Two Bridges Tower, a 21-story (195-foot-tall) 260,000-square-foot building. Like many of the other buildings in the study area, it has an approximately rectangular footprint and a slab form, which is set parallel to South Street. There are some projecting sections but no horizontal setbacks, and the use of different colors of brick breaks up the monotony of the building form (see view 19 of **Figure C-12**).

The only low-rise buildings in the study area are a one-story Pathmark supermarket (that consists of two buildings set at right angles to each other) on Cherry Street west of Rutgers Slip



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



View west under the FDR Drive 11



View north on Rutgers Slip from South Street 12



View south on Rutgers Street from Madison Street 13



View east on Cherry Street from Rutgers Slip 14



Municipal pier. View southeast from esplanade 15



Two Bridges Townhouses side and rear yard 16



View west on South Street from Clinton Street 17



View northeast from Cherry Street at Rutgers Slip 18



View west on South Street from near the project site 19



View south from Madison Street through LaGuardia Houses to project site 20

and a one-story Con Edison substation. The supermarket is set far back from Cherry Street and Pike Slip behind a large paved parking lot.

The study area is developed in a grid pattern, although between Madison and South Streets Jefferson Street has been demapped through the superblocks of the LaGuardia Houses and Land's End residential developments. In addition, the private Rutgers Park is located in the alignment of Rutgers Street between Cherry and South Streets, with the narrow, 55-foot-wide north-bound Rutgers Slip located to the west (see view 12 of **Figure C-8**). South Street is a major east-west street in the study area, with two west-bound lanes and one east-bound lane. Trucks and buses tend to park along South Street, especially adjacent to the project site (see **Figure C-2**). The FDR Drive is elevated through the study area, running between South Street and the East River waterfront (see view 11 of **Figure C-8**). Bike lanes are located beneath the FDR Drive. Cherry Street is a one-lane west-bound street with parallel and angled parking along its edges (see view 4 of **Figure C-3**). North of Cherry Street, Rutgers Street is 100-foot wide and has north- and south-bound lanes separated by parking areas and planted medians (see view 13 of **Figure C-9**). There are also parking ribbons along the east and west sides of the roadbed. Clinton Street is a 50-foot-wide north-bound street at the eastern edge of the project site. It also has parking ribbons.

In general, parking and fenced-off landscaped yards of varying size are the defining features of the streetscape. All of the study area streets having parking ribbons, there are parking spaces in the middle of Rutgers Street, the LaGuardia Houses have on-site parking lots off Rutgers and Cherry Streets, and the project site itself is a large paved parking lot. With the exception of South Street, the streets in the study area do not appear to experience much vehicular or pedestrian traffic. The streets are not particularly active as the majority of buildings are set back from the street and the only two retail establishment in the study area are a small bodega in the Land's End building at 265 Cherry Street (on Site 5) and the Pathmark supermarket.

Outside of the grounds of the Rutgers and LaGuardia Houses, the only public open space in the study area is the esplanade along the East River that runs from the South Street Seaport to Rutgers Slip. Located beneath and south of the FDR Drive viaduct, the East River Esplanade is a paved area with some decorative paving, bike lanes, and benches set close to the river's edge (see view 11 of **Figure C-8**). There are some street trees, but most trees in the study area tend to be located within property lines.

Although the study area is located along the East River, there are physical and visual barriers to the river, which include South Street, the elevated FDR Drive, and a large pier located between the former alignment of Jefferson Street and Jackson Street to the east. Municipal services occupy the pier and it is developed with large sheds and parking areas (see view 15 of **Figure C-10**).

VISUAL RESOURCES

The study area contains two visual resources—the East River and views of the Manhattan Bridge. Due to intervening buildings and the elevated FDR Drive, views of the East River itself are limited, although views south on Clinton Street, Rutgers Street, and Rutgers Slip include the openness of the sky afforded by the presence of the river and partial views of the Brooklyn waterfront and the Manhattan Bridge. Views of the water are only available from South Street and the East River Esplanade, which provides adjacent, open views and proximity to the water (see view 11 of **Figure C-8**). On Cherry Street, the Land's End IIA courtyard and the open project site allow some circumscribed views through the block of the East River vista, although

the numerous trees on Site 5 and the elevated FDR Drive mostly impede those views (see view 5 of **Figure C-4**). Similarly, there are some limited, partially obscured views to the East River from Madison Street through the LaGuardia Houses complex and the Land's End IIA development; trees and a fence around a dumpster storage area generally obscure those views (see view 20 of **Figure C-12**).

The Manhattan Bridge is located just to the west of the study area, and there are long views west on Cherry Street of the bridge's stone abutment (see view 21 of **Figure C-13**). The Manhattan-side bridge tower, which is located in the water, is not readily visible from within the study area, except from South Street, due to intervening buildings. The Brooklyn-side tower, however, is visible in views south on Rutgers Street and Slip (see view 8 of **Figure C-5** and view 13 of **Figure C-9**). Partial views of the Brooklyn-side tower are also available from Cherry Street over the Land's End IIA courtyard and the project site (see view 5 of **Figure C-4** and view 22 of **Figure C-13**). The East River Esplanade provides clear views of the full bridge span. South Street and the East River Esplanade also provide views of the Lower Manhattan skyline.

Due to intervening buildings, views to the project site are mostly limited to its immediate vicinity. The 21-story Two Bridges Tower and the 27-story Two Bridges Houses (located on the east side of Clinton Street just outside the study area) partially block views to the project site from the east and west beyond the study area (see view 23 of **Figure C-14**). From the East River Esplanade, the elevated FDR Drive obscures views. There are views of the project site from Rutgers Slip over Rutgers Park and from Cherry Street adjacent to the Land's End IIA development over the courtyard. From farther east and west on Cherry Street, tall intervening buildings block views of the project site. From Madison Street, there is a narrowly circumscribed view to the project site through the LaGuardia Houses, and then through the Land's End IIA development; as mentioned above, trees and a fence obscure that narrowly defined view (see view 20 of **Figure C-12**).

There are clear views to the project site from the East River waterfront in Brooklyn, most notably from Empire Fulton Ferry State Park, which is located at the base of the Manhattan Bridge. The sweeping views from the park are of the entire Lower East Side and Downtown Manhattan skylines (see **Figure C-15**). As seen from Brooklyn, the Lower East Side skyline is one of tall, mostly bland brick residential buildings. From certain locations, there are views of more distant buildings in Midtown, including the Empire State Building. There are also views to the project site and Lower East Side waterfront from along John Street east of the park, but those views are through chain link fences and over vacant lots. There are no pedestrian views of the project site from the Manhattan Bridge because the pedestrian path is located on the southern side of the bridge; there are, however, views from the bike path, which is located on the northern side of the bridge, and from the Manhattan-bound roadway.

D. THE FUTURE WITHOUT THE PROPOSED PROJECT

PROJECT SITE AND SITE 5

In the future without the proposed project, there would be no changes to the project site or the remainder of Site 5. The project site would remain a paved parking lot.



View west on Cherry Street from near Two Bridges Townhouses 21



View southwest to Manhattan Bridge from Cherry Street and Land's End IIA 22



West on South Street from Gouvernor Slip 23



View northeast to project site from esplanade 24



View to project site from Empire Fulton Ferry State Park 25



View to project site from Empire Fulton Ferry State Park 26

STUDY AREA

As described in Attachment A, “Land Use, Zoning and Public Policy,” there is one project that will be completed in the study area by 2015. Improvements to Pier 35, directly south of the project, are currently under construction; when they are complete, the pier will be a public open space that will provide access to the waterfront and include a possible boat launch, picnic tables, and outdoor grills. This project will improve the streetscape of the study area, add vitality to the area, and provide landscaping and new public open space.

E. THE FUTURE WITH THE PROPOSED PROJECT

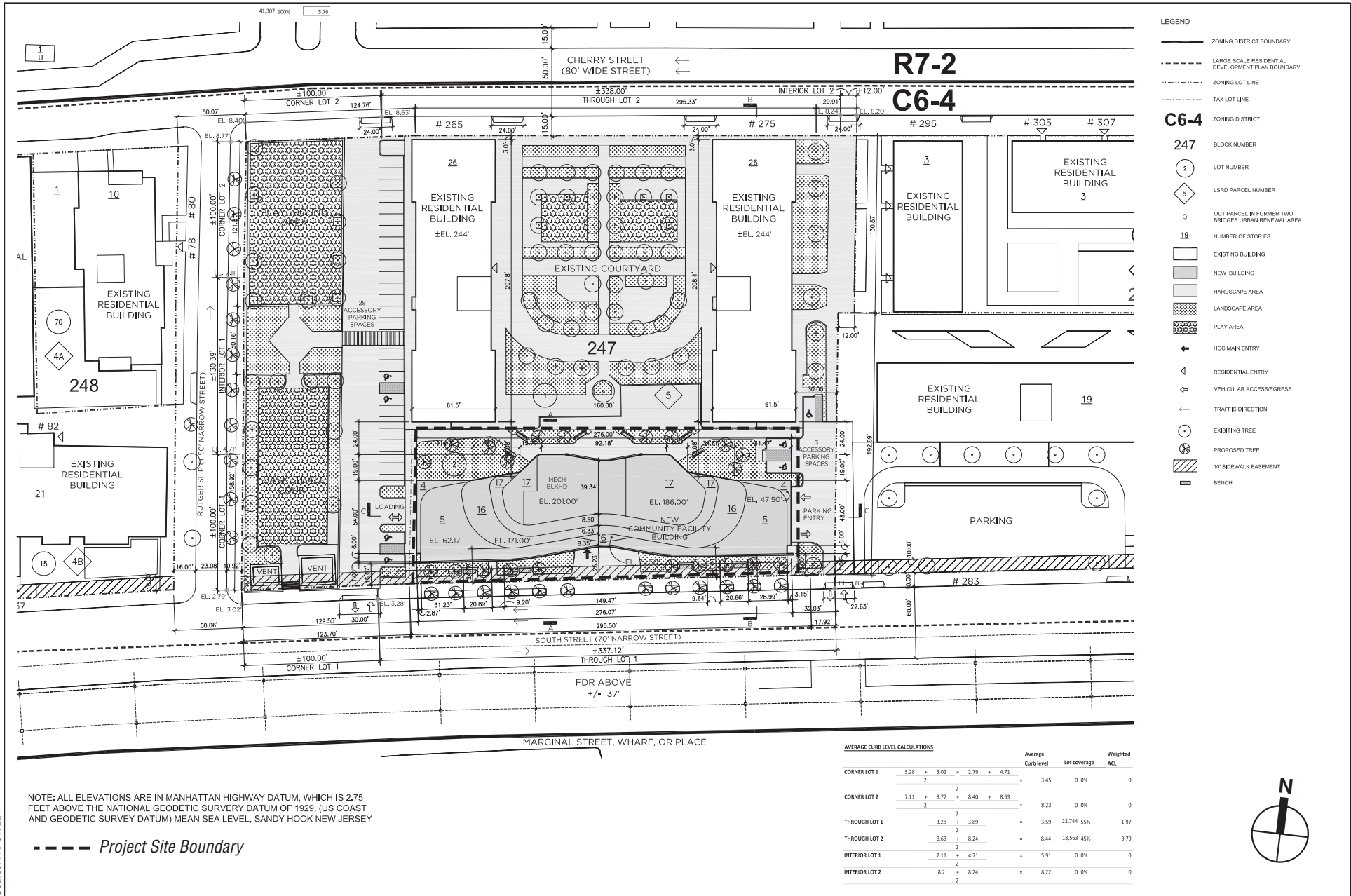
URBAN DESIGN

The proposed National Center for Palliative Care Innovation would be a 17-story (200-foot-tall) approximately 195,000-gross-square-foot building that would be constructed on the Land’s End IIA parking lot on South Street. As described in the Environmental Assessment Statement and shown on **Figure 4b**, the proposed building would include residential units, space for the HealthCare Chaplaincy’s headquarters, an outpatient medical practice, community facility tenant space, and a parking garage. As shown in the application drawings and on **Figure C-16**, the proposed building would have an exterior footprint of approximately 80 feet by 276 feet at its widest point. The area around the building would be landscaped, including with a wide, paved walkway lined by trees along South Street. The area between the western Land’s End building and Rutgers Park would be repaved to create surface parking spots, which would replace some of the existing parking spaces to be removed from the project site; the remaining spaces would be replaced in the proposed parking garage. Three parking spaces also would be added adjacent to the southeast corner of the existing eastern Land’s End building.

The freestanding building would be massed with a five-story base and a 12-story tower with a mechanical floor above, as shown in the application drawings and on **Figure C-16**. The tower would have curved facades set back from the base. A wide three-story opening in the center of the base would provide passage to the existing courtyard on the interior of the block. It is expected that the building would be clad in metal, brick, and glass and that the facades would mostly be glazed. (See **Figures C-17 through C-22** for illustrative project elevations and renderings.) The height, massing, size, and uses of the proposed building would be consistent with applicable zoning regulations.

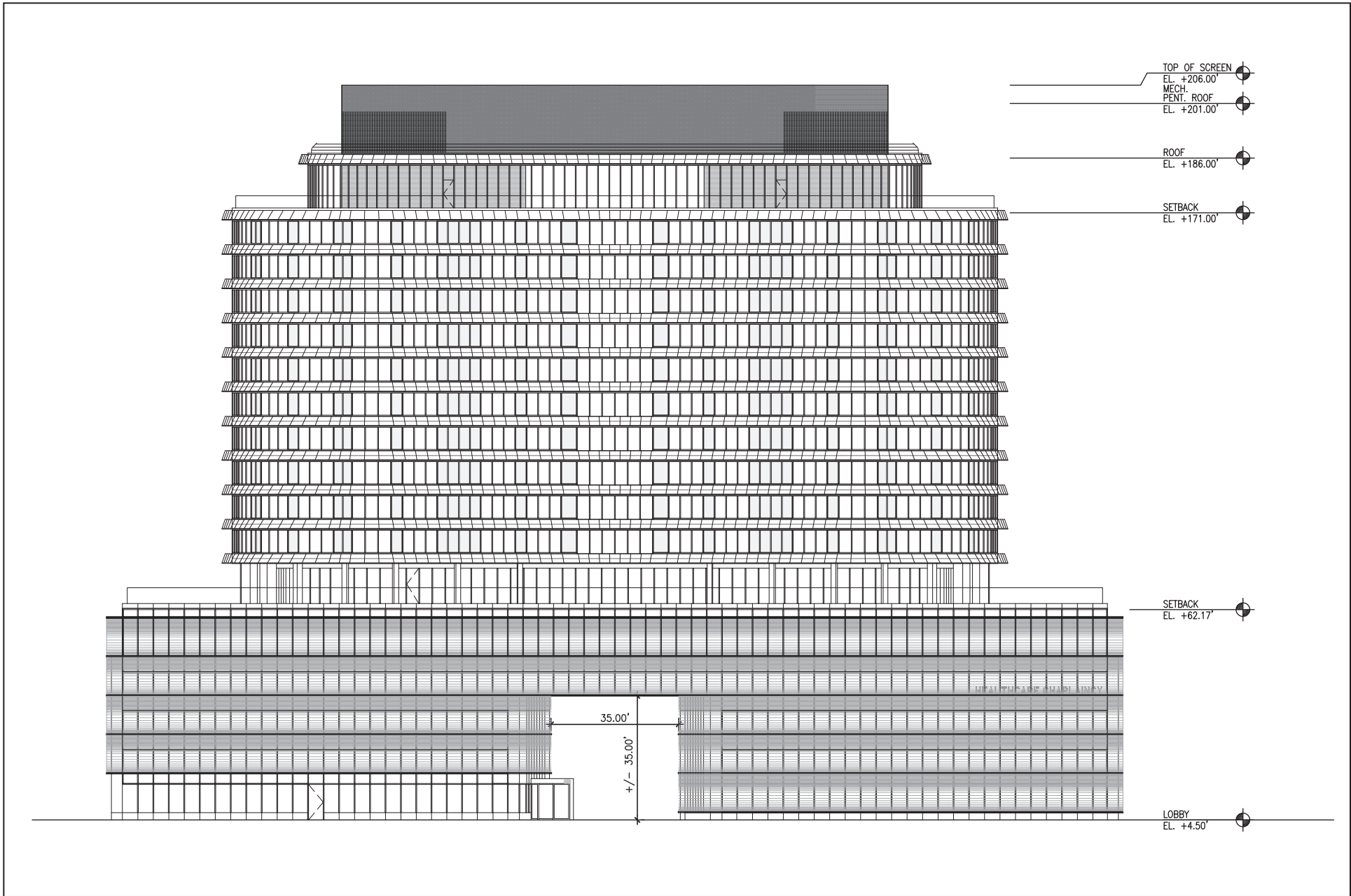
The *CEQR Technical Manual* guidelines state that if the preliminary assessment shows that changes to the pedestrian environment are sufficiently significant to require greater explanation and further study, then a detailed analysis is appropriate. Examples include projects that would potentially obstruct view corridors, compete with icons in the skyline, or make substantial alterations to the streetscape of a neighborhood by noticeably changing the scale of buildings. Detailed analyses also are generally appropriate for area-wide rezonings that include an increase in permitted floor area or changes in height and setback requirements, general large-scale developments, or projects that would result in substantial changes to the built environment of a historic district or components of a historic building that contribute to the resource’s historic significance.

