City Environmental Quality Review
ENVIRONMENTAL ASSESSMENT STATEMENT FULL FORM
Please fill out, print and submit to the appropriate agency (see instructions)

PART I: GENERAL INFORMATION

PROJECT NAME

1. *Reference Numbers*

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

2a. *Lead Agency Information*

NAME OF LEAD AGENCY: New York City Board of Standards and Appeals
NAME OF LEAD AGENCY CONTACT PERSON: Rory Levy
ADDRESS: 250 Broadway, 29th Floor
CITY: New York | STATE: NY | ZIP: 10007
TELEPHONE: 212-386-0062 | FAX: 212-788-8769
EMAIL ADDRESS: rlevy@bsa.nyc.gov

2b. *Applicant Information*

NAME OF APPLICANT: New York Methodist Hospital
NAME OF APPLICANT'S REPRESENTATIVE OR CONTACT PERSON: Elise Wagner, Kramer Levin Naftalis & Frankel LLP
ADDRESS: 1177 Avenue of the Americas
CITY: New York | STATE: NY | ZIP: 10036
TELEPHONE: 212-715-9189 | FAX: (212) 715-8208
EMAIL ADDRESS: ewagner@kramerlevin.com

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)*: Facility with over 240,000 gross square feet

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:*

New York Methodist Hospital (NYM) proposes to develop the Center for Community Health, a new ambulatory care facility on its main campus, which is located on two adjacent blocks bounded by 7th Avenue, 6th Street, 8th Avenue, and 7th Street in Park Slope, Brooklyn. The proposed ambulatory care facility would be constructed in a U-shape on a development site on the eastern portion of the northern block of the main campus property, with frontages on 6th Street, 6th Street, and 8th Avenue. The facility would house NYM's ambulatory surgery center, a radiation oncology center, a satellite radiology suite, and endoscopy suite, offices and treatment/procedure rooms for faculty physician practices, community amenities, and below-grade parking, among other facilities. Discretionary approvals are being sought from the Board of Standards and Appeals subject to City Environmental Quality Review for variances relating to distribution of floor area, lot coverage, rear yard, height and setback, rear yard setback, and number and surface area of signs. See Attachment A, "Project Description," for additional details and a more in-depth description of the proposed project.

Project Location

BOROUGH	COMMUNITY DISTRICT(S)	STREET ADDRESS
Brooklyn	6	505-541 6th Street (502-522 8th Avenue and 512-520 5th Street)

TAX BLOCK(S) AND LOT(S): Block 1084, Lots 25, 26, 28, 39-44, 46, 48, 50-59, 164, 1001-1002[1] | ZIP CODE: 11215

DESCRIPTION OF PROPERTY BY BOUNDING OR CROSS STREETS
The Proposed Development Site is a U-shaped area bounded by 6th Street to the south, 8th Avenue to the east, 5th Street to the north, and the midblock between 7th and 8th Avenues to the west. The cutout forming the "U" is located on 5th Street.

EXISTING ZONING DISTRICT, INCLUDING SPECIAL ZONING DISTRICT DESIGNATION, IF ANY: R6, R6B, R7B | ZONING SECTIONAL MAP NO: 16d

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

City Planning Commission: ☐ YES ■ NO ☐ UNIFORM LAND USE REVIEW PROCEDURE (ULURP)

☐ CITY MAP AMENDMENT	☐ ZONING CERTIFICATION	☐ CONCESSION
☐ ZONING MAP AMENDMENT	☐ ZONING AUTHORIZATION	☐ UDAPP
☐ ZONING TEXT AMENDMENT	☐ ACQUISITION—REAL PROPERTY	☐ REVOCABLE CONSENT
☐ SITE SELECTION—PUBLIC FACILITY	☐ DISPOSITION—REAL PROPERTY	☐ FRANCHISE
☐ HOUSING PLAN & PROJECT	☐ OTHER, explain:	

☐ SPECIAL PERMIT (If appropriate, specify type: ☐ MODIFICATION; ☐ RENEWAL; ☐ OTHER); EXPIRATION DATE:

SPECIFY AFFECTED SECTION(S) OF THE ZONING RESOLUTION

Board of Standards and Appeals: YES ■ NO ☐

☐ VARIANCE (USE)
■ VARIANCE (BULK) ZR §77-02, §77-21, §23-633, §24-11, §24-33, §24-382, §23-633, §24-522, §24-552, §25-631
☐ SPECIAL PERMIT (If appropriate, specify type: ☐ MODIFICATION; ☐ RENEWAL; ☐ OTHER); EXPIRATION DATE:

[1] The Proposed Development Site is part of a Zoning Lot that consists of the parcels designated as Block 1084, Lots 25, 26, 28, 39 through 44, 46, 48, 50 through 59, 164, and 1001-1002. The Proposed Development Site is located on a portion of the Zoning Lot, including Lots 25, 26, 28, 39 through 44, 46, 48, 50 through 59, and a portion of Lot 1001-1002.

SPECIFY AFFECTED SECTION(S) OF THE ZONING RESOLUTION

Department of Environmental Protection: YES ■ NO ☐ If "yes," specify: Work permits and Certificate to Operate for Proposed Development boiler plant

Other City Approvals Subject to CEQR (check all that apply)

- ☐ LEGISLATION
- ☐ RULEMAKING
- ☐ CONSTRUCTION OF PUBLIC FACILITIES
- ☐ 384(B)(4) APPROVAL
- ☐ OTHER; EXPLAIN
- ☐ FUNDING OF CONSTRUCTION; specify
- ☐ POLICY OR PLAN; specify
- ☐ FUNDING OR PROGRAMS; specify
- ☐ PERMITS; specify

Other City Approvals Not Subject to CEQR (check all that apply)

- ■ PERMITS FROM DOT'S OFFICE OF CONSTRUCTION MITIGATION AND COORDINATION (OCMD)
- ☐ LANDMARKS PRESERVATION COMMISSION APPROVAL
- ■ OTHER; explain: Department of Buildings

State or Federal Actions/Approvals/Funding: YES ■ NO ☐ If "yes," specify: Certificate of Need from NYSDOH; Possible modification of NYSDEC Title V permit[1]

6. Site Description: *The directly affected area consists of the project site and the area subject to any change in regulatory controls. Except where otherwise indicated, provide the following information with regard to the directly affected area.*

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, for paper filings, must be folded to 8.5x11 inches.*

- ■ SITE LOCATION MAP ■ ZONING MAP ■ SANBORN OR OTHER LAND USE MAP
- ■ TAX MAP ☐ FOR LARGE AREAS OR MULTIPLE SITES, A GIS SHAPE FILE THAT DEFINES THE PROJECT SITE(S)
- ■ PHOTOGRAPHS OF THE PROJECT SITE TAKEN WITHIN 6 MONTHS OF EAS SUBMISSION AND KEYED TO THE SITE LOCATION MAP

Physical Setting (both developed and undeveloped areas)

Total directly affected area (sq. ft.): ±60,720[2] Waterbody area (sq. ft.) and type: 0

Roads, building and other paved surfaces (sq. ft.): ±60,720 Other, describe (sq. ft.): 0

7. 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 (gross square feet): ±498,500 gsf (±311,040 zsf)