The proposed project would improve the streetscape along South Street, and thus the pedestrian experience, by replacing a paved parking area with a new building with landscaping. The proposed building would be located on an existing block and would not affect the street grid.



Source: FXFOWLE

NOTE: This figure was revised in March 2013 after the EAS was filed May 2012 to show changes to the landscape plan.



For Illustrative Purposes Only

National Center for Palliative Care Innovation
at HealthCare Chaplaincy

Illustrative South Elevation
Figure C-17



Source: FXFOWLE

For Illustrative Purposes Only

National Center for Palliative Care Innovation
at HealthCare Chaplaincy

Illustrative Project Rendering
View Looking West from FDR Drive

Figure C-18



Existing/No Action Conditions



Illustrative Rendering, Proposed Project



Source: FXFOWLE

For Illustrative Purposes Only

National Center for Palliative Care Innovation
at HealthCare Chaplaincy

Illustrative Project Rendering
View Looking at South Street Entry
Figure C-20



Source: FXFOWLE

For Illustrative Purposes Only

National Center for Palliative Care Innovation
at HealthCare Chaplaincy

Illustrative Project Rendering
View Looking Southwest from Courtyard

Figure C-21



For Illustrative Purposes Only

Three-Dimensional Computer Model
with Proposed Building
View Northeast

Figure C-22

Existing curb cuts on South Street would be used for entrances to the loading dock and parking garage. The height, massing, size, and uses of the proposed building would be consistent with current zoning and would be similar to those features of most residential buildings in the study area. It would be freestanding with a landscaped site like all of the buildings in the study area. With a rectangular footprint set parallel to the street, it would be similar to the Two Bridges Tower at Rutgers Slip and the Land's End building immediately east of the project site, both of which are set parallel to South Street. The tower-on-a-base form and the curved facades would be unique to the study area, but not all of the high-rise buildings in the study area are massed as slabs—the LaGuardia Houses have X-shaped footprints, the LaGuardia Addition has angled facades, and the Two Bridges Tower has low-rise wings on South Street. Unlike other buildings in the study area, there would be no fence around the building site. The proposed project would not affect the East River Esplanade or East River and would add new private open space to the study area.

The proposed project would not noticeably change the scale of buildings; would not involve an area-wide rezoning that includes an increase in permitted floor area or changes in height or setback requirements; would not involve a general large-scale development; and would not result in substantial changes to the built environment of a historic district or components of a historic building that contribute to the resource's historic significance. Therefore, the proposed project would not be anticipated to significantly affect any urban design features of the project site or study area, or the general urban design character of the neighborhood.

VISUAL RESOURCES

According to the guidance of the *CEQR Technical Manual*, additional visual resources analysis is required if: a project would partially or totally block a view corridor or a natural or built visual resource and that resource is rare in the area or considered a defining feature of the neighborhood; or, a project would change urban design features so that the context of a natural or built visual resource is altered (for example, if a project alters the street grid so that the approach to the resource changes; if a project changes the scale of surrounding buildings so that the context changes; or if a project removes lawns or other open areas that serve as a setting for the resource).

Although the proposed building would block views of the East River and the Brooklyn-side tower of the Manhattan Bridge from Cherry Street in the immediate vicinity of the Land's End IIA development, those views are not important public views in the study area as their viewpoints are narrowly limited and they are partially obscured by trees and the elevated FDR Drive. Similarly, the proposed building would block the limited views toward the East River from Madison Street through the LaGuardia Houses and the Land's End IIA development, but those views are largely obscured by trees and a fence within the LaGuardia Houses complex. More extensive views of the East River and Manhattan Bridge would continue to be available on Rutgers Street and Slip, and there would be new views of the river and bridge from the new public open space on Pier 35 that would complement the existing views from the East River Esplanade. The proposed project would not be visible in views west on Cherry Street toward the Manhattan Bridge abutment and there would, therefore, be no change to those views from the proposed project.

Within the study area, the proposed building would be most visible on South Street, Rutgers Slip, and on Cherry Street immediately adjacent to the Land's End IIA courtyard. As seen from those locations, it would be one of many tall, freestanding buildings in the study area and,

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located on an existing block and set back from the street, it would not block views along those streets. It would be visible from the East River Esplanade and the new public open space on Pier 35, but the FDR Drive viaduct would partially block those views. In any case, as seen from those locations, it would be one of many tall, freestanding buildings located along South Street.

As seen from the Brooklyn waterfront, the proposed building would be visually prominent, but it would be a component part of the Lower East Side skyline, and it would not obscure views of important buildings seen farther to the north. Views of the proposed building from the Manhattan Bridge would be limited to Manhattan-bound motorists and bicyclists, who would have brief passing views.

In summary, the proposed project would not change urban design features so that the context of a natural or built visual resource is altered, and would not partially or totally block any unique views to a visual resource. Therefore, the proposed action does not merit further analysis of visual resources, and would not be anticipated to result in significant adverse effects to visual resources.

Overall, the proposed building would not have significant adverse impacts on urban design or visual resources. *

A. INTRODUCTION

This attachment presents the findings of the hazardous materials assessment for the proposed National Center for Palliative Care Innovation and identifies potential issues of concern that could pose a hazard to workers, the community, and/or the environment during or after development of the proposed project. The proposed National Center for Palliative Care Innovation would require excavation of an area currently used for surface parking for the new building's cellar and foundations. The potential for hazardous material concerns was evaluated based on a review of existing studies and reports including a February 2011 *Phase I Environmental Site Assessment* (ESA) prepared by Langan Engineering & Environmental Services, a June 2008 *Phase II Site Investigation Report* prepared by GZA GeoEnvironmental Inc., and various reports documenting the removal of tanks/contaminated soil and subsequent treatment and monitoring.

The findings of the hazardous materials assessment are that no significant adverse impacts related to hazardous materials would be expected to occur either during or following the construction of the proposed project, provided certain protocols are followed.

B. EXISTING CONDITIONS

The Phase I ESA assessed the potential for hazardous materials to be present, based on a reconnaissance of the project site and surrounding area, a review of data on geology and hydrology of the area, an examination of historical Sanborn Fire Insurance maps and aerial photographs and prior reports, and a review of pertinent federal and state databases.

Based on U.S. Geological Survey mapping (Brooklyn Quadrangle), the property lies at an elevation of approximately 20 feet above mean sea level. The topography of the project site is generally flat, and the surrounding area generally slopes towards the south-southeast. Groundwater likely flows toward the nearby East River, but is not a source of drinking water in Manhattan.

An earlier (2008) version of the Phase I ESA indicated that the project site historically included two automotive facilities with underground storage tanks (USTs). The June 2008 Phase II was performed to investigate this concern. Ground penetrating radar (GPR) identified five potential USTs within the project site. Soil and groundwater samples were collected and analyzed: petroleum-related contamination (volatile and semivolatile organic compounds—VOCs and SVOCs) was identified and a spill (#0802596) was reported to the New York State Department of Environmental Conservation (NYSDEC). In May 2009, TRC Engineers, Inc. oversaw the removal (in accordance with a NYSDEC-approved plan) of ultimately seven 550-gallon USTs from the eastern end of the project site along with 400-gallons of oil/water and three 55-gallon drums of oil/sludge associated with the USTs. Petroleum impacted soils were also removed and disposed of off-site and Oxygen Release Compound Advanced (ORCA ®) was injected to assist

with the breakdown of remaining contamination. Quarterly groundwater sampling has since been conducted and, although VOCs above drinking water standards have been found in some wells, they have generally been decreasing as have the levels of SVOCs in the one well where elevated levels were present. As part of the report documenting the groundwater sampling event in March 2011, NYSDEC approval was sought to cease quarterly monitoring and to close the spill listing. On September 8, 2011, NYSDEC gave the spill a closed status.

C. THE FUTURE WITHOUT THE PROPOSED PROJECT

This analysis assumes that no construction would occur on the project site without the proposed project.

D. THE FUTURE WITH THE PROPOSED PROJECT

The greatest potential for exposure to contaminated materials would occur during subsurface disturbance associated with construction of the proposed project. However, the potential for adverse impacts would be avoided by performing these activities in accordance with the following:

- An E-Designation would be placed on the Zoning Map indicating the presence of environmental requirements pertaining to hazardous materials. The E-Designation would require the following two tasks:
 1. Task 1-Sampling Protocol. The applicant submits to the NYC Office of Environmental Remediation (OER), for review and approval, a Phase I Environmental Site Assessment of the site along with a soil and groundwater testing protocol, including a description of methods and a site map with all sampling locations clearly and precisely represented. No sampling should begin until written approval of a protocol is received from OER. The number and location of samples should be selected to adequately characterize the site, the specific source of suspected contamination (e.g., petroleum based contamination and non-petroleum based contamination), and the remainder of the site's condition. The characterization should be complete enough to determine what remediation strategy (if any) is necessary after review of sampling data. Guidelines and criteria for selecting sampling locations and collecting samples are provided by OER upon request.
 2. Task 2-Remediation Determination and Protocol. A written report with findings and a summary of the data must be submitted to OER after completion of the testing phase and laboratory analysis for review and approval. After receiving such results, a determination is made by OER if the results indicate that remediation is necessary. If OER determines that no remediation is necessary, written notice shall be given by OER. If remediation is indicated from the test results, a proposed remediation plan must be submitted to OER for review and approval. The applicant must complete such remediation as determined necessary by OER. The applicant should then provide proper documentation that the work has been satisfactorily completed. A OER-approved construction-related health and safety plan would be implemented during excavation and construction activities to protect workers and the community from potentially significant adverse impacts associated with contaminated soil and/or groundwater. This plan would be submitted to OER for review and approval prior to implementation. All demolition or rehabilitation would be conducted in

accordance with applicable requirements for disturbance, handling and disposal of suspect lead-paint and asbestos-containing materials.

- During excavation for the proposed project, any unexpectedly encountered tanks would be properly closed and removed along with any contaminated soil and would be registered with NYSDEC and/or the New York City Fire Department, if applicable. Any evidence of a petroleum spill would be reported to NYSDEC and addressed in accordance with applicable requirements.
- If dewatering were to be required for construction, testing would be performed to ensure that the groundwater would meet NYCDEP sewer discharge requirements. If necessary, the water would be pretreated prior to discharge to the City's sewer system, as required by NYCDEP permit/approval requirements.

With the measures outlined above, no significant adverse impacts related to hazardous materials would be expected to occur as a result of the proposed project. *

A. INTRODUCTION

The residential units and offices in the proposed National Center for Palliative Care Innovation would generate additional transportation trips. The *CEQR Technical Manual* specifies that if a proposed project would generate fewer than 50 peak hour vehicle trips, it is unlikely to result in significant adverse traffic and parking impacts, and detailed quantified analyses are not warranted. Similarly, if the proposed project is expected to generate fewer than 200 peak hour transit or pedestrian trips, it is unlikely to result in significant adverse transit or pedestrian impacts, and detailed quantified analyses are not warranted. A trip generation analysis was performed to determine if the proposed National Center for Palliative Care Innovation would warrant a quantified transportation impact analysis. It was determined that such an analysis was not warranted and that there would be no significant adverse transportation impacts.

B. TRIP GENERATION SCREENING ASSESSMENT

The proposed project, located on the block bounded by South Street, Cherry Street, Clinton Street, and Rutgers Slip in the Lower East Side-Two Bridges neighborhood in Manhattan, would include 120 assisted living residential units/beds, approximately 17,000 square feet of office space for HealthCare Chaplaincy (HCC), approximately 7,700 square feet of medical office space, and approximately 22,400 square feet of community facility space including tenant use.

Trip estimates were developed for the proposed project's assisted living, HCC office, medical office, and community facility uses. Trip generation factors and travel demand assumptions were based on information provided in the *Institute of Transportation Engineers Trip Generation Manual (8th Edition)*, *CEQR Technical Manual*, the 2000 U.S. Census data¹, and other established sources/approved studies, as presented in Table E-1.

The projected person and vehicle trips expected to be generated by the proposed project were estimated based on the trip generation factors presented in Table E-1. As summarized in Table E-2, the proposed project is estimated to generate approximately 205, 199, and 205 person trips and 43, 35, and 44 vehicle trips during the weekday AM, midday, and PM peak hours, respectively.

TRAFFIC

As presented in Table E-2, the proposed project is not expected to generate vehicle trips exceeding the *CEQR* analysis threshold of 50 peak hour vehicle trips during any of the three analysis periods. Therefore, a quantified traffic study is not warranted, and the proposed project is unlikely to result in any significant adverse traffic impacts.

¹ 2000 U.S. Census Data was used in trip generation estimates since the reverse-journey-to-work modal splits are not available in the American Community Survey census database.

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TRANSIT

As shown in Table E-2, the proposed project would generate 88, 66, and 88 subway trips and 21, 17, and 22 bus trips during the weekday AM, midday, and PM peak hours respectively. Since these transit trips generated by the proposed project are below the CEQR analysis threshold of 200 peak hour transit riders, a quantified transit analysis is not warranted, and the proposed project is not expected to result in any significant adverse transit impacts.