NUMBER OF BUILDINGS: 1 GROSS FLOOR AREA OF EACH BUILDING (sq. ft.): ±498,500 gsf (±311,040 zsf)

HEIGHT OF EACH BUILDING (ft): ±152 feet maximum[3] NUMBER OF STORIES OF EACH BUILDING: 7 stories plus two mechanical levels

Does the proposed project involve changes in zoning on one or more sites? YES ☐ NO ■

If "Yes," specify: The total square feet owned or controlled by the applicant:

The total square feet non-applicant owned area:

Does the proposed project involve in-ground excavation or subsurface disturbance, including but not limited to foundation work, pilings, utility lines, or grading? YES ■ NO ☐

If "Yes," indicate the estimated area and volume dimensions of subsurface disturbance (if known):

AREA OF TEMPORARY DISTURBANCE: ±61,760 sq. ft. (width x length) VOLUME OF DISTURBANCE: ±28,000 cubic feet (width x length x depth)

AREA OF PERMANENT DISTURBANCE: ±80,720 sq. ft. (width x length)

8. Analysis Year CEQR Technical Manual, Chapter 2

ANTICIPATED BUILD YEAR (DATE THE PROJECT WOULD BE COMPLETED AND OPERATIONAL): 2017

ANTICIPATED PERIOD OF CONSTRUCTION IN MONTHS: 36 months

WOULD THE PROJECT BE IMPLEMENTED IN A SINGLE PHASE? ■ YES ☐ NO IF MULTIPLE PHASES, HOW MANY?

BRIEFLY DESCRIBE PHASES AND CONSTRUCTION SCHEDULE: See Attachment K, "Construction."

9. Predominant Land Use in the Vicinity of Project? (Check all that apply)

■ RESIDENTIAL ☐ MANUFACTURING ■ COMMERCIAL ☐ PARK/FOREST/OPEN SPACE ■ OTHER, specify: Institutional

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[1] Modification of the existing NYM NYSDEC Title V facility operating permit would be required to reflect the operation of a new boiler plant on the Proposed Development Site. Modification of the Title V permit would likely also be required should NYM decide instead to connect the Proposed Development to the existing boiler plant on the NYM campus, to add additional equipment to the existing Title V permit.

[2] Reflects Proposed Development Site only.

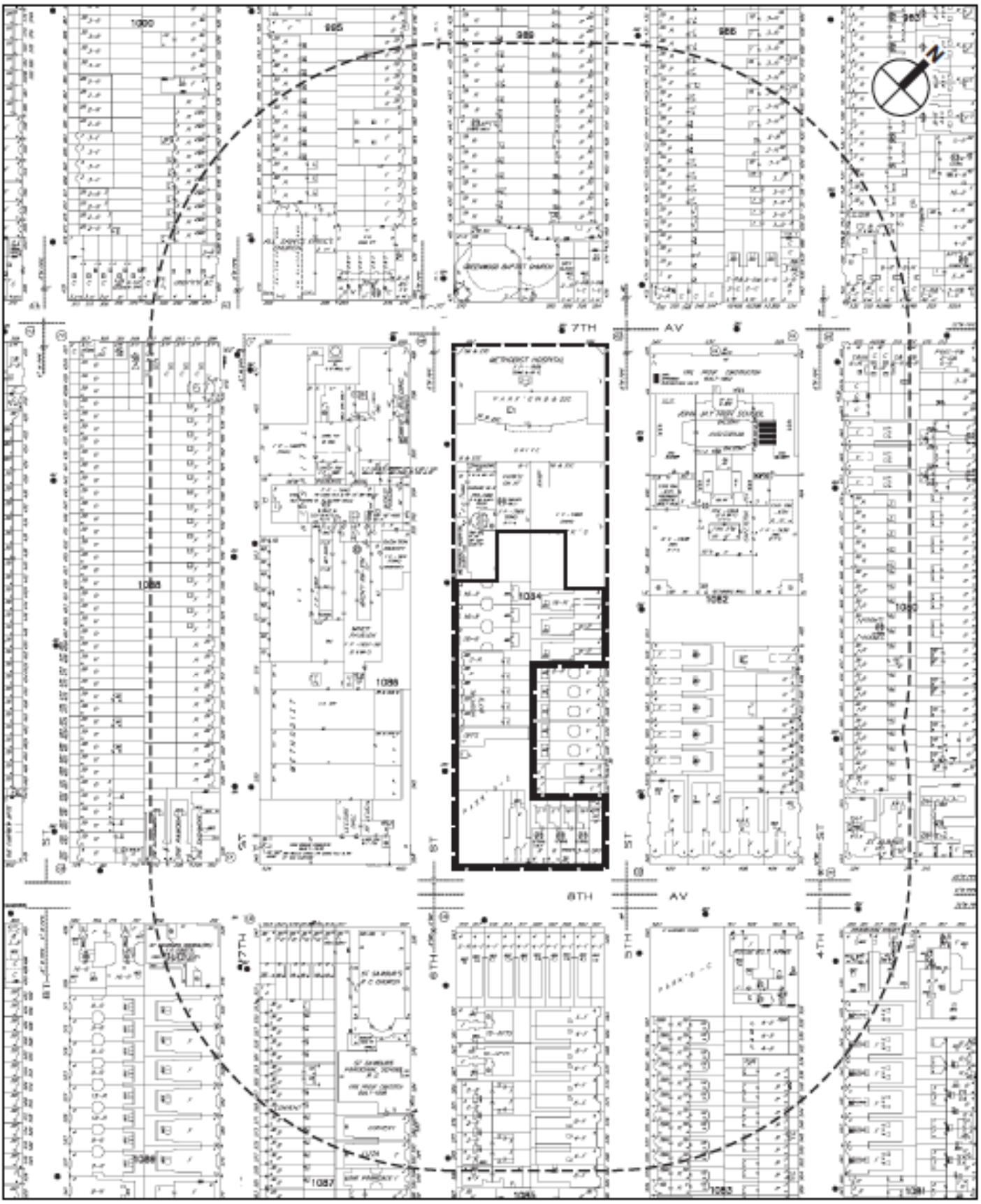
[3] Height measured from average curb elevation to top of mechanical bulkhead screen wall.