Table E-1
Travel Demand Assumptions

Development Programs	Assisted Living 120 (Beds)			HCC Office 17,000 (SF)			Medical Office Employees 7,700 (SF)			Medical Office Patients 7,700 (SF)			Community Facility 22,400* (SF)		
Daily Person Trip Rate	(1)(7) 5.0 Person Trips/Bed			(2) 18 Person Trips/KSF			(3) 10 Person Trips/KSF			(3) 33.6 Person Trips/KSF			(3) 34 Person Trips/KSF		
Temporal Distribution	(1)(8) AM 5%	(1)(9) MD 13%	(1)(10) PM 9%	(2) AM 12%	(2) MD 15%	(2) PM 14%	(3) AM 48%	(3) MD 4%	(3) PM 48%	(3) AM 20%	(3) MD 9%	(3) PM 5%	(3) AM 7%	(3) MD 7%	(3) PM 8%
Directional Distribution	(1) AM 69%	(1) MD 40%	(1) PM 33%	(4) AM 96%	(4) MD 48%	(4) PM 5%	(3) AM 95%	(3) MD 50%	(3) PM 15%	(3) AM 58%	(3) MD 40%	(3) PM 20%	(3) AM 94%	(3) MD 45%	(3) PM 42%
In	31%	60%	67%	4%	52%	95%	5%	50%	85%	42%	60%	80%	6%	55%	58%
Out	69%	40%	33%	96%	48%	5%	95%	50%	15%	58%	40%	20%	94%	45%	42%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Modal Split	(5)(11) AM 28%	(5)(11) MD 28%	(5)(11) PM 28%	(5) AM 27.0%	(6) MD 2%	(5) PM 27.0%	(5) AM 27.0%	(6) MD 2%	(5) PM 27.0%	(5)(11) AM 28%	(5)(11) MD 28%	(5)(11) PM 28%	(5)(11) AM 28%	(5)(11) MD 28%	(5)(11) PM 28%
Auto	1%	1%	1%	1.0%	3%	1.0%	1.0%	3%	1.0%	1%	1%	1%	1%	1%	1%
Taxi	42%	42%	42%	41.0%	6%	41.0%	41.0%	6%	41.0%	42%	42%	42%	42%	42%	42%
Subway	10%	10%	10%	10.0%	6%	10.0%	10.0%	6%	10.0%	10%	10%	10%	10%	10%	10%
Bus	19%	19%	19%	18.0%	83%	18.0%	18.0%	83%	18.0%	19%	19%	19%	19%	19%	19%
Walk	0%	0%	0%	3.0%	0%	3.0%	3.0%	0%	3.0%	0%	0%	0%	0%	0%	0%
Work at Home/Absentee	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Vehicle Occupancy	(5)(6) AM 1.29	(5)(6) MD 1.29	(5)(6) PM 1.29	(6) AM 1.65	(6) MD 1.65	(6) PM 1.65	(5)(6) AM 1.29	(5)(6) MD 1.29	(5)(6) PM 1.29	(5)(6) AM 1.29	(5)(6) MD 1.29	(5)(6) PM 1.29	(5)(6) AM 1.29	(5)(6) MD 1.29	(5)(6) PM 1.29
Auto	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
Taxi	(2) 0.06 Delivery Trips/Bed	(2) 0.06 Delivery Trips/Bed	(2) 0.06 Delivery Trips/Bed	(2) 0.32 Delivery Trips/KSF	(2) 0.32 Delivery Trips/KSF	(2) 0.32 Delivery Trips/KSF	(3) 0.20 Delivery Trips/KSF	(3) 0.20 Delivery Trips/KSF	(3) 0.20 Delivery Trips/KSF	(3) 0 Delivery Trips/KSF	(3) 0 Delivery Trips/KSF	(3) 0 Delivery Trips/KSF	(3) 0.38 Delivery Trips/KSF	(3) 0.38 Delivery Trips/KSF	(3) 0.38 Delivery Trips/KSF
Daily Delivery Trip Rate	(2) AM 12%	(2) MD 9%	(2) PM 2%	(2) AM 10%	(2) MD 11%	(2) PM 2%	(2) AM 10%	(2) MD 11%	(2) PM 2%	(3) AM 0%	(3) MD 0%	(3) PM 0%	(2) AM 10%	(2) MD 11%	(2) PM 2%
Delivery Temporal Distribution	(2) AM 50%	(2) MD 50%	(2) PM 50%	(2) AM 50%	(2) MD 50%	(2) PM 50%	(3) AM 50%	(3) MD 50%	(3) PM 50%	(3) AM 50%	(3) MD 50%	(3) PM 50%	(3) AM 50%	(3) MD 50%	(3) PM 50%
Delivery Directional Distribution	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
In	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Out	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Sources:
 (1) Trip Generation, 8th Edition, Institute of Transportation Engineers. Land Use (620): Nursing Home.
 (2) 2012 CEQR Technical Manual.
 (3) Flushing Commons FEIS, 2010.
 (4) Pushkarev & Zupan, "Urban Space for Pedestrians," 1975.
 (5) 2000 U.S. Census reverse-journey-to-work data for tracts 6, 8, 2.01 and 2.02.
 (6) Western Rail Yard FEIS, 2009.
 (7) Daily person trip rate = ITE average daily vehicle trip rate * 2.0 / 0.95.
 (8) Temporal distribution = ITE average vehicle trip rate during the AM peak hour of generator / ITE average daily vehicle trip rate.
 (9) Temporal distribution = ITE average vehicle trip rate during the PM peak hour of generator / ITE average daily vehicle trip rate.
 (10) Temporal distribution = ITE average vehicle trip rate for one hour of adjacent street between 4-6 PM / ITE average daily vehicle trip rate.
 (11) Work at home mode excluded from modal split estimates and distributed to the auto, subway, and walk modes.

Notes:
 * For trip generation purposes, the community facility space includes the not-for-profit tenant space on the fourth floor, the meeting rooms on the sixth floor, and the chapel, ambulatory, and accessory assembly space on the seventeenth floor. It does not include the kitchen and dining area on the sixth floor that would be accessory to the HCC space and residential units.

Table E-2
Trip Generation Summary

Peak Hour		Person Trip						Vehicle Trip			
		Auto	Taxi	Subway	Bus	Walk	Total	Auto	Taxi	Delivery	Total
AM	In	47	1	72	18	32	170	36	0	0	36
	Out	10	0	16	3	7	36	8	0	0	8
	Total	57	1	88	21	39	206	43	0	0	44
Midday	In	18	1	28	7	32	86	14	1	0	15
	Out	25	1	38	10	39	113	19	1	0	20
	Total	43	2	66	17	71	199	33	2	0	35
PM	In	15	0	23	6	9	53	12	0	0	12
	Out	42	0	65	16	29	152	32	0	0	32
	Total	57	0	88	22	38	205	44	0	0	44

PEDESTRIANS

The person trip generation estimates for the proposed project are presented in Table E-2. The proposed project is not expected to generate pedestrian trips exceeding the *CEQR* analysis threshold during the midday peak hour. However, the proposed project is expected to generate 206 and 205 pedestrian trips during the AM and PM peak hours, respectively, which would slightly exceed the *CEQR* analysis threshold of 200 peak hour pedestrian trips for undertaking an additional Level 2 screening analysis. Under the Level 2 screening analysis, if the proposed project generates 200 or more peak hour pedestrian trips on any pedestrian facility—sidewalks, corner reservoirs, and crosswalks—adjacent to and near the project site, further quantified analysis may be warranted to evaluate the potential for significant adverse pedestrian impacts.

Taking into consideration the location of the project site, the existing street network, and the availability of transit options (bus routes and subway stations) in the study area, the project-generated pedestrian trips would be distributed through various intersections in the study area. Therefore, it is not expected that any pedestrian facility in the study area would exceed the 200-trip *CEQR* threshold during the AM and PM peak hours. Thus, a quantified pedestrian analysis is not warranted, and the proposed project is unlikely to result in any significant adverse pedestrian impacts.

SITE ACCESS AND EGRESS

Access to and egress from the proposed parking garage and the three accessible parking spaces—located adjacent to the southeast corner of the existing building at 275 Cherry Street—would be on the east side of the proposed building, from South Street at the former location of Jefferson Street where there is an existing curb cut and access area to the Land's End development.

Access to and egress from the proposed building's loading area and the adjacent 28 surface parking spaces would be on the west side of the proposed building at an existing curb cut and egress point for the existing parking lot on the site. Easements would be granted to the proposed project for use of those curb cuts and existing paved areas.

The proposed project would eliminate the existing curb cut and entrance to the existing parking lot that is located just west of the former location of Jefferson Street. In addition, the proposed project would eliminate four more existing curb cuts along the northern curbside of South Street in front of the project site. Those four curb cuts are not functional and do not provide access to or egress from the existing parking lot or the Land's End IIA residential buildings—there is a low concrete wall and plantings along the parking lot adjacent to those four curb cuts. The

proposed project and the Land's End residential buildings would be served by the two curb cuts and access areas discussed above.

The reuse of the existing one-way (egress-only) curb cut located on the west side of the proposed project as a two-way curb cut and the elimination of the existing enter-only curb cut just west of the former location of Jefferson Street would not adversely affect traffic operating conditions on South Street. Moreover, the existing curb cut and access area at the former location of Jefferson Street would continue to operate as a two-way driveway with the proposed project without affecting the travel patterns on South Street. As presented in the preceding section, the proposed project would generate a total of 44 (36 inbound and 8 outbound), 35 (15 inbound and 20 outbound), and 44 (12 inbound and 32 outbound) vehicle trips during the weekday AM, midday, and PM peak hours, respectively. These vehicle trips would be distributed to the proposed project's two curb cuts resulting in a single vehicle entering/exiting the project site approximately every 3 minutes. Given this level of minimal vehicular activity, the proposed project is unlikely to result in any significant adverse traffic impacts.

PARKING

The proposed project would replace the existing 103 at-grade parking spaces accessory to the two existing Land's End IIA buildings on the residential large-scale development parcel with 148 accessory parking spaces resulting in a net increase of 45 parking spaces. The accessory parking spaces would include 31 surface spaces and an automated parking system with up to 117 mechanical parking slots. Twenty-eight of the surface spaces would be located to the west of the proposed building with an entrance/exit on South Street and three would be located on the northeast side of the new building. The automated parking system would be constructed in the eastern portion of the building base and cellar with a driveway on South Street.

The proposed project would generate approximately 125 employees. As shown in Table E-1, approximately 27% of employees would commute by auto with an occupancy rate of 1.29. This would result in a parking demand of approximately 27 spaces generated by the employees. With 45 additional parking spaces provided by the proposed project, there would be approximately 18 parking spaces available for visitors and patients after accommodating the employee parking demand. Therefore, the proposed project would adequately accommodate its parking activities and is not expected to result in a parking shortfall. *

A. INTRODUCTION

The potential for air quality impacts from the proposed National Center for Palliative Care Innovation is examined in this attachment. Air quality impacts can be either direct or indirect. Direct impacts result from emissions generated by stationary sources at a development site, such as emissions from on-site fuel combustion for heat and hot water systems, or emissions from parking garage ventilation systems. Indirect impacts are impacts that are caused by emissions from nearby existing sources (impacts on the proposed project) or by emissions from on-road vehicle trips generated by a project or other changes to future traffic conditions due to the project. The proposed project is not expected to significantly alter traffic conditions. The maximum hourly incremental traffic from the proposed project would not exceed the *City Environmental Quality Review (CEQR) Technical Manual* carbon monoxide screening threshold of 170 auto trips for peak hour trips at nearby intersections in the study area, nor would it exceed the particulate matter emission screening threshold discussed in Chapter 17, Sections 210 and 311 of the *CEQR Technical Manual*. Therefore, a quantified assessment of emissions from project generated traffic is not warranted.

As recommended in the *CEQR Technical Manual*, the potential impact of the traffic on the elevated portion of the FDR Drive on the proposed future uses was analyzed, due to the elevated highway's proximity to the proposed project.

The proposed project would include natural gas-burning heat and hot water systems. Therefore, a stationary source analysis was conducted to evaluate potential future pollutant concentrations with the proposed heat and hot water systems.

The proposed project would include a parking garage. However, the proposed garage would be automated and would not result in on-site emissions of air pollutants. As described in the Environmental Assessment Statement, the automated parking system is necessary, because in the envelope and volume proposed for internal parking, it would not be possible to park the number of vehicles proposed without the use of an automated parking system. The footprint of the space would not allow for enough area to create a ramp and circulation that would be required to park cars on multiple levels. Additionally, if a lift were used, the compact footprint could not accommodate many spaces per floor and the height of the volume would not allow for the number of levels of parking needed in a conventional system. The garage would not require a vent for the automated parking system and, therefore, it would not be an emission source.

The number of vehicles expected to queue at the entrance to the proposed parking garage is well below the CEQR threshold requiring a mobile source analysis; therefore, an analysis of vehicles queuing at the entrance is not warranted. Since the proposed project is not expected to generate peak hour trips in the study area that would exceed the screening threshold for a mobile source analysis, the number of project-generated vehicles that would turn into the parking garage, which would be less than the total number of project-generated vehicles, would also not exceed

the screening threshold. Therefore, an analysis of emissions from the parking garage is not required as the garage design does not include any vents, and the number of vehicles approaching the garage would be lower than the total number of project-generated vehicles.

The capacity of the existing surface parking lot that would be used by the proposed project would decrease with the proposed project. Therefore, there would be no potential for significant air quality impacts from that parking lot, and no analysis is warranted.

The analysis conducted for the proposed project determined that emissions associated with the traffic along the elevated portion of the FDR Drive within 200 feet of the proposed uses would not result in concentrations at the proposed project that would exceed applicable standards. Similarly, based on a stationary source screening analysis and subsequent detailed dispersion modeling, there would be no potential significant adverse air quality impacts from the proposed heat and hot water systems. Thus, there would be no potential for significant adverse air quality impacts with the proposed project.

B. POLLUTANTS FOR ANALYSIS

Ambient air quality is affected by air pollutants produced by both motor vehicles and stationary sources. Emissions from motor vehicles are referred to as mobile source emissions, while emissions from fixed facilities are referred to as stationary source emissions. Ambient concentrations of carbon monoxide (CO) are predominantly influenced by mobile source emissions. Particulate matter (PM), volatile organic compounds (VOCs), and nitrogen oxides (nitric oxide, NO, and nitrogen dioxide, NO₂, collectively referred to as NO_x) are emitted from both mobile and stationary sources. Fine PM is also formed when emissions of NO_x, sulfur oxides (SO_x), ammonia, organic compounds, and other gases react or condense in the atmosphere. Emissions of sulfur dioxide (SO₂) are associated mainly with stationary sources, and sources utilizing non-road diesel such as large international marine engines. On-road diesel vehicles currently contribute little to SO₂ emissions since the sulfur content of on-road diesel fuel, which is federally regulated, is extremely low. Ozone is formed in the atmosphere by complex photochemical processes that include NO_x and VOCs. Ambient concentrations of CO, PM, NO₂, SO₂, and lead are regulated by the U.S. Environmental Protection Agency (EPA) under the Clean Air Act, and are referred to as ‘criteria pollutants’; emissions of VOCs, NO_x, and other precursors to criteria pollutants are also regulated by EPA.

CARBON MONOXIDE

CO, a colorless and odorless gas, is produced in the urban environment primarily by the incomplete combustion of gasoline and other fossil fuels. In urban areas, approximately 80 to 90 percent of CO emissions are from motor vehicles. CO concentrations can diminish greatly over relatively short distances; elevated concentrations are usually limited to locations near crowded intersections, heavily traveled and congested roadways, parking lots, and garages. Consequently, CO concentrations must be predicted on a local, or microscale, basis.

The proposed project is not expected to significantly alter traffic conditions. Since the proposed actions would not result in peak vehicle trips that would exceed the *CEQR Technical Manual* screening analysis thresholds for CO and PM, a quantified assessment of air quality impacts from project generated traffic is not warranted. However, the potential for significant air quality impact from traffic along the nearby elevated section of the FDR Drive on the proposed project was analyzed.