New York Methodist Center for Community Health

Project Location
Figure 1

Zoning
Figure 2

10.7.13



Proposed Development Site Boundary

Zoning Lot Boundary

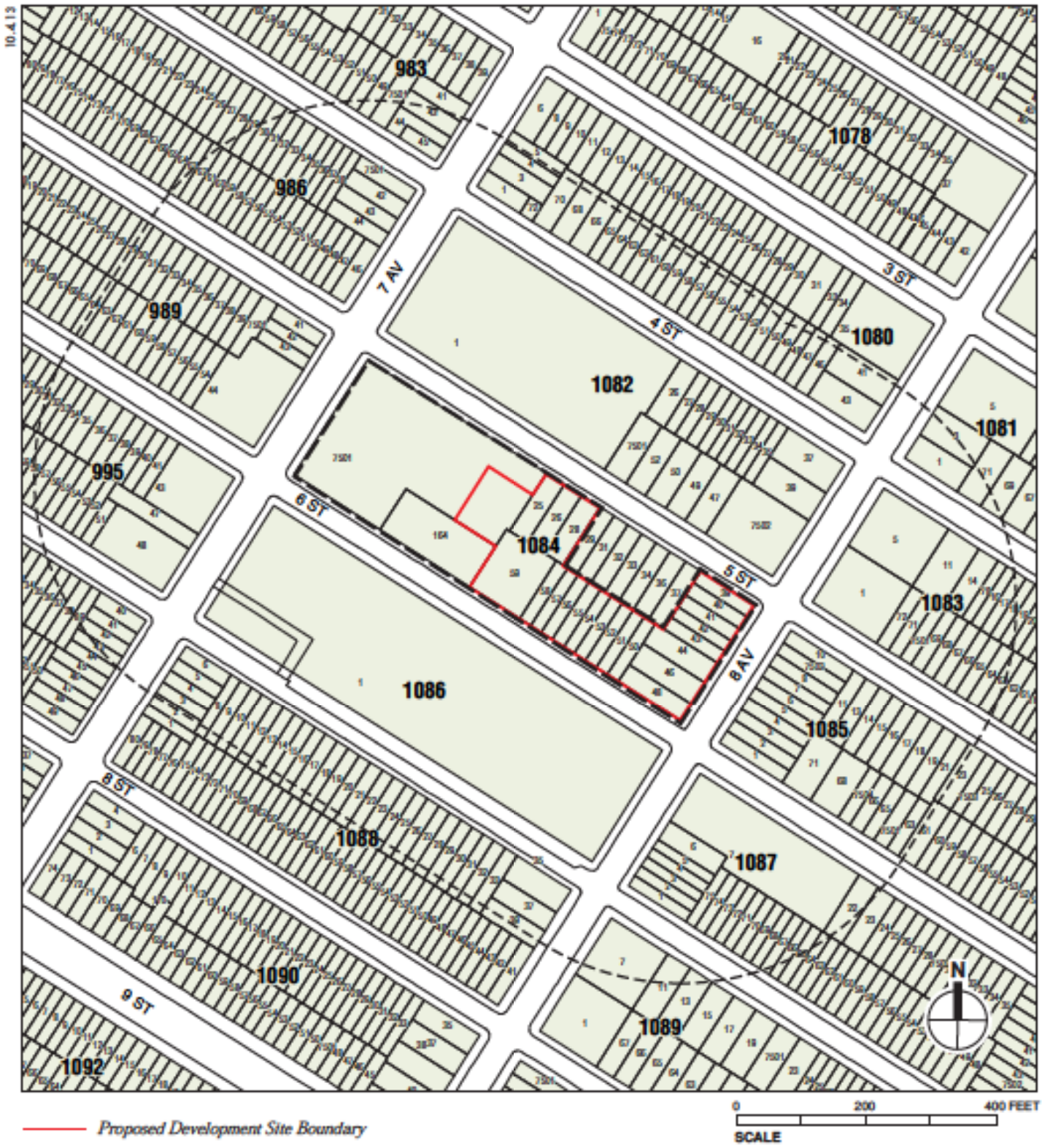
Study Area Boundary (400-Foot Perimeter)

0 200 FEET

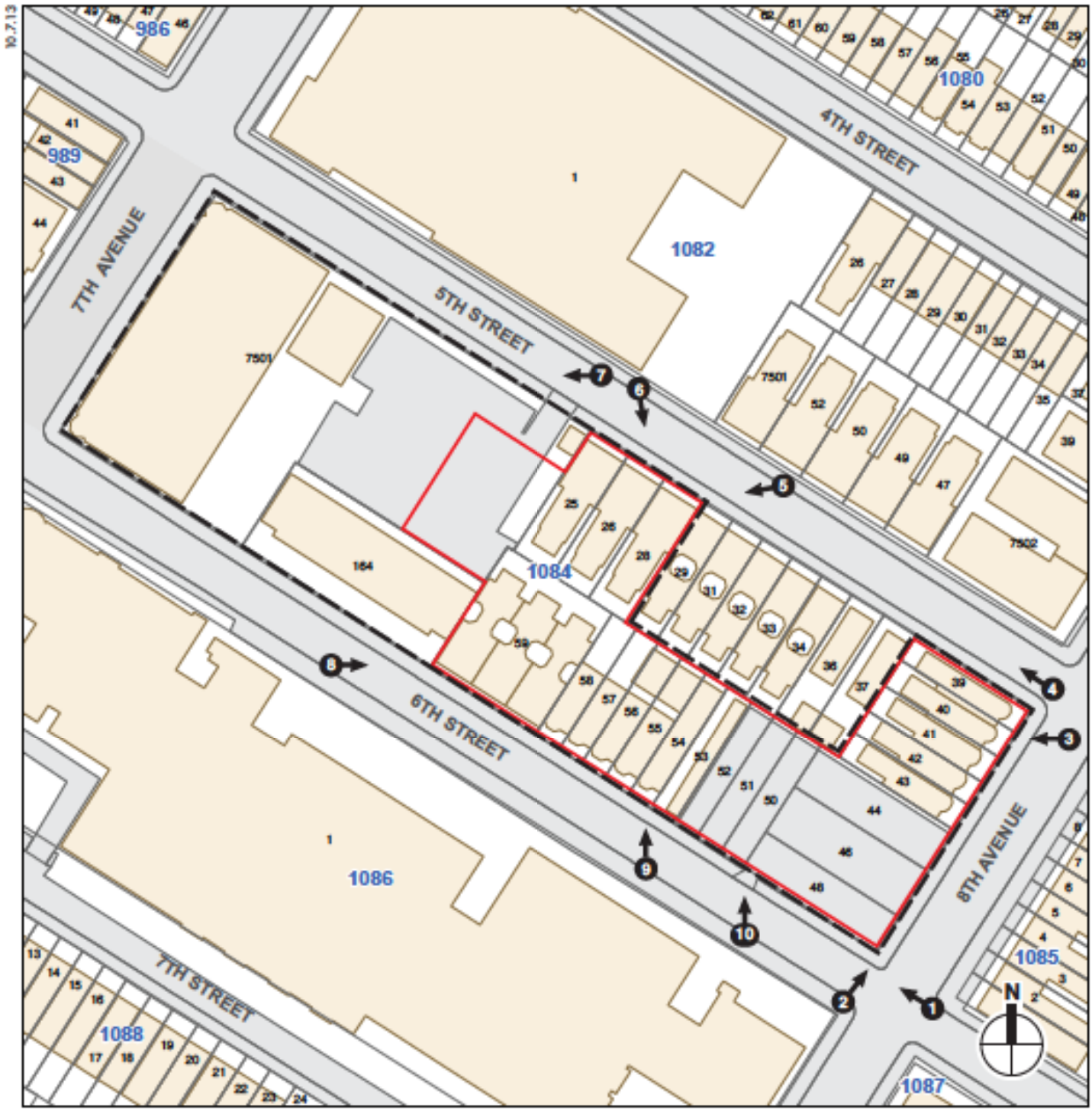
SCALE

New York Methodist Center for Community Health

Sanborn Map
Figure 3



Tax Map
Figure 4



New York Methodist Center for Community Health

Key to Photographs
Figure 5

View northwest from corner of 8th Avenue and 6th Street 1

View north from corner of 8th Avenue and 6th Street 2

Photographs of Existing Conditions
Figure 6

View west from 8th Avenue 3

View southwest from corner of 8th Avenue and 5th Street 4

Photographs of Existing Conditions
Figure 7

View southwest from 5th Street 5

View southeast from 5th Street 6

Photographs of Existing Conditions

Figure 8

View southwest from 5th Street 7

View northeast from 6th Street 8

Photographs of Existing Conditions

Figure 9

View northwest from 6th Street 9

View northwest from 6th Street 10

Photographs of Existing Conditions
Figure 10

DESCRIPTION OF EXISTING AND PROPOSED CONDITIONS[1]

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 ■ No □	Yes □ No ■	Yes □ No ■	
If yes, specify the following				
Describe type of residential structures	NYM-owned apartments	0	0	No change
No. of dwelling units	82 occupied; 103 total	0	0	No change
No. of low- to moderate-income units	6	0	0	No change
Gross Floor Area (sq. ft.)	55,584 occupied; 67,401 total	0	0	No change
Commercial	Yes □ No ■	Yes □ No ■	Yes □ No ■	
If yes, specify the following:				
Describe type (retail, office, other)				
Gross floor area (sq. ft.)				
Manufacturing/Industrial	Yes □ No ■	Yes □ No ■	Yes □ No ■	
If yes, specify the following:				
Type of use				
Gross floor area (sq. ft.)				
Open storage area (sq. ft.)				
If any unenclosed activities, specify				
Community Facility	Yes ■ No □	Yes ■ No □	Yes ■ No □	
If yes, specify the following				
Type	Pediatrician office, NYM outpatient treatment facilities	Ambulatory care facility	Ambulatory care facility	
Gross floor area (sq. ft.)	±16,628 occupied; ±18,328 total	±518,020 sf including ±2,000 sf accessory pharmacy	±488,500 sf including ±2,000 sf accessory pharmacy	-19,520 sf
Vacant Land	Yes □ No ■	Yes □ No ■	Yes □ No ■	
If yes, describe				
Publicly Accessible Open Space	Yes □ No ■	Yes □ No ■	Yes □ No ■	
If yes, specify type (mapped City, State, or Federal Parkland, wetland—mapped or otherwise known, other)				
Other Land Uses	Yes □ No ■	Yes □ No ■	Yes □ No ■	
If yes, describe				
Parking				
Garages	Yes ■ No □	Yes ■ No □	Yes ■ No □	
If yes, specify the following:				
No. of public spaces	0	0	0	No change
No. of accessory spaces	518	1,023[2]	1,023[3]	No change
Operating hours	24 hours	24 hours	24 hours	No change
Attended or non-attended	attended	attended	attended	No change
Lots	Yes □ No □	Yes □ No □	Yes □ No □	
If yes, specify the following:				
No. of public spaces	0	0	0	No change
No. of accessory spaces	79	0	0	No change
Operating hours	24 hours			
Other (includes street parking)	Yes ■ No □	Yes ■ No □	Yes ■ No □	
If yes, describe	Weekday: 25 Weekend: 33	Weekday: 0[3] Weekend: 33	Weekday: 25 Weekend: 29	+25 Weekday -4 Weekend

[1] Unless otherwise noted, all figures reflect conditions on the Proposed Development Site, not the larger Zoning Lot.

[2] Includes existing spaces to remain, spaces displaced by construction, and incremental new spaces.

[3] In the No-Action condition (also referred to as the "Complying Development"), the on-street parking regulation would be modified to allow vehicle drop-offs and pickups at curbside. In the With-Action condition, the Proposed Development would include an off-street pickup and drop-off area, maintaining access to most of the existing on-street parking spaces.

	EXISTING CONDITION	NO-ACTION CONDITION	WITH-ACTION CONDITION	INCREMENT
Population				
Residents	Yes ■ No □	Yes □ No ■	Yes □ No ■	
If any, specify number	±180	0	0	No change
Briefly explain how the number of residents was calculated	Based on 2010 average household size in CD6 (2.19 persons per household) and 82 occupied units			
Businesses	Yes □ No ■	Yes □ No ■	Yes □ No ■	
If any, specify the following:				
No. and type				
No. and type of workers by business				
No. and type of non-residents who are not workers				
Briefly explain how the number of businesses was calculated				
Students (non-resident)	Yes □ No ■	Yes □ No ■	Yes □ No ■	
If any, specify number				
Briefly explain how the number of students was calculated				
Zoning				
Zoning classification	R8, R8B, R7B	R8, R8B, R7B	R8, R8B, R7B	No change
Maximum amount of floor area that can be developed	631,120 zfa on zoning lot	631,120 zfa on zoning lot	631,120 zfa on zoning lot	No change
Predominant land use and zoning classifications within land use study areas or a 400-foot radius of proposed project	Residential (R8, R8A, R8B, R7A, R7B, R8X); Commercial (C1-3, C1-4, C2-4)	Residential (R8, R8A, R8B, R7A, R7B, R8X); Commercial (C1-3, C1-4, C2-4)	Residential (R8, R8A, R8B, R7A, R7B, R8X); Commercial (C1-3, C1-4, C2-4)	No change

Attach any additional information as may be needed to describe the project.

If your project involves changes that affect one or more sites not associated with a specific development, it is generally appropriate to include total development projections in the above table and attach separate tables outlining the reasonable development scenarios for each site.

PART II: TECHNICAL ANALYSIS

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, provide additional analyses (and attach supporting information, if needed) based on guidance in the *CEQR Technical Manual* to determine whether the potential for significant impacts exists. Please note that a "yes" answer does not mean that EIS must be prepared—it means that more information may be 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
1. *LAND USE, ZONING AND PUBLIC POLICY:* *CEQR Technical Manual, Chapter 4* **See Attachment B, "Land Use, Zoning, and Public Policy."**		
(a) Would the proposed project result in a change in land use different from surrounding land uses?	☐	■
(b) Would the proposed project result in a change in zoning different from surrounding zoning?	☐	■
(c) Is there the potential to affect an applicable public policy?	☐	■
(d) If "yes" to (a), (b), and/or (c), complete a preliminary assessment and attach.		
(e) Is the project a large, publicly sponsored project?	☐	■
o If "yes," complete a PlaNYC assessment and attach.		
(f) Is any part of the directly affected area within the City's Waterfront Revitalization Program boundaries?	☐	■
o If "yes," complete the Consistency Assessment Form.		
2. *SOCIOECONOMIC CONDITIONS:* *CEQR Technical Manual, Chapter 5* **See screening analyses starting on Page 9a.**		
(a) Would the proposed project:		
• Generate a net increase of more than 200 residential units or 200,000 square feet of commercial space?	☐	■
o If "yes," answer questions 2(b)(ii) and 2(b)(iv) below.		
• Directly displace 500 or more residents?	☐	■
o If "yes," answer questions 2(b)(i), 2(b)(iii), and 2(b)(iv) below.		
• Directly displace more than 100 employees?	☐	■
o If "yes," answer questions under 2(b)(iii) and 2(b)(iv) below.		
• Affect conditions in a specific industry?	☐	■
o If "yes," answer question 2(b)(v) below.		
(b) If 'Yes' to any of the above, attach supporting information to answer the relevant questions. If 'No' was checked for each category above, the remaining questions in this technical area do not need to be answered.		
I. *Direct Residential Displacement*		
o If more than 500 residents would be displaced, would these displaced represent more than 5% of the primary study area population?		
o 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?		
II. *Indirect Residential Displacement*		
o Would expected average incomes of the new population exceed the average incomes of the study area populations?		
o If "yes:"		
▪ Would the population of the primary study area increase by more than 10 percent?		
▪ Would the population of the primary study area increase by more than 5 percent in an area where there is the potential to accelerate trends toward increasing rents?		
o If "yes," to either of the preceding questions, would more than 5 percent of all housing units be renter-occupied and unprotected?		