NITROGEN OXIDES, VOCS, AND OZONE

NO_x are of principal concern because of their role, together with VOCs, as precursors in the formation of ozone. Ozone is formed through a series of reactions that take place in the atmosphere in the presence of sunlight. Because the reactions are slow, and occur as the pollutants are advected downwind, elevated ozone levels are often found many miles from sources of the precursor pollutants. The effects of NO_x and VOC emissions from all sources are therefore generally examined on a regional basis. The contribution of any action or project to regional emissions of these pollutants would include any added stationary or mobile source emissions.

The proposed project would not have a significant effect on the overall volume of vehicular travel in the metropolitan area; therefore, no measurable impact on regional NO_x emissions or on ozone levels is predicted from mobile sources. An analysis of project-related emissions of these pollutants from mobile sources was therefore not warranted.

Potential impacts on local NO₂ concentrations from the fuel combustion for the proposed project's heat and hot water boiler systems were evaluated. On a region-wide basis, the boiler system is a single small source and would not have a significant impact on region-wide NO_x emissions.

LEAD

Airborne lead emissions are currently associated principally with industrial sources. Lead in gasoline has been banned under the Clean Air Act. No significant sources of lead are associated with the proposed project and, therefore, analysis was not warranted.

RESPIRABLE PARTICULATE MATTER—PM₁₀ AND PM_{2.5}

PM is a broad class of air pollutants that includes discrete particles of a wide range of sizes and chemical compositions, as either liquid droplets (aerosols) or solids suspended in the atmosphere. The constituents of PM are both numerous and varied, and they are emitted from a wide variety of sources (both natural and anthropogenic). Natural sources include the condensed and reacted forms of naturally occurring VOC; salt particles resulting from the evaporation of sea spray; wind-borne pollen, fungi, molds, algae, yeasts, rusts, bacteria, and material from live and decaying plant and animal life; particles eroded from beaches, soil, and rock; and particles emitted from volcanic and geothermal eruptions and from forest fires. Naturally occurring PM is generally greater than 2.5 micrometers in diameter. Major anthropogenic sources include the combustion of fossil fuels (e.g., vehicular exhaust, power generation, boilers, engines, and home heating), chemical and manufacturing processes, all types of construction, agricultural activities, as well as wood-burning stoves and fireplaces. PM also acts as a substrate for the adsorption (accumulation of gases, liquids, or solutes on the surface of a solid or liquid) of other pollutants, often toxic and some likely carcinogenic compounds.

As described below, PM is regulated in two size categories: particles with an aerodynamic diameter of less than or equal to 2.5 micrometers (PM_{2.5}), and particles with an aerodynamic diameter of less than or equal to 10 micrometers (PM₁₀, which includes PM_{2.5}). PM_{2.5} has the ability to reach the lower regions of the respiratory tract, delivering with it other compounds that adsorb to the surfaces of the particles, and is also extremely persistent in the atmosphere. PM_{2.5} is mainly derived from combustion material that has volatilized and then condensed to form

primary PM (often soon after the release from a source exhaust) or from precursor gases reacting in the atmosphere to form secondary PM.

Diesel-powered vehicles, especially heavy duty trucks and buses, are a significant source of respirable PM, most of which is PM_{2.5}; PM concentrations may, consequently, be locally elevated near roadways with high volumes of heavy diesel powered vehicles. The proposed project would not result in any significant increases in truck traffic near the project site or in the region, nor other potentially significant increase in PM_{2.5} vehicle emissions as defined in Chapter 17, Sections 210 and 311 of the *CEQR Technical Manual*. Therefore, an analysis of potential impacts from PM emissions from project-generated traffic was not warranted. However, PM concentrations were determined at proposed elevated receptor locations in close proximity to the elevated portion of the FDR Drive to determine whether impacts to the proposed project uses are potentially significant at these locations.

SULFUR DIOXIDE

SO₂ emissions are primarily associated with the combustion of sulfur-containing fuels (oil and coal). Monitored SO₂ concentrations in New York City are lower than the current national standards. Due to the federal restrictions on the sulfur content in diesel fuel for on-road vehicles, no significant quantities are emitted from vehicular sources. Vehicular sources of SO₂ are not significant and therefore, an analysis of SO₂ from mobile sources was not warranted.

For the proposed project, natural gas would be burned in the heat and hot water systems. The sulfur content of natural gas is negligible; therefore, no analysis was performed to estimate the future levels of SO₂ with the proposed project.

C. AIR QUALITY REGULATIONS, STANDARDS, AND BENCHMARKS

NATIONAL AND STATE AIR QUALITY STANDARDS

As required by the Clean Air Act (CAA), primary and secondary National Ambient Air Quality Standards (NAAQS) have been established for six major air pollutants: CO, NO₂, ozone, respirable PM (both PM_{2.5} and PM₁₀), SO₂, and lead. The primary standards represent levels that are requisite to protect the public health, allowing an adequate margin of safety. The secondary standards are intended to protect the nation's welfare, and account for air pollutant effects on soil, water, visibility, materials, vegetation, and other aspects of the environment. The primary and secondary standards are the same for NO₂ (annual), ozone, lead, and PM, and there is no secondary standard for CO and the 1-hour NO₂ standard. The NAAQS are presented in **Table F-1**. The NAAQS for CO, annual NO₂, and 3-hour SO₂ have also been adopted as the ambient air quality standards for New York State, but are defined on a running 12-month basis rather than for calendar years only. New York State also has standards for total suspended particulate matter (TSP), settleable particles, non-methane hydrocarbons (NMHC), and ozone which correspond to federal standards that have since been revoked or replaced, and for beryllium, fluoride, and hydrogen sulfide (H₂S).

EPA has revised the NAAQS for PM, effective December 18, 2006. The revision included lowering the level of the 24-hour PM_{2.5} standard from 65 µg/m³ to 35 µg/m³ and retaining the level of the annual standard at 15 µg/m³. The PM₁₀ 24-hour average standard was retained and the annual average PM₁₀ standard was revoked. EPA recently lowered the primary annual-average standard from 15 µg/m³ to 12 µg/m³, effective March 2013.

Table F-1
National Ambient Air Quality Standards (NAAQS)

Pollutant	Primary		Secondary	
	ppm	µg/m ³	ppm	µg/m ³
Carbon Monoxide (CO)				
8-Hour Average ⁽¹⁾	9	10,000	None	
1-Hour Average ⁽¹⁾	35	40,000		
Lead				
Rolling 3-Month Average ⁽²⁾	NA	0.15	NA	0.15
Nitrogen Dioxide (NO₂)				
1-Hour Average ⁽³⁾	0.100	188	None	
Annual Average	0.053	100	0.053	100
Ozone (O₃)				
8-Hour Average ^(4,5)	0.075	150	0.075	150
Respirable Particulate Matter (PM₁₀)				
24-Hour Average ⁽¹⁾	NA	150	NA	150
Fine Respirable Particulate Matter (PM_{2.5})				
Annual Mean ⁽⁶⁾	NA	12	NA	15
24-Hour Average ⁽⁷⁾	NA	35	NA	35
Sulfur Dioxide (SO₂) ⁽⁸⁾				
1-Hour Average ⁽⁹⁾	0.075	196	NA	NA
Maximum 3-Hour Average ⁽¹⁾	NA	NA	0.50	1,300
<p>Notes: ppm – parts per million (unit of measure for gases only) µg/m³ – micrograms per cubic meter (unit of measure for gases and particles, including lead) NA – not applicable All annual periods refer to calendar year. Standards are defined in ppm. Approximately equivalent concentrations in µg/m³ are presented.</p> <p>⁽¹⁾ Not to be exceeded more than once a year. ⁽²⁾ EPA has lowered the NAAQS down from 1.5 µg/m³, effective January 12, 2009. ⁽³⁾ 3-year average of the annual 98th percentile daily maximum 1-hr average concentration. ⁽⁴⁾ 3-year average of the annual fourth highest daily maximum 8-hr average concentration. ⁽⁵⁾ EPA has proposed lowering the primary standard further to within the range of 0.060-0.070 ppm, and adding a secondary standard measured as a cumulative concentration within the range of 7 to 15 ppm-hours aimed mainly at protecting sensitive vegetation. A final decision on this standard has been postponed but is expected to occur in 2013. ⁽⁶⁾ 3-year average of annual mean. EPA has lowered the primary standard from 15 µg/m³, effective March 2013. ⁽⁷⁾ Not to be exceeded by the annual 98th percentile when averaged over 3 years. ⁽⁸⁾ EPA revoked the 24-hour and annual primary standards, replacing them with a 1-hour average standard. Effective August 23, 2010. ⁽⁹⁾ 3-year average of the annual 99th percentile daily maximum 1-hr average concentration. Source: 40 CFR Part 50: National Primary and Secondary Ambient Air Quality Standards.</p>				

EPA has also revised the 8-hour ozone standard, lowering it from 0.08 to 0.075 parts per million (ppm), effective as of May 2008. On January 6, 2010, EPA proposed a change in the 2008 ozone NAAQS, lowering the primary NAAQS from the current 0.075 ppm level to within the range of 0.060 to 0.070 ppm. EPA is also proposing a secondary ozone standard, measured as a cumulative concentration within the range of 7 to 15 ppm-hours aimed mainly at protecting sensitive vegetation. A final decision on this standard has been postponed but is expected to occur in 2013.

EPA lowered the primary and secondary standards for lead to $0.15 \mu\text{g}/\text{m}^3$, effective January 12, 2009. EPA revised the averaging time to a rolling 3-month average and the form of the standard to not-to-exceed across a 3-year span.

EPA established a 1-hour average NO_2 standard of 0.100 ppm, effective April 12, 2010, in addition to the annual standard. The statistical form is the 3-year average of the 98th percentile of daily maximum 1-hour average concentration in a year.

EPA established a 1-hour average SO_2 standard of 0.075 ppm, replacing the 24-hour and annual primary standards, effective August 23, 2010. The statistical form is the 3-year average of the 99th percentile of the annual distribution of daily maximum 1-hour concentrations (the 4th highest daily maximum corresponds approximately to 99th percentile for a year.)

NAAQS ATTAINMENT STATUS AND STATE IMPLEMENTATION PLANS

The CAA, as amended in 1990, defines non-attainment areas (NAA) as geographic regions that have been designated as not meeting one or more of the NAAQS. When an area is designated as non-attainment by EPA, the state is required to develop and implement a State Implementation Plan (SIP), which delineates how a state plans to achieve air quality that meets the NAAQS under the deadlines established by the CAA, followed by a plan for maintaining attainment status once the area is in attainment.

In 2002, EPA re-designated New York City as in attainment for CO. Under the resulting maintenance plan, New York City is committed to implementing site-specific control measures throughout the city to reduce CO levels, should unanticipated localized growth result in elevated CO levels during the maintenance period.

Manhattan has been designated as a moderate NAA for PM_{10} . On January 30, 2013, New York State requested that EPA approve its withdrawal of the 1995 SIP and redesignation request for the 1987 PM_{10} NAAQS, and that EPA make a clean data finding instead, based on data monitored from 2009-2011 indicating PM_{10} concentrations well below the 1987 NAAQS. Although not yet a redesignation to attainment status, if approved, this determination would remove further requirements for related SIP submissions.

On December 17, 2004, EPA took final action designating the five New York City counties and Nassau, Suffolk, Rockland, Westchester, and Orange Counties as a $\text{PM}_{2.5}$ non-attainment area under the CAA due to exceedance of the annual average standard. Based on recent monitoring data (2006-2009), annual average concentrations of $\text{PM}_{2.5}$ in New York City no longer exceed the annual standard. EPA has determined that the area has attained the 1997 annual $\text{PM}_{2.5}$ NAAQS, effective December 15, 2010. As stated above, EPA has recently lowered the annual average primary standard to $12 \mu\text{g}/\text{m}^3$. EPA will make initial attainment designations by December 2014. Based on analysis of 2009-2011 monitoring data, it is likely that the region will be in attainment for the new standard.

As described above, EPA has revised the 24-hour average PM_{2.5} standard. EPA designated the New York City Metropolitan Area as nonattainment with the 2006 24-hour PM_{2.5} NAAQS, effective in November 2009. The nonattainment area includes the same 10-county area EPA designated as nonattainment with the 1997 annual PM_{2.5} NAAQS. Based on recent monitoring data (2007-2011), EPA determined that the area has attained the standard, effective December 30, 2012. Although not yet a redesignation to attainment status, this determination removes further requirements for related SIP submissions.

Nassau, Rockland, Suffolk, Westchester, Lower Orange County Metropolitan Area (LOCMA), and the five New York City counties had been designated as a severe non-attainment area for ozone (1-hour average standard, 0.12 ppm). In November 1998, New York State submitted its *Phase II Alternative Attainment Demonstration for Ozone*, which was finalized and approved by EPA effective March 6, 2002, addressing attainment of the 1-hour ozone NAAQS by 2007. On June 18, 2012, EPA determined that the New York–New Jersey–Long Island NAA has also attained the standard. Although not yet a redesignation to attainment status, this determination removes further requirements under the 1-hour standard.

Effective June 15, 2004, EPA designated these same counties as moderate non-attainment for the 1997 8-hour average ozone standard. On December 7, 2009, EPA determined that the Poughkeepsie nonattainment area had attained the 1997 8-hour standard. On June 18, 2012, EPA determined that the New York–New Jersey–Long Island NAA had attained the 1997 8-hour ozone NAAQS (0.08 ppm). Although not yet redesignated to attainment status, this determination removes further requirements under the 1997 8-hour standard.

In March 2008 EPA strengthened the 8-hour ozone standards. EPA designated the counties of Suffolk, Nassau, Bronx, Kings, New York, Queens, Richmond, Rockland, and Westchester as a marginal non-attainment area for the 2008 ozone NAAQS, effective July 20, 2012 (NY portion of the New York–Northern New Jersey–Long Island, NY-NJ-CT nonattainment area). SIPs are due in 2015.

New York City is currently in attainment of the annual-average NO₂ standard. EPA has designated the entire state of New York as “unclassifiable/attainment” of the new 1-hour NO₂ standard effective February 29, 2012. Since additional monitoring is required for the 1-hour standard, areas will be reclassified once three years of monitoring data are available (2016 or 2017).

EPA has established a new 1-hour SO₂ standard, replacing the 24-hour and annual standards, effective August 23, 2010. Based on the available monitoring data, all New York State counties currently meet the 1-hour standard. Additional monitoring will be required. EPA plans to make final attainment designations in 2013. SIPs for nonattainment areas will be due in 2015.

DETERMINING THE SIGNIFICANCE OF AIR QUALITY IMPACTS

The State Environmental Quality Review Act (SEQRA) regulations and the *CEQR Technical Manual* state that the significance of a predicted consequence of a project (i.e., whether it is material, substantial, large or important) should be assessed in connection with its setting (e.g., urban or rural), its probability of occurrence, its duration, its irreversibility, its geographic scope, its magnitude, and the number of people affected.¹ In terms of the magnitude of air quality

¹ *CEQR Technical Manual*, Chapter 1, section 222; and State Environmental Quality Review Regulations, 6 NYCRR § 617.7

impacts, any action predicted to increase the concentration of a criteria air pollutant to a level that would exceed the concentrations defined by the NAAQS (see **Table F-1**) would be deemed to have a potential significant adverse impact. In addition, in order to maintain concentrations lower than the NAAQS in attainment areas, or to ensure that concentrations will not be significantly increased in non-attainment areas, threshold levels have been defined for certain pollutants; any action predicted to increase the concentrations of these pollutants above the thresholds would be deemed to have a potential significant adverse impact, even in cases where violations of the NAAQS are not predicted.