	YES	NO
iii. *Direct Business Displacement*		
○ Do any of the displaced businesses provide goods or services that otherwise would not be found within the trade area, either under existing conditions or in the future with the proposed project?		
○ Is any category of business to be displaced the subject of other regulations or publicly adopted plans to preserve, enhance, or otherwise protect it?		
iv. *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, potentially resulting in vacancies and disinvestment on neighborhood commercial streets?		
v. *Affects 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* **See screening analyses starting on Page 9a.**		
(a) Direct Effects		
○ Would the project directly eliminate, displace, or alter public or publicly funded community facilities such as educational facilities, libraries, health care facilities, day care centers, police stations, or fire stations?	☐	■
(b) Indirect Effects		
i. *Child Care Centers*		
○ Would the project result in 20 or more eligible children under age 6, based on the number of low or low/moderate income residential units? (See Table 6-1 in Chapter 6)	☐	■
○ If "yes," would the project result in a collective utilization rate of the group child care/Head Start centers in the study area that is greater than 100 percent?		
ii. *Libraries*		
○ Would the project result in a 5 percent or more increase in the ratio of residential units to library branches? (See Table 6-1 in Chapter 6)	☐	■
○ If "yes," would the project increase the study area population by 5 percent or more from the No-Action levels?		
○ If "yes," would the additional population impair the delivery of library services in the study area?		
iii. *Public Schools*		
○ Would the project result in 50 or more elementary or middle school students, or 150 or more high school students based on number of residential units? (See Table 6-1 in Chapter 6)	☐	■
○ If "yes," 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 100 percent?		
○ If "yes," would the project increase this collective utilization rate by 5 percent or more from the No-Action scenario?		
iv. *Health Care Facilities*		
○ Would the project result in the introduction of a sizeable new neighborhood?	☐	■
○ If "yes," would the project affect the operation of health care facilities in the area?		
v. *Fire and Police Protection*		
○ Would the project result in the introduction of a sizeable new neighborhood?	☐	■
○ If "yes," would the project affect the operation of fire or police protection in the area?		
4. *OPEN SPACE:* *CEQR Technical Manual, Chapter 7* **See screening analyses starting on Page 9a.**		
(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 located within an area that is neither underserved nor well-served, would it generate more than 200 additional residents or 500 additional employees?		
(g) If "yes" to questions (c), (e), or (f) above, attach supporting information to answer the following:		
○ If in an underserved area, would the project result in a decrease in the open space ratio by more than 1 percent?		
○ If in an area that is not under-served, would the project result in a decrease in the open space ratio by more than 5 percent?		
○ If "yes," are there qualitative considerations, such as the quality of open space, that need to be considered? Please specify:		

	YES	NO
5. *SHADOWS:* *CEQR Technical Manual, Chapter 8.* **See Attachment C, "Shadows."**		
(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. **See Attachment B, "Shadows"**		
6. *HISTORIC AND CULTURAL RESOURCES:* *CEQR Technical Manual, Chapter 9* **See Attachment D, "Historic and Cultural Resources."**		
(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; that is listed or eligible for listing on the New York State or National Register of Historic Places; or that is within a designated or eligible New York City, New York State, or National Register Historic District? (See the GIS System for Archaeology and National Register to confirm.)	■	□
(b) Would the proposed project involve construction resulting in in-ground disturbance to an area not previously excavated?	■	□
(c) If "yes" to either of the above, list any identified architectural and/or archaeological resources and attach supporting information on whether the proposed project would potentially affect any architectural or archaeological resources. **See Attachment D, "Historic and Cultural Resources."**		
7. *URBAN DESIGN AND VISUAL RESOURCES:* *CEQR Technical Manual, Chapter 10* **See Attachment E, "Urban Design and Visual Resources."**		
(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 not currently allowed by existing zoning?	□	■
(c) If "yes" to either of the questions above, please provide the information requested in Chapter 10. **See Attachment E, "Urban Design and Visual Resources."**		
8. *NATURAL RESOURCES:* *CEQR Technical Manual, Chapter 11* **See screening analyses starting on Page 9a.**		
(a) 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 and attach supporting information on whether the proposed project would affect any of these resources.		
(b) Is any part of the directly affected area within the Jamaica Bay Watershed?	□	■
○ If "yes," complete the Jamaica Bay Watershed Form and submit according to its instructions.		
9. *HAZARDOUS MATERIALS:* *CEQR Technical Manual, Chapter 12* **See Attachment F, "Hazardous Materials."**		
(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) Would the project require soil disturbance in a manufacturing area or any development on or near a manufacturing area or existing/historic facilities listed in Appendix 1 (including nonconforming uses)?	■	□
(d) Would 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) Would the project result in development on or near a site that has or had underground and/or aboveground storage tanks (e.g., gas stations, oil storage facilities, heating oil storage)?	■	□
(f) Would the project result in renovation of interior existing space on a site with the potential for compromised air quality; vapor intrusion from either on-site or off-site sources; or the presence of asbestos, PCBs, mercury, or lead-based paint?	□	■
(g) Would the project result in development on or near a site with potential hazardous materials issues such as government-listed voluntary cleanup/brownfield site, current or former power generation/transmission facilities, coal gasification or gas storage sites, railroad tracks or rights-of-way, or municipal incinerators?	□	■
(h) Has a Phase I Environmental Site Assessment been performed for the site?	■	□
○ If "yes," were Recognized Environmental Conditions (RECs) identified? Briefly identify: **Historical fuel oil use on-site; historical medical laboratory on-site; historical cleaner/dyer, historical paint shops, hospital (with spills and hazardous waste listings), and hazardous waste generator in the vicinity of the site.**		
(i) Based on the Phase I Assessment, is a Phase II Assessment needed?	■	□
10. *WATER AND SEWER INFRASTRUCTURE:* *CEQR Technical Manual, Chapter 13* **See screening analyses starting on Page 9a.**		
(a) Would the project result in water demand of more than one million gallons per day?	□	■
(b) If the proposed project is located in a combined sewer area, would it 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) If the proposed project is located in a separately sewered area, would it result in the same or greater development than that listed in Table 13-1 in Chapter 13?		
(d) Would the project involve development on a site that is 5 acres or larger where the amount of impervious surface would increase?	□	■
(e) If the project is located within the Jamaica Bay Watershed or in certain specific drain areas, including Bronx River, Coney Island Creek, Flushing Bay and Creek, Gowanus Canal, Hutchinson River, Newtown Creek, or Westchester Creek, would it involve development on a site that is 1 acre or larger where the amount of impervious surface would increase?	□	■
(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 Wastewater Treatment Plant and/or contribute contaminated stormwater to 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 attach supporting documentation.		