DE MINIMIS CRITERIA REGARDING CO IMPACTS

New York City has developed *de minimis* criteria to assess the significance of the increase in CO concentrations that would result from the impact of proposed projects or actions on mobile sources, as set forth in the *CEQR Technical Manual*. These criteria set the minimum change in CO concentration that defines a significant environmental impact. Significant increases of CO concentrations in New York City are defined as: (1) an increase of 0.5 ppm or more in the maximum 8-hour average CO concentration at a location where the predicted No Action 8-hour concentration is equal to or between 8 and 9 ppm; or (2) an increase of more than half the difference between baseline (i.e., No Action) concentrations and the 8-hour standard, when No Action concentrations are below 8.0 ppm.

PM_{2.5} INTERIM GUIDANCE CRITERIA

NYSDEC has published a policy to provide interim direction for evaluating PM_{2.5} impacts¹. This policy would apply only to facilities applying for permits or major permit modifications under SEQRA that emit 15 tons of PM₁₀ or more annually. The policy states that such a project will be deemed to have a potentially significant adverse impact if the project's maximum impacts are predicted to increase PM_{2.5} concentrations by more than 0.3 µg/m³ averaged annually or more than 5 µg/m³ on a 24-hour basis. Projects that exceed either the annual or 24-hour threshold will be required to prepare an Environmental Impact Statement (EIS) to assess the severity of the impacts, to evaluate alternatives, and to employ reasonable and necessary mitigation measures to minimize the PM_{2.5} impacts of the source to the maximum extent practicable.

In addition, New York City uses interim guidance criteria for evaluating the potential PM_{2.5} impacts for projects subject to CEQR. The interim guidance criteria currently employed under CEQR for determination of potential significant adverse PM_{2.5} impacts are as follows:

- 24-hour average PM_{2.5} concentration increments which are predicted to be greater than 5 µg/m³ at a discrete receptor location would be considered a significant adverse impact on air quality under operational conditions (i.e., a permanent condition predicted to exist for many years regardless of the frequency of occurrence);
- 24-hour average PM_{2.5} concentration increments which are predicted to be greater than 2 µg/m³ but no greater than 5 µg/m³ would be considered a significant adverse impact on air quality based on the magnitude, frequency, duration, location, and size of the area of the predicted concentrations;
- Annual average PM_{2.5} concentration increments which are predicted to be greater than 0.1 µg/m³ at ground level on a neighborhood scale (i.e., the annual increase in concentration

¹ CP33/Assessing and Mitigating Impacts of Fine Particulate Emissions, NYSDEC 12/29/2003.

representing the average over an area of approximately 1 square kilometer, centered on the location where the maximum ground-level impact is predicted for stationary sources; or at a distance from a roadway corridor similar to the minimum distance defined for locating neighborhood scale monitoring stations); or

- Annual average PM_{2.5} concentration increments which are predicted to be greater than 0.3 µg/m³ at a discrete receptor location (elevated or ground level).

Actions under CEQR predicted to increase PM_{2.5} concentrations by more than the above interim guidance criteria will be considered to have a potential significant adverse impact.

The proposed project's annual emissions of PM₁₀ are estimated to be well below the 15-ton-per-year threshold under NYSDEC PM_{2.5} policy guidance. The above New York City Department of Environmental Protection (NYCDEP) and NYSDEC interim guidance criteria have been used to evaluate the significance of predicted impacts of the proposed project on PM_{2.5} concentrations.

GENERAL CONFORMITY WITH STATE IMPLEMENTATION PLANS

The conformity requirements of the CAA and regulations promulgated thereunder (conformity requirements) limit the ability of federal agencies to assist, fund, permit, and approve projects that do not conform to the applicable SIP. When subject to this regulation, the federal agency is responsible for demonstrating conformity for its proposed action. When applicable, conformity determinations for federal actions other than those related to transportation plans, programs, and projects which are developed, funded, or approved under title 23 U.S.C. or the Federal Transit Act (49 U.S.C. 1601 et seq.) must be made according to the requirements of 40 CFR Part 93 (federal conformity regulations). The proposed project would receive funding from the U.S. Department of Housing and Development (HUD).

Under the general conformity requirements in 40 CFR Part 93, Subpart B, a general conformity determination for federal actions is required for each criteria pollutant or precursor in non-attainment or maintenance areas where the action's direct and indirect emissions have the potential to emit one or more of the six criteria pollutants at rates equal to or exceeding the prescribed rates for that pollutant. In the case of New York City, the prescribed annual rates are 25 tons of VOCs or NO_x (severe ozone non-attainment area),¹ 100 tons of CO (maintenance area), and in Manhattan only, 100 tons of PM₁₀ (moderate PM₁₀ non-attainment area).

The general conformity requirements do not apply to federal actions that:

- Do not satisfy any one of the above conditions;
- Occur in an attainment area;
- Are related to transportation plans, programs, and projects developed, funded, or approved under the Federal Transit Act (49 U.S.C. 1601); or
- Qualify for exemptions established at § 93.153(c).

¹ This is a conservative approach, given some uncertainty regarding recent clarifications of court decisions regarding the redesignation of the New York–New Jersey–Long Island ozone NAA area to moderate under the 8-hour ozone standards, seemingly indicating that the rates for a moderate ozone NAA, 50 tons of VOCs and 100 tons of NO_x, should now apply.

The regulation also assumes that a proposed federal action whose criteria pollutant emissions have already been included in the local SIP's attainment or maintenance demonstrations conforms to the SIP.

D. METHODOLOGY FOR PREDICTING POLLUTANT CONCENTRATIONS

MOBILE SOURCES ALONG THE ELEVATED FDR DRIVE

The potential impact of the traffic on the elevated portion of the FDR Drive on the proposed future uses was analyzed, as recommended in the *CEQR Technical Manual*. The analysis determined the total potential PM and CO concentrations at representative locations along the proposed building facades. The analysis employs a model approved by EPA that has been widely used for evaluating air quality impacts of projects in New York City, other parts of New York State, and throughout the country. The modeling approach includes a series of conservative assumptions relating to meteorology, traffic, and background concentration levels resulting in a conservatively high estimate of expected pollutant concentrations that could ensue from the proposed project. The analyses were performed for 2015, the year by which the proposed project is likely to be completed.

The prediction of vehicle-generated emissions and their dispersion in an urban environment incorporates meteorological phenomena, traffic conditions, and physical configuration. Air pollutant dispersion models mathematically simulate how traffic, meteorology, and physical configuration combine to affect pollutant concentrations. The mathematical expressions and formulations contained in the various models attempt to describe an extremely complex physical phenomenon as closely as possible. However, because all models contain simplifications and approximations of actual conditions and interactions, and since it is necessary to analyze the reasonable worst-case condition, most dispersion analyses result in conservatively high potential pollutant concentrations, particularly under adverse meteorological conditions.

VEHICLE EMISSIONS

Engine Emissions

Vehicular CO and PM engine emission factors were computed using the EPA mobile source emissions model, MOBILE6.2¹. This emissions model is capable of calculating engine emission factors for various vehicle types, based on the fuel type (gasoline, diesel, etc), meteorological conditions, vehicle speeds, vehicle age, roadway type, number of starts per day, engine soak time, and various other factors that influence emissions, such as inspection and maintenance programs. The inputs and use of MOBILE6.2 incorporate guidance from NYSDEC and NYCDEP.

All vehicles were assumed to be light duty vehicles operating in hot stabilized mode, since trucks and commercial vehicles are not allowed on the FDR Drive. Appropriate credits were used to accurately reflect the inspection and maintenance program. The inspection and maintenance programs require inspections of automobiles and light trucks to determine if pollutant emissions from each vehicle exhaust system are lower than emission standards.

¹ EPA, User's Guide to MOBILE6.1 and MOBILE6.2: Mobile Source Emission Factor Model, EPA420-R-03-010, August 2003.

Vehicles failing the emissions test must undergo maintenance and pass a repeat test to be registered in New York State.

An ambient temperature of 50° Fahrenheit was used, as per the *CEQR Technical Manual*.

Fugitive Road Dust

The contribution of re-entrained road dust to PM₁₀ concentrations, as presented in the PM₁₀ SIP, is considered to be significant; therefore, the PM₁₀ estimates include both exhaust and road dust. In accordance with the PM_{2.5} interim guidance criteria methodology, PM_{2.5} emission rates were determined with fugitive road dust to account for their impacts in local microscale analyses. However, fugitive road dust was not included in the annual neighborhood scale PM_{2.5} microscale analyses, since the New York Department of Environment Protection (DEP) considers it to have an insignificant contribution on that scale. Road dust emission factors were calculated according to the latest procedure delineated by USEPA¹ and the 2012 *CEQR Technical Manual*.

TRAFFIC DATA

Traffic volumes used to evaluate the potential effects of vehicle emissions on the proposed project from the elevated FDR Drive were derived from adjusting the annual average daily traffic (AADT) volume information from the New York State Department of Transportation (NYSDOT) 2009 *Traffic Data Report* to estimate peak hour traffic volumes. Future traffic volumes to 2015 were projected using a 0.25-percent annual background growth rate, consistent with *CEQR Technical Manual* guidance.

BACKGROUND CONCENTRATIONS

Background concentrations are pollutant concentrations originating from distant sources that are not directly included in the modeling analysis, which directly accounts for vehicular emissions on the streets within 1,000 feet and in the line of sight of the analysis site. Background concentrations must be added to modeling results to obtain total pollutant concentrations at a site.

The 8-hour average CO background concentration used in the analysis was 2.0 ppm. The 1-hour CO background used in the analysis was 2.6 ppm. These background values are based on the maximum second-highest averages over the 2004-20085-year monitoring period. The PM₁₀ background of 60 µg/m³ was based on the maximum second highest 24-hour average measured over the 2006-2008 period. All background concentrations were based on measurements collected at the P.S. 59 NYSDEC monitoring station, which is the monitoring station closest to the proposed project site.

RECEPTOR LOCATIONS

Multiple receptors (i.e., precise locations at which concentrations are predicted) were modeled at various locations and elevations to simulate proposed elevated uses and to assess potential impacts from projected future CO and PM levels along the DFR Drive, closes to the proposed project site.

¹ EPA, Compilations of Air Pollutant Emission Factors AP-42, Fifth Edition, Volume I: Stationary Point and Area Sources, Ch. 13.2.1, NC, <http://www.epa.gov/ttn/chief/ap42>, January 2011.

DISPERSION MODEL FOR MICROSCALE ANALYSES

Maximum CO concentrations at the proposed elevated uses, resulting from vehicle emissions along the elevated FDR Drive, were predicted using the CAL3QHC model Version 2.0.¹ The CAL3QHC model employs a Gaussian (normal distribution) dispersion assumption and includes an algorithm for estimating vehicular queue lengths at signalized intersections. CAL3QHC predicts emissions and dispersion of CO from idling and moving vehicles. The queuing algorithm includes site-specific traffic parameters, such as signal timing and delay calculations (from the 2000 *Highway Capacity Manual* traffic forecasting model), saturation flow rate, vehicle arrival type, and signal actuation (i.e., pre-timed or actuated signal) characteristics to accurately calculate the number of idling vehicles. The CAL3QHC model has been updated with an extended module, CAL3QHCR, which allows for the incorporation of hourly traffic and meteorological data into the modeling, instead of worst-case assumptions regarding meteorological parameters. This refined version of the model, CAL3QHCR, can be employed if maximum predicted future CO concentrations are greater than the applicable ambient air quality standards or when *de minimis* thresholds are exceeded using the first level of CAL3QHC modeling, and was not required for this CO analysis.

To determine motor vehicle generated PM concentrations at the proposed elevated locations, the CAL3QHCR model was applied. This refined version of the model can utilize hourly traffic and meteorology data, and is therefore more appropriate for calculating 24-hour and annual average concentrations.

METEOROLOGY

In general, the dispersion of pollutants is influenced by three principal meteorological factors: wind direction, wind speed, and atmospheric stability. Wind direction influences the direction in which pollutants are dispersed, wind speed influences the rate at which pollutants are carried downwind, and atmospheric stability accounts for the effects of vertical mixing in the atmosphere. These factors, therefore, influence the pollutant concentration at a particular receptor.

Tier I Analyses—CAL3QHC

In applying the CAL3QHC model, the wind angle was varied to determine the wind direction resulting in the maximum concentrations at each receptor.

Following the EPA guidelines², CAL3QHC computations were performed using a wind speed of 1 meter per second, and the neutral stability class D. The 8-hour average CO concentrations were estimated by multiplying the predicted 1-hour average CO concentrations by a factor of 0.79 to account for persistence of meteorological conditions and fluctuations in traffic volumes. A surface roughness of 3.21 meters was chosen. At each receptor location, concentrations were calculated for all wind directions, and the highest projected concentration was reported, regardless of frequency of occurrence. These assumptions ensured that worst-case meteorology was used to estimate impacts.

¹ EPA, User's Guide to CAL3QHC, A Modeling Methodology for Predicted Pollutant Concentrations Near Roadway Intersections, Office of Air Quality, Planning Standards, Research Triangle Park, North Carolina, EPA-454/R-92-006.

² *Guidelines for Modeling Carbon Monoxide from Roadway Intersections*, EPA Office of Air Quality Planning and Standards, Publication EPA-454/R-92-005.

Tier II Analyses—CAL3QHCR

A Tier II analysis performed with the CAL3QHCR model includes the modeling of hourly concentrations based on hourly traffic data and five years of monitored hourly meteorological data. The data consists of surface data collected at LaGuardia Airport and upper air data collected at Brookhaven, New York for the period 2005-2009. All hours were modeled, and the highest resulting concentration for each averaging period is presented.

HEAT AND HOT WATER SYSTEMS

SCREENING ANALYSIS

The proposed project would include natural gas-fueled boilers for space heating and hot water. Therefore, a screening analysis was performed to assess air quality impacts associated with emissions from the proposed project's heat and hot water systems. The feasibility of using a ground-source loop geothermal system for heating, which would not generate air pollutant emissions, is being studied. However, for the purposes of the air quality impact analysis, it was conservatively assumed that the heat for the proposed building would be supplied solely by natural gas-fired boilers.

The screening methodology described in the *CEQR Technical Manual* was used for the analysis of the boilers, and considered impacts on neighboring uses of a similar or greater height—specifically on the existing residential buildings adjacent to the project site. The *CEQR* screening methodology determines the threshold of development size below which the action would not have a significant adverse impact. The screening procedures utilize information regarding the type of fuel to be used, the maximum development size, and the boiler exhaust stack height to evaluate whether a significant adverse impact is likely. Based on the distance from the development to the nearest building of similar or greater height, if the maximum development size is greater than the threshold size in the *CEQR Technical Manual*, there is the potential for significant air quality impacts, and a refined dispersion modeling analysis is required. Otherwise, the source passes the screening analysis, and no further analysis is warranted.

DISPERSION MODELING

When the screening analysis of heat and hot water systems indicates that further analysis is required to assess the potential for air quality impacts, potential impacts are assessed using the EPA/AMS AERMOD dispersion model¹. AERMOD is a state-of-the-art dispersion model, applicable to rural and urban areas, flat and complex terrain, surface and elevated releases, and multiple sources (including point, area, and volume sources). AERMOD is a steady-state plume model that incorporates current concepts about flow and dispersion in complex terrain, including updated treatment of the boundary layer theory, understanding of turbulence and dispersion, and includes handling of the interaction between the plume and terrain.