	YES	NO
11. *SOLID WASTE AND SANITATION:* *CEQR Technical Manual, Chapter 14* **See screening analyses starting on Page 9a.**		
(a) Using Table 14-1 in Chapter 14, the project's projected operational solid waste generation is estimated to be (pounds per week): ±4,251[1]		
○ 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?	☐	■
○ If "yes," would the proposed project comply with the City's Solid Waste Management Plan?		
12. *ENERGY:* *CEQR Technical Manual, Chapter 15* **See screening analyses starting on Page 9a.**		
(a) Using energy modeling or Table 15-1 in Chapter 15, the project's projected energy use is estimated to be (annual BTUs): ±124,974 Thousand[2]		
(b) Would the proposed project affect the transmission or generation of energy?	☐	■
13. *TRANSPORTATION:* *CEQR Technical Manual, Chapter 16* **See Attachment G, "Transportation."**		
(a) Would the proposed project exceed any threshold identified in Table 16-1 in Chapter 16?	■	☐
(b) If "yes," conduct the appropriate screening analyses, attach back up data as needed for each stage, and answer the following questions:		
○ 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.*		
○ 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?		
○ 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:* *CEQR Technical Manual, Chapter 17* **See Attachment H, "Air Quality."**		
(a) *Mobile Sources:* Would the proposed project result in the conditions outlined in Section 210 in Chapter 17?	☐	■
(b) *Stationary Sources:* Would the proposed project result in the conditions outlined in Section 220 in Chapter 17?	☐	■
○ If 'Yes,' would the proposed project exceed the thresholds in the Figure 17-3, Stationary Source Screen Graph in Chapter 17? (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" to any of the above, conduct the appropriate analyses and attach any supporting documentation. **See Attachment H, "Air Quality."**		
15. *GREENHOUSE GAS EMISSIONS:* *CEQR Technical Manual, Chapter 18* **See screening analyses starting on Page 9a.**		
(a) Is the proposed project a city capital project or a power generation plant?	☐	■
(b) Would the proposed project fundamentally change the City's solid waste management system?	☐	■
(c) Would the proposed project result in the development of 350,000 square feet or more?	■	☐
(d) If "yes" to any of the above, would the project require a GHG emissions assessment based on guidance in Chapter 18?	☐	■
If "yes," would the project result in inconsistencies with the City's GHG reduction goal? (see Local Law 22 of 2008; § 24-803 of the Administrative Code of the City of New York). Please attach supporting documentation.		

[1] The Proposed Development's projected solid waste generation is estimated using the commercial office building rate in Table 14-1 for the Center for Community Health (an outpatient treatment facility with a projected worker population of 327, including 282 hospital workers and 45 building support staff). In the With-Action condition, the Complying Development would have a larger worker population due to building inefficiencies that would require duplication of support spaces and result in an inefficient circulation network. Therefore, solid waste generation would be greater under the No-Action condition compared with the With-Action condition.

[2] The Proposed Development's energy use is estimated using the institutional building rate in Table 15-1, applied to the 498,500 gsf Center for Community Health. In the No-Action condition, the Complying Development would use ±129,868 Thousand BTUs annually. Compared with the No-Action condition, the Proposed Development would result in a decrease of ±4,894 Thousand BTUs annually.

	YES	NO
16. *NOISE:* *CEQR Technical Manual, Chapter 19* **See Attachment I, "Noise."**		
(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) designation or Restrictive Declaration) relating to noise that preclude the potential for significant adverse impacts?	□	■
(e) If "yes" to any of the above, conduct the appropriate analyses and attach any supporting documentation. **See Attachment I, "Noise."**		
17. *PUBLIC HEALTH:* *CEQR Technical Manual, Chapter 20* **See screening analyses starting on Page 9a.**		
(a) Based upon the analyses conducted, do any of the following technical areas require a detailed analysis: Air Quality, Hazardous Materials, Noise?	□	■
(b) If "yes," explain why an assessment of public health is or is not warranted based on the guidance in Chapter 20, "Public Health." Attach a preliminary analysis, if necessary.		
18. *NEIGHBORHOOD CHARACTER:* *CEQR Technical Manual, Chapter 21* **See Attachment J, "Neighborhood Character."**		
(a) Based upon the analyses conducted, do any of the following technical areas require 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 why an assessment of neighborhood character is or is not warranted based on the guidance in Chapter 21, "Neighborhood Character." Attach a preliminary analysis, if necessary.		
19. *CONSTRUCTION:* *CEQR Technical Manual, Chapter 22* **See Attachment K, "Construction."**		
(a) Would the project's construction activities involve:		
○ Construction activities lasting longer than two years?	■	□
○ Construction activities within a Central Business District or along an arterial or major thoroughfare?	□	■
○ 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 a community facility or disruption in its service?	□	■
○ Activities within 400 feet of a historic or cultural resource?	■	□
○ Disturbance of a site containing or adjacent to a site containing natural resources?	□	■
○ Construction on multiple development sites in the same geographic area, such that there is the potential for several construction timelines to overlap or last more than two years overall?	□	■
(b) If any boxes are checked "yes," explain why a preliminary construction assessment is or is not warranted based on the guidance in Chapter 22, "Construction." It should be noted that the nature and extent of 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.		

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 of 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 applicant or representative of the entity that seeks the permits, approvals, funding, or other governmental action(s) described in this EAS.

APPLICANT/REPRESENTATIVE NAME: STEPHEN JAMES HOLLEY, VP, AKRF, INC. SIGNATURE: [signature] DATE: 10/15/2013

PLEASE NOTE THAT APPLICANTS 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.

Additional Technical Information for EAS Part II

A. LAND USE, ZONING, AND PUBLIC POLICY

See Attachment B.

B. SOCIOECONOMIC CONDITIONS

The socioeconomic character of an area includes its population, housing, and economic activity. According to the *CEQR Technical Manual*, a socioeconomic assessment should be conducted if a project may reasonably be expected to create substantial socioeconomic changes within the area affected by the project that would not occur in the absence of the project. Projects that would trigger a CEQR analysis include the following:

- Direct displacement of a residential population so that the socioeconomic profile of the neighborhood would be substantially altered. Displacement of less than 500 residents would not typically be expected to affect socioeconomic conditions in a neighborhood.
- Direct displacement of more than 100 employees; or the direct displacement of a business or institution that is unusually important as follows: it has a critical social or economic role in the community, it would have unusual difficulty in relocating successfully, it is of a type or in a location that makes it the subject of other regulations or publicly adopted plans aimed at its preservation, it serves a population uniquely dependent on its services in its present location, or it is particularly important to neighborhood character.
- Introduction of substantial new development that is markedly different from existing uses, development, and activities within the neighborhood. Such an action could lead to indirect displacement. Residential development of 200 units or fewer or commercial development of 200,000 square feet or less would typically not result in significant socioeconomic impacts.
- Projects that are expected to affect conditions within a specific industry, such as a citywide regulatory change that could adversely impact the economic and operational conditions of certain type of businesses.

The Proposed Development would result in the direct displacement of 82 occupied residential units (including 6 low-income rent controlled units), all of which are owned by NYM and the occupants of which are on short-term leases. NYM anticipates relocating residents from the Proposed Development Site to either the existing Wesley House on the same block–a building that is largely used for hospital-related housing and other hospital related activities, or to other comparable apartments. Any direct residential displacement occurring as a result of the Proposed Development does not meet the threshold requiring further analysis under CEQR.

The Proposed Development would displace approximately 55,584 sf of NYM-owned institutional space that is primarily tenanted with hospital-related uses such as outpatient treatment facilities and doctors' offices. During construction of the Proposed Development, all existing NYM uses would be relocated to other portions of the hospital campus, with these uses ultimately relocated either to the new ambulatory care facility or elsewhere on the NYM campus.

The Proposed Development would result in the development of a new ambulatory care facility within the existing NYM campus and therefore would not introduce uses that are markedly different from existing uses or activities in the neighborhood. The Proposed Development would not introduce any residents or result in any commercial development. Therefore, the Proposed Development does not meet the threshold for further analysis and would not result in any significant adverse impacts on socioeconomic conditions.

C. COMMUNITY FACILITIES

The *CEQR Technical Manual* states that a community facilities assessment is appropriate if an action would have a direct effect on a community facility, or if it would have an indirect effect by introducing new populations that would overburden existing facilities.

As explained below, the Proposed Development would not result in significant indirect effects on community facilities and services, such as public schools, libraries, hospitals, child care centers, or police and fire protection.

- Schools: The *CEQR Technical Manual* specifies that if a proposed action introduces more than 50 elementary and/or intermediate school students or 150 or more high school students who are expected to attend public schools, there may be a significant impact to educational facilities. The Proposed Development would not generate any residential units. Therefore, no further analysis is warranted.
- Libraries: The *CEQR Technical Manual* recommends an analysis of potential impacts to libraries if an action would increase the service population by more than 5 percent. The Proposed Development would house approximately 327 workers, 175 of whom would be relocated from elsewhere on the hospital campus, and would not generate any new residents. Therefore, further analysis is not necessary, and it is expected that there would be no significant adverse impacts to libraries.
- Health Care Facilities: The *CEQR Technical Manual* recommends an analysis of potential indirect impacts to public health care facilities if an action would introduce a sizeable new neighborhood where none existed before. The Proposed Development would not generate any new residents. Therefore, further analysis is not necessary, and the Proposed Development would not result in significant adverse impacts to health care facilities.
- Child Care Facilities: The *CEQR Technical Manual* recommends an analysis of potential impacts to publicly funded group child care and Head Start centers if an action would generate more than 20 eligible children under age 6 and living in low/moderate-income residential units. As noted above, the Proposed Development would not generate any new low- or moderate-income residential units, and therefore further analysis is not necessary.
- Police and Fire Protection: The Proposed Development would not result in the direct displacement of a police or fire station, nor would it introduce a sizeable new neighborhood. Therefore, no further analysis is necessary.

The Proposed Development would have a direct effect on the NYM campus, an important community and regional healthcare facility. However, the modifications to the NYM campus that would result from the Proposed Development would not affect health care facilities on the campus and would be considered positive. The Proposed Development would allow NYM to construct flexible and functionally efficient space for new ambulatory care facilities to serve the hospital's growing patient population. In addition, the consolidation of outpatient facilities and faculty physician practices in the Proposed Development, relocated from other parts of the NYM campus, would allow for the expansion and repositioning of inpatient facilities in the hospital's existing buildings. Therefore, although the Proposed Development would affect the NYM campus, it would not result in a significant adverse impact, and no further analysis is necessary.

D. OPEN SPACE

The *CEQR Technical Manual* requires an analysis of potential impacts on open space when a project would have a direct effect on open space, or when it would have an indirect effect by generating: more than 50 residents or 125 workers in an area identified as underserved for open space resources; more than 350 residents or 750 workers in an area identified as well-served; or more than 200 residents or 500 employees in an area not identified as either underserved or well-served for open space resources.

The Proposed Development Site does not contain any open space, and therefore, the Proposed Development would not have a direct effect on open space. The Proposed Development is located in an area of Brooklyn that is considered well-served by existing open space resources. The Proposed Development would be staffed by approximately 327 workers, including 282 hospital staff and 45 building support staff. Of the 327 workers, 175 would be relocated from elsewhere on the NYM campus and 152 would be new or transferred from NYM facilities outside of the main campus. The Proposed Development does not meet the threshold requiring further analysis and, therefore, would not be expected to have the potential to result in significant adverse open space impacts.

E. SHADOWS

See Attachment C.

F. HISTORIC AND CULTURAL RESOURCES

See Attachment D.

G. URBAN DESIGN AND VISUAL RESOURCES

See Attachment E.

H. NATURAL RESOURCES

An assessment of natural resources 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 Proposed Development Site. Rather, the study area is characterized by commercial, residential, and institutional development. As there are no natural resources present on or near the Proposed Development Site, the Proposed Development would not result in a significant adverse natural resource impact.

I. HAZARDOUS MATERIALS

See Attachment F.

J. WATER AND SEWER INFRASTRUCTURE

A CEQR water and sewer infrastructure assessment analyzes whether a project may adversely affect the City's water distribution or sewer system and, if so, assess the effects of such projects to determine whether their impact is significant, and present potential mitigation strategies and alternatives. According to the *CEQR Technical Manual*, only projects that increase density or change drainage conditions on a large site require a water and sewer infrastructure analysis.

A water supply assessment would be required for projects with an exceptionally large demand for water (over 1 million gallons per day) or for projects located in an area that experiences low water pressure (such as Coney Island and the Rockaway Peninsula). In addition, a wastewater and storm water conveyance and treatment analysis would be necessary if the project:

- Is located in a combined sewer area and would result in over 1,000 residential units or 250,000 sf of commercial use in Manhattan, or 400 residential units or 150,000 sf of commercial use in all other boroughs;
- Is located in a separately sewered area and would exceed: 25 residential units or 50,000 sf of commercial use in R1, R2, or R3 districts; 50 residential units or 100,000 sf of commercial use in R4 or R5 districts; 100 residential units or 100,000 sf of commercial use in all other zoning districts;
- Is located in an area that is partially sewered or currently unsewered;
- Involves development on a site 5 acres or larger where the amount of impervious surface would increase;
- Would involve development on a site 1 acre or larger where the amount of impervious surface would increase and is located in the Jamaica Bay watershed or specific drainage areas (Bronx River, Coney Island Creek, Flushing Bay and Creek, Gowanus Canal, Hutchison River, Newtown Creek, Westchester Creek); or
- Would involve construction of a new storm water outfall that requires federal and/or state permits.