The AERMOD model calculates pollutant concentrations from one or more points (e.g., exhaust stacks) based on hourly meteorological data, and has the capability to calculate pollutant concentrations at locations where the plume from the exhaust stack is affected by the

¹ EPA, AERMOD: Description Of Model Formulation, 454/R-03-004, September 2004; and EPA, User's Guide for the AMS/EPA Regulatory Model AERMOD, 454/B-03-001, September 2004 and Addendum December 2006.

aerodynamic wakes and eddies (downwash) produced by nearby structures. The analyses of potential impacts from the exhaust stacks were made assuming stack tip downwash, urban dispersion and surface roughness length, with and without building downwash, and elimination of calms.

The AERMOD model also incorporates the algorithms from the PRIME model, which is designed to predict impacts in the “cavity region” (i.e., the area around a structure which under certain conditions may affect an exhaust plume, causing a portion of the plume to become entrained in a recirculation region). The Building Profile Input Program (BPIP) program for the PRIME model (BPIPRM) was used to determine the projected building dimensions for modeling with the building downwash algorithm enabled. The modeling of plume downwash accounts for all obstructions within a radius equal to five obstruction heights of the stack.

For the analysis of the project’s effect on short-term (1-hour) NO₂ concentrations, the Plume Volume Molar Ratio Method (PVMRM) module was applied within AERMOD, following EPA’s modeling guidance.¹ PVMRM analyzes chemical transformation of NO_x within the model, calculating the transformation of NO emitted from the stack to NO₂ at any given receptor. The PVMRM module incorporates hourly background ozone concentrations to estimate NO_x transformation within the source plume. Ozone concentrations were obtained from the NYSDEC Queens College II monitoring station, which is the station with recent ozone data nearest to the proposed project site. An initial NO₂ to NO_x ratio of 10 percent at the source exhaust was assumed. This ratio is appropriate for boilers.²

The results represent the five-year average of the annual 98th percentile of the maximum daily 1-hour average, added to background concentrations (see below).

Receptor Placement

Discrete receptors (i.e., locations at which concentrations are calculated) were modeled along the facades of nearby buildings to represent operable window locations, intake vents, and otherwise accessible locations such as terraces. Rows of receptors were placed in the model at spaced intervals on the nearby buildings at multiple elevations.

Emission Estimates and Stack Parameters

The proposed heating and hot water system would consist of two low NO_x (<20 ppm) natural gas-fired boilers for heating, each with a capacity of 1.5 million British Thermal Units per hour (MMBtu/hr) and two low NO_x (<16 ppm) natural gas-fired boilers for domestic hot water, each with a capacity of 1.5 MMbtu/hr. Since the boilers would only be operated as required during the heating season (October 1 to May 31), it was assumed for the dispersion modeling analysis that there would be no emissions from this equipment during the months of June to September.

¹ EPA, Notice Regarding Modeling for New Hourly NO₂ NAAQS, Updated Feb. 25, 2010; EPA, Guidance Concerning the Implementation of the 1-hour NO₂ NAAQS for the Prevention of Significant Deterioration Program; and

EPA, Applicability of Appendix W Modeling Guidance for the 1-hour NO₂ NAAQS.
² MACTEC for Alaska Department of Environmental Conservation, Evaluation of Bias in AERMOD-PVMRM, June 2005 http://www.epa.gov/scram001/7thconf/aermod/pvmrm_bias_eval.pdf; San Joaquin Valley, Recommended In-stack NO₂/NO_x Ratios, http://www.valleyair.org/busind/pto/Tox_Resources/AirQualityMonitoring.htm

The use of renewable energy for heating and hot water, or energy produced off-site, would be allowed since these systems do not produce on-site emissions. Although the feasibility of installing a geothermal energy system for heating is being investigated, it was conservatively assumed that all the heat and hot water for the proposed project would be supplied using natural gas as fuel.

Per the guidance presented in the *CEQR Technical Manual* for natural gas burning sources, NO₂ was the only pollutant considered in the dispersion analysis. The annual average NO₂ impacts from the proposed project were conservatively calculated assuming that all of the NO emitted by the proposed project's heat and hot water system was fully transformed to NO₂ (100 percent conversion). For the analysis of 1-hour impacts, the PVMRM module was applied, as described above.

**Table F-2
Stack Parameters and Emission Rates for the Proposed Project**

Parameter	Value
Stack Height	61.265 meters
Stack Diameter	0.305 meters
Stack Exit Velocity ¹	7.7 meters/second
Stack Exit Temperature	339 K
NO _x Emission Rate (peak 1-hour, per boiler)	0.0037 grams/second (space heating) 0.0046 grams/second (domestic hot water)
Notes:	
1. Based on expected fuel usage and boilers of similar size..	

Meteorological Data

The meteorological data set consisted of five consecutive years of meteorological data: surface data collected at LaGuardia Airport (2007–2011) and concurrent upper air data collected at Brookhaven, New York. The meteorological data provide hour-by-hour wind speeds and directions, stability states, and temperature inversion elevation over the five-year period. These data were processed using the USEPA AERMET program to develop data in a format that can be readily processed by the AERMOD model. The land uses around the site where meteorological surface data were available were classified using categories defined in digital United States Geological Survey (USGS) maps to determine surface parameters used by the AERMET program.

Background Concentrations

To estimate the maximum expected pollutant concentration at a given receptor, the predicted impacts from sources analyzed must be added to a background value that accounts for existing pollutant concentrations from sources that are not directly accounted for in the model. The annual NO₂ background value used is 43 µg/m³, based on the maximum annual average value measured at the NYSDEC Queens College 2 monitoring station over the most recent five years for which hourly NO₂ data at that station were collected (2007-2011).

Total 1-hour NO₂ concentrations were determined following methodologies that are accepted by the USEPA, and which are considered appropriate and conservative for this review. The methodology used to determine the compliance of total 1-hour NO₂ concentrations from the

proposed sources with the 1-hour NO₂ NAAQS¹ was based on adding the monitored background to modeled concentrations, as follows: hourly modeled concentrations from proposed sources were first added to the seasonal hourly background monitored concentrations; then the highest combined daily 1-hour NO₂ concentration was determined at each receptor location and the 98th percentile daily 1-hour maximum concentration for each modeled year was calculated within the AERMOD model; finally the 98th percentile concentrations were averaged over the latest five years. These methodologies are recognized by USEPA and the City and are referenced in USEPA modeling guidance.

E. EXISTING CONDITIONS

The most recent concentrations of all criteria pollutants at NYSDEC air quality monitoring stations nearest to the proposed site are presented in **Table F-3**. As shown, the recently monitored levels did not exceed the NAAQS. It should be noted that these values are somewhat different from the background concentrations used in the analyses. For most pollutants the concentrations presented in **Table F-3** are based on maximum measurements obtained in the most recent year for which data are available; the background concentrations are obtained from several years of monitoring data, and represent a conservative estimate of the highest background concentrations for future conditions.

Table F-3
Representative Monitored Ambient Air Quality Data

Pollutant	Location	Units	Averaging Period	Concentration	NAAQS
CO	P.S. 59, Manhattan ¹	ppm	8-hour	1.2	9
			1-hour	1.6	35
SO ₂	P.S. 59, Manhattan ²	µg/m ³	Annual	29	80
			24-hour	81	365
			3-hour	118	1,300
PM ₁₀	Division St, Manhattan ³	µg/m ³	1-hour	142	196
			24-hour	57	150
PM _{2.5}	Division St, Manhattan ⁴	µg/m ³	Annual	11.7	15
			24-hour	28	35
NO ₂	Queens College 2, Queens ⁵	µg/m ³	Annual	41	100
			1-hour	126	188
Lead	J.H.S. 126, Brooklyn ⁶	µg/m ³	3-month	0.019	0.15
Ozone	Queens College 2, Queens ⁷	ppm	8-hour	0.075	0.075

Notes:

1. Based on the maximum 8-hour and 1-hour average concentrations measured in 2008, the latest year with reported data for P.S. 59.
2. The annual value is based on 2008 measurements. The 24-hour and 3-hour values are based on the maximum 24-hour and 3-hour average concentrations, respectively, measured in 2008. The 1-hour value is 99th percentile of daily maximum 1-hour average concentrations recorded in 2007, the latest year for which a full set of 1-hour SO₂ data was available. EPA replaced the 24-hr and the annual standards with the 1-hour standard, effective 2008.
3. Maximum 24-hour average concentration measured in 2011, the latest year with reported data for Division St.
4. Annual value is based on a three-year average (2009-2011) of annual concentrations. The 24-hour value is based on the 3-year average of the 98th percentile of 24-hour average concentrations.
5. The annual average concentration is for 2011, the latest year with reported data for Queens College 2. The 1-hour value is based on the three-year average (2009-2011) of the 98th percentile of daily maximum 1-hour average concentrations.
6. Based on the highest quarterly average concentration measured in 2009.
7. Based on the 3-year average (2009-2011) of the 4th highest daily maximum 1-hour average concentrations.

Source: NYSDEC, New York State Ambient Air Quality Data.

¹ http://www.epa.gov/ttn/scram/guidance/clarification/Additional_Clarifications_AppendixW_Hourly-NO2-NAAQS_FINAL_03-01-2011.pdf

F. THE FUTURE WITH THE PROPOSED PROJECT

The following sections describe the results of the studies performed to analyze the potential for significant adverse air quality impacts from vehicle emissions along the FDR Drive on the proposed project and from the proposed project's heat and hot water systems on nearby uses.

MOBILE SOURCES ALONG THE ELEVATED FDR DRIVE

CARBON MONOXIDE

As described in Section D, "Methodology for Predicting Pollutant Concentrations," an analysis was undertaken to determine maximum CO concentrations on the proposed project from vehicle emissions along the nearby elevated portion of the FDR Drive. The maximum predicted 1-hour and 8-hour average CO concentrations are presented in **Table F-4**. The results show that 2015 CO concentrations at the proposed project uses near the elevated roadway would be well below the 1-hour and 8-hour CO standards.

Table F-4
Maximum Predicted Future (2015) 8-Hour Average
CO Concentrations

Location	1-Hour Concentration (ppm)	8-Hour Concentration (ppm)
Project Site – South Street between Rutgers Slip and Clinton Street	4.0	3.1
Note: 1-hour standard is 35 ppm, 8-hour standard is 9 ppm.		

PARTICULATE MATTER

PM concentrations at the proposed building due to vehicle emissions along the FDR Drive were determined for future 2015 conditions using the methodology previously described. **Table F-5** shows the future maximum predicted 24-hour average PM₁₀ concentration along the facades of the proposed building. The value shown is the highest predicted concentration for all locations analyzed and includes the ambient background concentration. The results indicate that there would be no violation of the PM₁₀ standard or any significant adverse impacts on the air quality at the proposed project site.

Table F-5
Maximum Predicted Future (2015) 24-Hour Average
PM₁₀ Concentrations

Location	Background Concentration ($\mu\text{g}/\text{m}^3$)	24-Hour Total Concentration ($\mu\text{g}/\text{m}^3$)
Project Site – South Street between Rutgers Slip and Clinton Street	57	60.3
Note: National Ambient Air Quality Standards—24-hour, 150 $\mu\text{g}/\text{m}^3$.		

Tables F-6 and **F-7** show the future maximum predicted 24-hour and annual average PM_{2.5} concentrations along the facades of the proposed building. Since the analysis is for an existing emissions source, the emissions do not represent an increase due to the proposed project. However, the results of the analysis were compared with the City's PM_{2.5} interim guidance

criteria, and demonstrate that there would be no significant adverse impacts from vehicle emissions along the FDR Drive on the air quality at the proposed project site.

Table F-6
Maximum Predicted Future (2015) 24-Hour Average
PM_{2.5} Concentrations

Location	24-Hour Concentration from FDR (µg/m ³)
Project Site – South Street between Rutgers Slip and Clinton Street	1.01
Note: PM _{2.5} interim guidance criteria—24-hour average, 2 µg/m ³ (5 µg/m ³ not-to-exceed value).	

Table F-7
Maximum Predicted Future (2015) Annual Average
PM_{2.5} Concentrations

Location	Annual Concentration from FDR (µg/m ³)
Project Site – South Street between Rutgers Slip and Clinton Street	0.12
Note: PM _{2.5} interim guidance criteria—annual (at discrete receptors), 0.3 µg/m ³ .	

HEAT AND HOT WATER SYSTEMS

SCREENING ANALYSIS

A screening analysis was performed to assess the potential for air quality impacts from the proposed project’s heat and hot water systems. The analysis was based on the use of natural gas, the total proposed building floor area (i.e., 195,000 gross square feet), and an exhaust height of 210 feet. The nearest building of a similar or greater height was determined to be approximately 40 feet away. Based on Figure 17-7 of the *CEQR Technical Manual Air Quality Appendix*, it was determined that further analysis is required to assess the potential for significant adverse impacts from the proposed project’s heat and hot water systems.

DISPERSION MODELING

Since the screening analysis resulted in a determination that further analysis is required, potential impacts from the proposed project’s heat and hot water systems on existing buildings were evaluated using the AERMOD model. Calculated concentrations for NO₂ are presented in **Table F-8**, along with the relevant background concentrations, the total potential concentrations, and the applicable ambient standard concentrations.

As shown in **Table F-8**, the maximum potential increase in concentrations associated with the proposed project’s heat and hot water systems would be low, and when added to background concentrations, would be less than the NAAQS. Therefore, the proposed project’s heat and hot water systems would not have a significant adverse impact on air quality.

Table F-8
Potential Future Pollutant Concentrations
From the Heat and Hot Water Systems ($\mu\text{g}/\text{m}^3$)

Pollutant	Averaging Period	Concentration Increment	Background Concentration	Total Concentration	NAAQS
NO ₂	Annual ¹	1.68	41	42.68	100
	1-hour ²	Seasonal Hourly	Seasonal Hourly	184.84	188

Notes:
¹ The annual projected NO₂ concentration was conservatively assumed to be equal to the projected NO_x concentration. The increment presented is the highest concentration at any receptor over the five years modeled (2007-2011).
² The 1-Hour NO₂ background concentration is not presented in the table since the AERMOD model determines the total 98th percentile (8th highest) 1-Hour NO₂ concentration at each receptor. Total hourly NO₂ concentrations throughout the modeling period were determined by adding the hourly modeled concentrations to the seasonal hourly ambient NO₂ concentrations for each corresponding hour. The total 1-hour concentration reported is the five-year average of the annual 98th percentile of the highest combined daily 1-hour NO₂ concentrations, in accordance with USEPA guidance.

To ensure that the proposed building's heat and hot water systems would not have a significant adverse impact on air quality, the (E) designation that would apply to the site would require that the proposed building must use natural gas as the only fossil fuel for any on-site heating and hot water systems and must be located on the tallest portion of the proposed building. Further, the proposed building's on-site heating and hot water systems would be designed to ensure that maximum concentrations of nitrogen dioxide do not exceed the National Ambient Air Quality Standard on a 1-hour average basis. To attain this standard, the proposed building's boilers used for space heating would have low-NO_x (< 16 ppm) burners and the boilers used for hot water would utilize low-NO_x (<20 ppm) burners, and the boilers would have a stack placement of a minimum of 260 feet from the lot line facing Cherry Street or a minimum of 236 feet from the lot line facing Rutgers Slip. The maximum capacity of equipment used for space heating and hot water would be 6 MMBTU/hr.

To the extent permitted under Section 11-15 of the Zoning Resolution, the requirements of the (E) designation may be modified, or determined to be unnecessary, based on new information or technology, additional facts or updated standards that are relevant at the time the proposed building is ultimately developed.

GENERAL CONFORMITY WITH STATE IMPLEMENTATION PLANS

The annual direct and indirect emissions from the proposed project would be below the emission thresholds for each of the nonattainment and maintenance areas in which the proposed project site is located. Therefore, general conformity requirements do not apply. The proposed project would not hinder the timely attainment of the NAAQS and would conform to the New York SIPs and Maintenance Plans. *

A. INTRODUCTION

The proposed National Center for Palliative Care Innovation building would not generate sufficient traffic to have the potential to cause a significant noise impact (i.e., it would not result in a doubling of Noise passenger car equivalents [Noise PCEs] which would be necessary to cause a 3 dBA increase in noise levels). However, ambient noise levels adjacent to the project site must be considered in order to address CEQR and the U.S. Department of Housing and Urban Development (HUD) noise abatement requirements for the proposed building. This concern is assessed below.

The analysis concludes that, by adhering to specific design requirements (described below), the proposed project's design measures would be expected to provide sufficient attenuation to achieve the CEQR interior noise level requirements and the HUD interior noise level guidelines.

B. ACOUSTICS FUNDAMENTALS

Sound is a fluctuation in air pressure. Sound pressure levels are measured in units called "decibels" ("dB"). The particular character of the sound that we hear (a whistle compared with a French horn, for example) is determined by the speed, or "frequency," at which the air pressure fluctuates, or "oscillates." Frequency defines the oscillation of sound pressure in terms of cycles per second. One cycle per second is known as 1 Hertz ("Hz"). People can hear over a relatively limited range of sound frequencies, generally between 20 Hz and 20,000 Hz, and the human ear does not perceive all frequencies equally well. High frequencies (e.g., a whistle) are more easily discerned and therefore more intrusive than many of the lower frequencies (e.g., the lower notes on the French horn).

"A"-WEIGHTED SOUND LEVEL (DBA)

In order to establish a uniform noise measurement that simulates people's perception of loudness and annoyance, the decibel measurement is weighted to account for those frequencies most audible to the human ear. This is known as the A-weighted sound level, or "dBA," and it is the descriptor of noise levels most often used for community noise. As shown in Table G-1, the threshold of human hearing is defined as 0 dBA; quiet conditions (as in a library, for example) are approximately 40 dBA; levels between 50 dBA and 70 dBA define the range of noise levels generated by normal daily activity; levels above 70 dBA would be considered noisy, and then loud, intrusive, and deafening as the scale approaches 130 dBA.

In considering these values, it is important to note that the dBA scale is logarithmic, meaning that each increase of 10 dBA describes a doubling of perceived loudness. Thus, the background noise in an office, at 50 dBA, is perceived as twice as loud as a library at 40 dBA. For most people to perceive an increase in noise, it must be at least 3 dBA. At 5 dBA, the change will be readily noticeable.

**Table G-1
Common Noise Levels**

Sound Source	(dBA)
Military jet, air raid siren	130
Amplified rock music	110
Jet takeoff at 500 meters	100
Freight train at 30 meters	95
Train horn at 30 meters	90
Heavy truck at 15 meters	80–90
Busy city street, loud shout	80
Busy traffic intersection	70–80
Highway traffic at 15 meters, train	70
Predominantly industrial area	60
Light car traffic at 15 meters, city or commercial areas, or residential areas close to industry	50–60
Background noise in an office	50
Suburban areas with medium-density transportation	40–50
Public library	40
Soft whisper at 5 meters	30
Threshold of hearing	0
Note:	A 10 dBA increase in level appears to double the loudness, and a 10 dBA decrease halves the apparent loudness.
Sources:	Cowan, James P. <i>Handbook of Environmental Acoustics</i> , Van Nostrand Reinhold, New York, 1994. Egan, M. David, <i>Architectural Acoustics</i> . McGraw-Hill Book Company, 1988.

EFFECTS OF DISTANCE ON SOUND

Sound varies with distance. For example, highway traffic 50 feet away from a receptor (such as a person listening to the noise) typically produces sound levels of approximately 70 dBA. The same highway noise measures 66 dBA at a distance of 100 feet, assuming soft ground conditions. This decrease is known as “drop-off.” The outdoor drop-off rate for line sources, such as traffic, is a decrease of approximately 4.5 dBA (for soft ground) for every doubling of distance between the noise source and receiver (for hard ground the outdoor drop-off rate is 3 dBA for line sources). Assuming soft ground, for point sources, such as amplified rock music, the outdoor drop-off rate is a decrease of approximately 7.5 dBA for every doubling of distance between the noise source and receiver (for hard ground the outdoor drop-off rate is 6 dBA for point sources).

SOUND LEVEL DESCRIPTORS

Because the sound pressure level unit of dBA describes a noise level at just one moment and few noises are constant, other ways of describing noise that fluctuates over extended periods have been developed. One way is to describe the fluctuating sound heard over a specific time period as if it had been a steady, unchanging sound. For this condition, a descriptor called the “equivalent sound level,” L_{eq} , can be computed. L_{eq} is the constant sound level that, in a given situation and time period (e.g., 1 hour, denoted by $L_{eq(1)}$, or 24 hours, denoted by $L_{eq(24)}$), conveys the same sound energy as the actual time-varying sound. The descriptor for cumulative 24-hour exposure is the Day-Night Sound Level (i.e., L_{dn}). The L_{dn} is a 24-hour measure that accounts for the moment-to-moment fluctuations in sound levels due to all sound sources during a 24 hour period. Statistical sound level descriptors such as L_1 , L_{10} , L_{50} , L_{90} , and L_x , are used to indicate noise levels that are exceeded 1, 10, 50, 90, and x percent of the time, respectively. Discrete event peak levels are given as L_1 levels.

The relationship between L_{eq} and levels of exceedance is worth noting. Because L_{eq} is defined in energy rather than straight numerical terms, it is not simply related to the levels of exceedance. If the noise fluctuates little, L_{eq} will approximate L_{50} or the median level. If the noise fluctuates broadly, the L_{eq} will be approximately equal to the L_{10} value. If extreme fluctuations are present, the L_{eq} will exceed L_{90} or the background level by 10 or more decibels. Thus the relationship between L_{eq} and the levels of exceedance will depend on the character of the noise. In community noise measurements, it has been observed that the L_{eq} is generally between L_{10} and L_{50} .

C. NOISE STANDARDS AND CRITERIA

NEW YORK CEQR NOISE CRITERIA

The *CEQR Technical Manual* defines attenuation requirements for buildings based on exterior noise level (see Table G-2, “Required Attenuation Values to Achieve Acceptable Interior Noise Levels”). Recommended noise attenuation values for buildings are designed to maintain interior noise levels of 45 dBA or lower for residential, medical office, and meditation room uses and 50 dBA or lower for office, commercial, and community facility uses and are determined based on exterior $L_{10(1)}$ noise levels.

**Table G-2
Required Attenuation Values to Achieve Acceptable Interior Noise Levels**

Noise Level With Proposed Action	Marginally Unacceptable				Clearly Unacceptable
	$70 < L_{10} \leq 73$	$73 < L_{10} \leq 76$	$76 < L_{10} \leq 78$	$78 < L_{10} \leq 80$	$80 < L_{10}$
Attenuation ^A	(I) 28 dB(A)	(II) 31 dB(A)	(III) 33 dB(A)	(IV) 35 dB(A)	$36 + (L_{10} - 80)^B$ dB(A)
Notes:					
^A The above composite window-wall attenuation values are for residential dwellings and community facility development. Commercial office spaces and meeting rooms would be 5 dB(A) less in each category. All the above categories require a closed window situation and hence an alternate means of ventilation.					
^B Required attenuation values increase by 1 dB(A) increments for L_{10} values greater than 80 dBA.					
Source: New York City Department of Environmental Protection.					

HUD DEVELOPMENT GUIDELINES

HUD sets exterior noise standards for housing construction projects based on Day-Night Sound Level (i.e., L_{dn}) values (see Table G-3, HUD Exterior Noise Standards). The L_{dn} refers to a 24-hour average noise level with a 10 dB penalty applied to the noise levels during the hours between 10 PM and 7 AM, due to increased sensitivity to noise levels during these hours. Noise attenuation values are designed to maintain an interior L_{dn} value of 45 dBA or lower for residential uses.

For this analysis, L_{dn} levels were calculated using the following equation:

$$10 * \text{LOG} [\text{Energy sum of the 24 hourly Equivalent Sound Levels}] - 13.8$$

The equation listed above is used to calculate the L_{dn} when performing a continuous 24-hour measurement at the project site is feasible. First, 10 dB is added to the A-weighted sound levels measured between the hours of 10 PM and 7 AM (i.e., nighttime). Next the L_{dn} sound level is then computed from the adjusted nighttime sound levels along with the unadjusted daytime (i.e., 7 AM to 10 PM) values.

Table G-3
HUD Exterior Noise Standards

	Acceptable	Normally Unacceptable	Unacceptable
Noise Level With Proposed Project	$L_{dn} \leq 65$	$65 < L_{dn} \leq 75$	$75 < L_{dn}$
Source: U.S. Department of Housing and Urban Development			

D. EXISTING NOISE LEVELS

Existing noise levels at the proposed project site were measured at four locations (see **Figure G-1**). Table G-4 lists the receptor site locations and their approximate distance from the FDR Drive viaduct (i.e., a dominant source of noise at the project site). Street-level Receptor Sites 1, 2, and 3 were used to examine the spatial distribution of existing noise levels in the vicinity of the project site. Elevated Receptor Site A was used to examine noise levels from the FDR Drive viaduct and to determine existing noise levels at elevations greater than or equal to the FDR Drive viaduct. At Receptor Sites 1, 2, and 3, existing noise levels were measured for 20-minute periods during three weekday peak periods—AM (7:00 to 9:00 AM), midday (MD) (12:00 PM to 2:00 PM), and PM (4:30 to 6:30 PM) on June 29th, 2010. At Receptor Site A, a 24-hour continuous noise measurement was made from approximately 7:00 AM on June 29th, 2010 to 7:00 AM on June 30th, 2010. The measurement results at all receptor locations were examined to determine CEQR and HUD attenuation requirements.

Table G-4
Noise Receptor Locations

Receptor	Location	Elevation	Approximate Distance from FDR Viaduct
1	Jefferson Street (Alley) between South and Cherry Streets	Street level	110 feet
2	South Street between Jefferson Street (Alley) and Rutgers Slip	Street level	50 feet
3	Rutgers Slip between South and Cherry Streets	Street level	110 feet
A	Lands End 1, Apartment 5A balcony	Fifth floor balcony (approximately 50 feet above street level) facing FDR viaduct	150 feet

EQUIPMENT USED DURING NOISE MONITORING

Measurements were performed using a Brüel & Kjær Sound Level Meter (SLM) Type 2260 (S/N 2375602), a Brüel & Kjær SLM Type 2270 (S/N 2706757), Brüel & Kjær ½-inch microphones Type 4189 (S/Ns 2378182 and 2695523), Brüel & Kjær Sound Level Calibrators Type 4231 (S/N 1800102 and 2688762), and a Brüel & Kjær Outdoor Microphone Kit Type UA-1404. The SLMs have laboratory calibration dates of August 14, 2009 and March 11, 2010 which are valid through August of 2010 and March of 2011, respectively. The Brüel & Kjær SLMs are Type 1 instruments according to American National Standards Institute (ANSI) Standard S1.4-1983 (R2006). For Receptor Sites 1, 2, and 3, the instrument/microphone was mounted on a tripod at a height of approximately 5 feet above the ground; for Receptor Site A the instrument was secured in a weatherproof case and the microphone was mounted approximately 5 feet above the balcony grade. Microphones were mounted at least approximately 5 feet away from the building or any other large reflecting surfaces. The SLMs were calibrated before and after readings with a Brüel & Kjær Type 4231 Sound Level

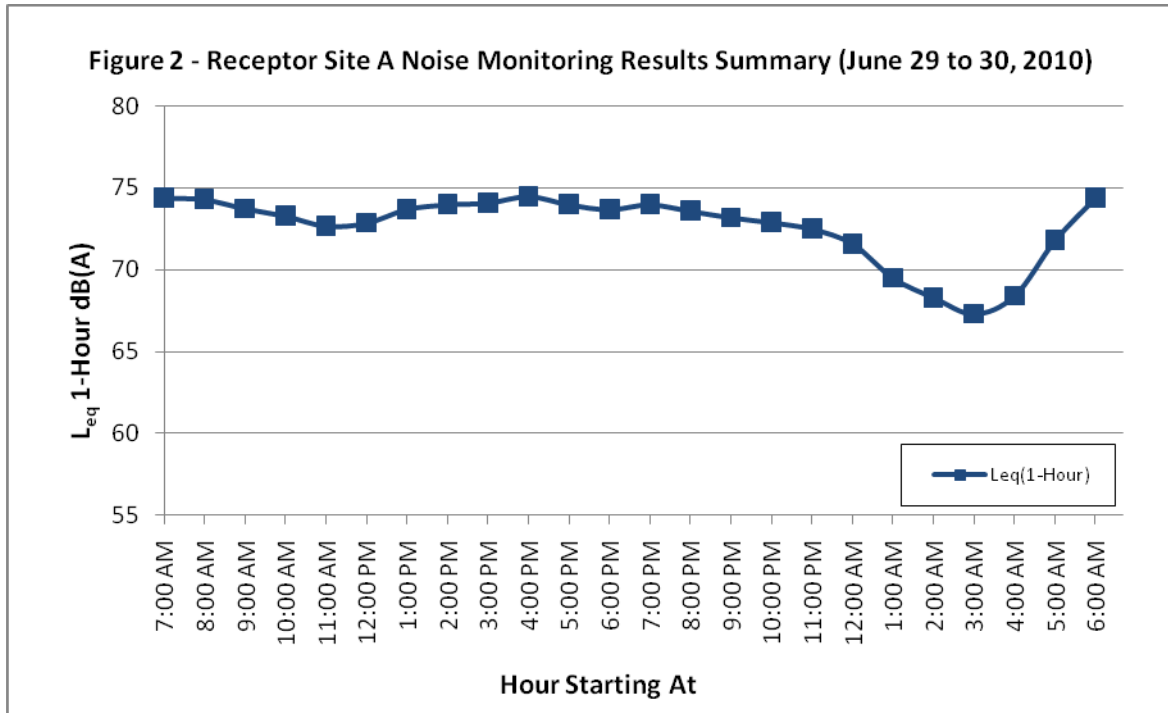
Calibrator using the appropriate adaptor. Measurements at each location were made on the A-scale (dBA). The data were digitally recorded by the sound level meters and displayed at the end of the measurement period in units of dBA. Measured quantities included L_{eq} , L_1 , L_{10} , L_{50} , L_{90} , and 1/3 octave band levels. A windscreen was used during all sound measurements except for calibration. All measurement procedures were based on the guidelines outlined in ANSI Standard S1.13-2005.

The results of the existing noise level measurements are summarized in Table G-5 and Figure G-2.

Table G-5
Existing Noise Levels at Sites 1, 2, and 3 (in dBA)

Site	Measurement Location	Time	L_{eq}	L_1	L_{10}	L_{50}	L_{90}
1	Jefferson Street (Alley) between South and Cherry Streets	AM	69.7	72.9	71.3	69.4	67.9
		MD	69.3	74.3	72.1	68.1	66.5
		PM	69.5	76.9	70.8	68.7	67.5
2	South Street between Jefferson Street (Alley) and Rutgers Slip	AM*	73.2	77.4	75.2	72.5	70.4
		MD	70.7	75.6	72.7	70.1	68.2
		PM	73.8	81.4	75.7	71.4	68.2
3	Rutgers Slip between South and Cherry Streets	AM	69.1	74.4	70.6	68.6	66.8
		MD*	71.4	74.8	72.6	71.1	70.2
		PM	69.2	74.4	70.7	68.9	66.9

Notes: *During the measurements, a vibratory pile driver and backhoe were in use across the street from the project site. However, measures were undertaken to limit their contribution to the overall existing noise levels. Field measurements were performed by AKRF, Inc. on June 29th, 2010.



At Receptor Sites 1, 2, and 3, at-grade vehicular traffic including buses and trucks on South Street and elevated vehicular traffic on the FDR Drive viaduct were the dominant noise sources. At

Receptor Site A, while at-grade vehicular traffic contributed to the overall noise level, the dominant source of noise was vehicular traffic on the FDR Drive viaduct. Additionally, at all receptor sites, aircraft noise and train noise from the Manhattan Bridge were audible during the measurements. As previously noted, construction noise during some time periods was audible, but measures were taken to exclude and/or limit their contribution to the overall noise level. Measured levels are relatively high and reflect the level of vehicular activity on the adjacent streets. In terms of the CEQR criteria, the existing noise levels at all Sites would be in the “marginally unacceptable” category. Based on the measured values, the calculated L_{dn} value at Receptor Site A was 78.2 dBA. In terms of HUD criteria, as shown in Table G-3, an L_{dn} of 78.2 dBA would be in the “unacceptable” category.

E. NOISE ATTENUATION MEASURES

As shown in Table G-2, the *CEQR Technical Manual* has set noise attenuation quantities for buildings based on exterior $L_{10(1)}$ noise levels in order to maintain interior noise levels of 45 dBA or lower for residential, medical office, and meditation room uses and 50 dBA or lower for office, commercial, and community facility uses. HUD guidelines recommend that buildings should provide sufficient window/wall attenuation to result in L_{dn} values of 45 dBA or less for residential uses.

The measurement results were adjusted to represent noise levels at the building’s south façade (i.e., closest to the FDR Drive viaduct) based on the approximate distance between: 1) the proposed building’s south façade and the FDR Drive viaduct, and 2) the measurement locations and the FDR Drive viaduct. The adjusted noise levels for the at-grade receptor sites were within 1 dBA of each other. Consequently, the highest measurement results (i.e., Site 2) were used to set CEQR attenuation requirements for all building facades at elevations below the elevated FDR Drive viaduct. For the building façade elevations greater than or equal to the elevation of the FDR Drive viaduct, the CEQR attenuation requirements were determined based on: 1) the adjusted measurement results for Site A, and 2) the approximate distance between the south façade for each floor and the elevated FDR Drive viaduct. The HUD attenuation requirements were determined based on the adjusted measurement results for Site A and the relative change in the CEQR attenuation requirements from floor to floor. The results of the CEQR and HUD attenuation analysis are summarized in Table G-6.

Table G-6
Window/Wall Attenuation Requirements

Proposed Building Floors	Maximum Predicted L_{10} (in dBA)	CEQR Attenuation Required (in dBA)	Maximum Calculated L_{dn} (in dBA)	HUD Attenuation Required (in dBA)	Project Window/Wall Attenuation Required (in dBA) ⁴
1, 2	74.5	31 ¹	NA ³	NA ³	31
3, 4, 5	80.5	37 ²	NA ³	NA ³	37
6, 7, 8, 9, 10, 11	79.9	35	81.2	38	38
12, 13, 14, 15, 16	78.0	33	79.3	35	35

Notes: CEQR attenuation requirements are for noise-sensitive spaces.

⁽¹⁾ Administration, community facilities, and parking facilities on the 1st and 2nd floors would require 5 dB(A) less attenuation.

⁽²⁾ Community facilities, offices, library, and dining area on the 3rd to 5th floors would require 5 dB(A) less attenuation.

⁽³⁾ HUD funding applies to floors 6 through 16 only where the residential units would be located.

⁽⁴⁾ This is the maximum window/wall attenuation required to satisfy both CEQR and HUD requirements, where applicable.

The attenuation of a composite structure is a function of the attenuation provided by each of its component parts and how much of the area is made up of each part. Normally, a building façade consists of the wall, glazing, and any vents or louvers for heating, ventilation, and air conditioning (HVAC) units in various ratios of area. The proposed design for the building includes central air conditioning (i.e., a means of alternate ventilation) and specially selected acoustical glazing (ex: triple glazed windows). The proposed building's façades, including these elements, would be designed to provide a composite Outdoor-Indoor Transmission Class (OITC) rating greater than or equal to the project window/wall attenuation requirements listed in Table G-6. The OITC classification is defined by the American Society of Testing and Materials (ASTM E1332-10) and provides a single-number rating that is used for designing a building façade including walls, doors, glazing, and combinations thereof. The OITC rating is designed to evaluate building elements by their ability to reduce the overall loudness of ground and air transportation noise. By adhering to these design requirements, the proposed building would thus provide sufficient attenuation to: 1) achieve the CEQR interior noise level guideline of 45 dBA L_{10} or lower for noise-sensitive residential, medical office, and meditation room uses and 50 dBA L_{10} or lower for office and community facility uses, and 2) satisfy the HUD interior noise level guideline of 45 dBA L_{dn} or less.

Based upon the measured and calculated L_{10} and L_{dn} values at the project site, the proposed project's design measures would be expected to provide sufficient attenuation to achieve the CEQR interior noise level requirements and the HUD interior noise level guidelines.

To ensure implementation of project noise attenuation measures that would allow interior noise levels to meet CEQR requirements, the (E) designation that would apply to the site would be as follows:

In order to ensure an acceptable interior noise environment, future community facility uses must provide up to 38 dBA of window/wall attenuation to achieve interior noise levels of 45 dBA. Design requirements to attain this attenuation may include a closed window condition with alternate means of ventilation. Alternate means of ventilation include, but are not limited to central air conditioning. In addition, special design

National Center for Palliative Care Innovation at HealthCare Chaplaincy

features may be necessary (i.e., windows with small sizes, windows with air gaps, windows with thicker glazing, etc.) to provide additional building attenuation. The specific attenuation requirements to be implemented throughout the project building facades are provided in the National Center for Palliative Care Innovation at HealthCare Chaplaincy EAS, Table G-6 (CEQR No. 12DCP157M, May 2, 2013).

While the proposed building's mechanical equipment schedule has not yet been developed, the buildings mechanical system (i.e., HVAC systems) would be designed to meet all applicable noise regulations (i.e., Subchapter 5, §24-227 of the New York City Noise Control Code, the New York City Department of Buildings Code and the Mechanical Code) and to avoid producing levels that would result in any significant increase in ambient noise levels. *

Appendix A

Correspondence

ENVIRONMENTAL REVIEW

Project number: DEPARTMENT OF CITY PLANNING / 12DCP157M
Project: HEALTHCARE CHAPLAINCY
Date received: 7/25/2012

Properties with no Architectural or Archaeological significance:

- 1) ADDRESS: 251 CHERRY STREET, BBL: 1002470001
- 2) ADDRESS: 251 CHERRY STREET, BBL: 1002470001
- 3) ADDRESS: 251 CHERRY STREET, BBL: 1002470001
- 4) ADDRESS: 251 CHERRY STREET, BBL: 1002470001

Gina Santucci

7/25/2012

SIGNATURE
Gina Santucci, Environmental Review Coordinator

DATE

File Name: 27152_FSO_GS_07252012.doc



**New York State Office of Parks,
Recreation and Historic Preservation**

Andrew M. Cuomo
Governor

Andy Beers
Acting Commissioner

Historic Preservation Field Services Bureau
P.O. Box 189, Waterford, New York 12188-0189 February 10, 2011
518-237-8643

Jamie P. Barr
Langan Engineering & Environmental Services
555 Long Wharf Drive
New Haven, Connecticut 06511

Re: CEQR
 Lands End II Apartments
 265 and 275 Cherry Street/MANHATTAN,
 New York County
 10PR05544

Dear Mr. Barr:

Thank you for requesting the comments of the Field Services Bureau of the Office of Parks, Recreation and Historic Preservation (OPRHP). We have reviewed the project in accordance with the New York State Historic Preservation Act of 1980 (Section 14.09 of the New York Parks, Recreation and Historic Preservation Law). These comments are those of the Field Services Bureau and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8) and its implementing regulations (6 NYCRR Part 617).

Based upon this review, it is the OPRHP's opinion that your project will have No Impact upon cultural resources in or eligible for inclusion in the State and National Register of Historic Places.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

Ruth L. Pierpont
Acting Deputy Commissioner for Historic Preservation

CC: Michael Audin, Langan Engineering (via email only)



**Environmental
Protection**

Carter H. Strickland, Jr.
Commissioner

Angela Licata
Deputy Commissioner
of Sustainability
alicata@dep.nyc.gov

59-17 Junction Boulevard
Flushing, NY 11373
T: (718) 595-4398
F: (718) 595-4479

July 27, 2012

Mr. Robert Dobruskin
Director, Environmental Assessment and Review
New York City Planning Commission
22 Ready Street, Room 4E
New York, New York 10007

**Re: 265 Cherry Street
Block 247, Lot 2
CEQR # 12DCP157M/ 13DEPTECH005M
Manhattan, New York**

Dear Mr. Dobruskin:

The New York City Department of Environmental Protection, Bureau of Environmental Planning and Analysis (DEP) has reviewed the January 2012 Environmental Assessment Statement (EAS) prepare by Clair Haaga Altman, the Revised February 2011 Phase I Environmental Site Assessment prepared by Langan Engineering and Environmental Services (Langan) and the Limited Phase II Investigation Report prepare by GZA GeoEnvironmental (GZA) Inc., on behalf of HealthCare Chaplaincy Community Investment Inc. (applicant), for the above referenced project. It is our understanding that the applicant proposes a modification to CP-21885, the Two Bridges Large Scale Residential Development Plan, to allow an increase in community facility floor area, an increase in the community facility and total lot area coverage, the relocation of existing parking spaces and the addition of additional accessory parking spaces, and the correction of minor errors in dimensions shown in the existing documentation. The proposed project is located on the western side of South Street between Rutgers Slip and Jefferson Street in the Two Bridges neighborhood of Manhattan, Community District 3.

As currently proposed, the project will include a 17-story (plus mechanical level) approximately 195,000 gross square foot (gsf) National Center for Palliative Care Innovation building (approximately 185,000 gsf without the parking garage) on the site of the South Street parking lot. Pursuant to minor modification, the maximum floor area of the building would be 183,700 zoning square feet and all uses in the proposed building would be community facility uses in zoning use groups 3 and 4, plus accessory parking. The 31,341 square feet site (currently a paved parking lot) is zoned as a C6-4 district and is located in Lower East Side/Two Bridges residential and commercial mix use neighborhood.

The revised February 2011 Phase I revealed that historical on-site and surrounding areas land uses have predominantly consisted of residential, parking garage, automobile repair facilities, gasoline filling stations, a tin can factory, an auto body repair facility, light manufacturing and warehouses, bed spring manufacturer, a wood working shop, Wells Fargo Armored Car repair facility, dry cleaning facility, sanitation garage, etc. It should be noted that six gasoline Underground Storage

Tanks (USTs) were associated with historical on-site uses. In addition, approximately 103 sites were identified in the EDR radius report and the potential exists that these urban sites may have a cumulative effect on the groundwater quality at the subject property. The New York State Department of Environmental Conservation (NYSDEC) database revealed 29 spill sites; 4 leaking tanks LTANKS sites; 7 USTs and 7 RCRA NonGen sites within 1/8th mile radius of the subject property.

During a May 2008 Limited Phase II Investigation fieldwork, GZA completed six soil borings (GZA-1 through GZA-4 and GZA-7 through GZA-10) in areas identified as former gasoline service stations, former Wells Fargo service garage; and areas identified with former USTs uses. It should be noted that borings GZA-5 and GZA-6 were not conducted due to the density of potential underground utilities located in the northern portion of the courtyard between 256 and 275 Cherry Street. Soil samples were collected and analyzed for volatile organic compounds (VOCs), polynuclear aromatic hydrocarbon (PAHs), polychlorinated biphenyls (PCBs) and priority pollutant metals in accordance with United States Environmental Protection Agency (EPA) Methods 8260, 8270, 8082 and 6000/7000 series respectively. Seven groundwater monitoring wells were installed in boring locations GZA-2, GZA-3, GZA-4, and GZA-7 through GZA-10 and analyzed for VOCs by EPA Method 8260. Groundwater was encountered at approximately 5 to 8 feet below ground surface during the May 2008 Limited Phase II Investigation. It should be noted that visual and olfactory evidence of petroleum contamination was observed in soil samples from borings GZA-1B, GZA-2, GZA-4 and GZA-9 and PID reading in these borings ranged from 0 ppm to over 2,000 ppm. In addition, petroleum sheen was observed on the groundwater in boring GZA-2 and GZA-9.

The soil analytical results revealed PCBs concentrations were either non-detect (ND) or below New York State Department of Environmental Conservation (NYSDEC) Technical and Administrative Guidance Memorandum (TAGM) #4046 Soil Cleanup Objectives (SCOs). Several VOCs and PAHs were detected above their respective NYSDEC TAGM SCOs. The groundwater analytical results revealed VOCs were detected above NYSDEC Class GA Water Quality Standards.

Based upon our review of the submitted documentation, we have the following comments and recommendations to DCP:

- DCP should inform the applicant that past on-site and or surrounding area land uses may have impacted the soil and groundwater at this site. Therefore, a Supplemental Phase II Environmental Site Assessment Investigation (Phase II) is necessary to adequately identify/characterize the surface and subsurface soils prior to the proposed development. A Phase II Investigative Protocol/Work Plan summarizing the proposed drilling, soil/groundwater and soil vapor sampling activities should be submitted to DEP for review and approval. The Work Plan should include blueprints and/or site plans displaying the current surface grade and sub-grade elevations and a site map depicting soil boring locations and groundwater sampling locations. Soil, groundwater and soil vapor samples should be collected and analyzed by a New York State Department of Health Environmental Laboratory Approval Program-CERTIFIED laboratory for the presence of Volatile Organic Compounds (VOCs) by United States Environmental Agency (EPA) Method 8260, Semi-Volatile Organic Compounds (SVOCs) by EPA method 8270, Pesticides/Polychlorinated Biphenyls by EPA Method 8081/8082 and Target

Analyte List (TAL) metals (filtered and unfiltered for groundwater samples). The soil vapor sampling will be conducted in accordance with the New York State Department of Health's (NYSDOH) October 2006 Guidance for Evaluating Soil Vapor Intrusion in the State of New York and analyzed for VOCs by EPA Method TO-15. An Investigative Health and Safety Plan (HASP) should also be submitted to DEP for review and approval.

Please note that the NYSDEC may have additional requirements for this site. DCP should inform the applicant that the Phase II Work plan and HASP should be submitted to DEP for review and approval prior to start of any fieldwork. Future correspondence and submittals related to this project should include the following tracking number **13DEPTECH005M**. If you have any questions, you may contact Mohammad Khaja-Moinuddin at (718) 595-4445.

Sincerely,

A handwritten signature in cursive script that reads "Maurice S. Winter".

Maurice S. Winter
Deputy Director, Site Assessment

c: E. Mahoney;
M. Winter
M. Khaja-Moinuddin
W. Yu
T. Estes
C-Evans- DCP
R. Austin- NYSDEC
J. Vought- NYSDEC
File