The proposed Center for Community Health, an institutional use, would result in water consumption of approximately 134,595[1] gallons of water per day (gpd), which is well below the 1 million gpd threshold set forth in the *CEQR Technical Manual*. In addition, water consumption for the Proposed Development would be approximately 5,270 gpd less than under the Complying Development. The NYM campus is served by the Owls Head Wastewater Treatment Plant (WWTP), which has a capacity of 120 MGD. DEP records indicate that the Owl's Head WWTP is operating below its capacity (at an average of 96 MGD from September 2012 through August 2013), and the incremental sewage generated by the Proposed Development would not result in exceedances of this capacity. The Proposed Development Site is currently

[1] Based on 0.10 gallons per day (gpd) domestic and 0.17 gpd air conditioning. From Table 13-2 of the *CEQR Technical Manual*.

developed and, thus, would not result in development of a site 5 acres or larger where the amount of impervious surface would increase. The Proposed Development would also not require the construction of a new storm water outfall. Therefore, the Proposed Development would not result in any significant impacts on water and sewer infrastructure, and no further analysis is necessary.

K. SOLID WASTE AND SANITATION SERVICES

The Proposed Development would be expected to generate approximately 4,251[1] pounds of solid waste per week. The Complying Development would require a larger worker population and therefore would result in more solid waste compared to the Proposed Development. The solid waste generated by the Proposed Development would not significantly increase the demand for solid waste and sanitation services and, therefore, would not result in any significant impacts on solid waste and sanitation services, and no further analysis is necessary.

L. ENERGY

As described in the *CEQR Technical Manual*, all new structures requiring heating and cooling are subject to the New York City Energy Conservation Code. Therefore, the need for a detailed assessment of energy impacts would be limited to projects that may significantly affect the transmission or generation of energy. The Proposed Development would not significantly affect the transmission or generation of energy. The Proposed Development would be expected to require approximately 124,974[2] thousand MBTUs per year, approximately 4,894 thousand MBTUs fewer than for the Complying Development. Therefore, the Proposed Development would not be expected to result in any significant impacts to energy generation or transmission, and no further analysis is necessary.

M. TRANSPORTATION

See Attachment G.

N. AIR QUALITY

See Attachment H.

O. GREENHOUSE GAS EMISSIONS

Increased greenhouse gas (GHG) emissions are changing the global climate, which is predicted to lead to wide-ranging effects on the environment, including rising sea levels, increases in temperature, and changes in precipitation levels. According to the *CEQR Technical Manual*, GHG assessments are appropriate for projects with the greatest potential to produce GHG emissions that may result in inconsistencies with the City's GHG reduction goal to a degree considered significant. In addition, actions that fundamentally change the City's waste management system, such as city capital projects, power generation projects, and regulations, may also need to be analyzed. The Proposed Development would not be expected to produce GHG emissions of a level inconsistent with the City's GHG reduction goal, nor would it change the City's waste management system. Furthermore, a GHG emissions assessment is not warranted for projects that do not require preparation of an Environmental Impact Statement (EIS), such as the proposed action. Therefore, no further analysis is warranted, and the Proposed Development would not be expected to result in any significant adverse impacts related to GHG emissions.

P. NOISE

See Attachment I.

Q. PUBLIC HEALTH

According to the *CEQR Technical Manual*, public health involves the activities that society undertakes to create and maintain conditions in which people can be healthy. Public health may be jeopardized by poor air quality resulting from

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[1] Based on 13 pounds per week per employee for office buildings. From Table 14-1 of the *CEQR Technical Manual*.

[2] Based on average annual usage of 250.7 thousand British Thermal Units (BTUs) per square foot (institutional) and 216.3 thousand BTUs per square foot (commercial) from Table 15-1 of *CEQR Technical Manual*).

traffic or stationary sources, hazardous materials in soil or groundwater used for drinking water, significant adverse impacts related to noise or odors, solid waste management practices that attract vermin and pest populations. Detailed public health analysis is warranted for projects with identified unmitigated adverse impacts in air quality, water quality, hazardous materials, or noise.

The Proposed Development is not expected to result in any significant adverse impacts to air quality, water quality, hazardous materials, or noise. No exceedance of federal, state, or city standards would occur as a result of the proposed action. Therefore, the Proposed Development would not result in any significant adverse impacts to public health, and no further analysis is warranted.

R. NEIGHBORHOOD CHARACTER

See Attachment J.

S. CONSTRUCTION

See Attachment K.

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 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

IMPACT CATEGORY	Potential Significant Adverse Impact YES	NO
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	☐	☐

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? ☐ YES ☐ NO

If there are such impacts, attach an explanation stating whether, as a result of them, the project may have a significant impact on the environment.

3. Check determination to be issued by the lead agency:

☐ **Positive Declaration:** If the lead agency has determined that the project may have a significant impact on the environment, and if a Conditional Negative Declaration is not appropriate, then the lead agency issues a *Positive Declaration* and prepares a draft Scope of Work for the Environmental Impact Statement (EIS).

☐ **Conditional Negative Declaration:** A *Conditional Negative Declaration* (CND) may be appropriate if there is a private applicant for an Unlisted action AND when conditions imposed by the lead agency will modify the proposed project so that no significant adverse environmental impacts would result. The CND is prepared as a separate document and is subject to the requirements in 6 NYCRR Part 617.

☐ **Negative Declaration:** If the lead agency has determined that the project would not result in potentially significant adverse environmental impacts, then the lead agency issues a *Negative Declaration*. The *Negative Declaration* may be prepared as a separate document (see template) or using the embedded Negative Declaration on the next page

4. LEAD AGENCY'S CERTIFICATION

TITLE	LEAD AGENCY	
NAME	SIGNATURE	DATE

Statement of No Significant Effect

Pursuant to Executive Order 91 of 1977, as amended, and the Rules of Procedure for City Environmental Quality Review, found at Title 62, Chapter 5 of the Rules of the City of New York and 6NYCRR, Part 617, State Environmental Quality Review, the Board of Standards and Appeals assumed the role of lead agency for the environmental review of the proposed project. Based on a review of information about the project contained in this environmental assessment statement and any attachments hereto, which are incorporated by reference herein, the lead agency has determined that the proposed project would not have a significant adverse impact on the environment.

Reasons Supporting this Determination

The above determination is based on information contained in this EAS that finds, because the proposed project:

No other significant effects upon the environment that would require the preparation of a Draft Environmental Impact Statement are foreseeable. This Negative Declaration has been prepared in accordance with Article 8 of the New York State Environmental Conservation Law (SEQRA).

TITLE	LEAD AGENCY	
NAME	SIGNATURE	DATE

A. INTRODUCTION

The New York Methodist Hospital (NYM) is requesting waivers of certain provisions of the New York City Zoning Resolution to facilitate the development of a new ambulatory care facility, the Center for Community Health (the "Proposed Development") at 505-541 6th Street (502-522 8th Avenue and 512-520 5th Street) in Brooklyn, NY (the "Proposed Development Site," see **Figure A-1**). The Proposed Development Site is part of the larger NYM campus, which occupies two adjacent blocks bounded by 5th Street and 7th Street, and 7th Avenue and 8th Avenue.

B. BACKGROUND ON NEW YORK METHODIST HOSPITAL

NYM is a voluntary, acute-care teaching hospital founded in 1881 in Park Slope, Brooklyn. It is affiliated with Weill Cornell Medical College, one of the nation's leading medical schools, and is a member of the New York-Presbyterian Healthcare System. NYM's main campus is located on two adjacent blocks bounded by 7th Avenue, 5th Street, 8th Avenue, and 7th Street in Brooklyn. The hospital's main campus contains 651 beds and admits over 40,000 inpatients each year and logs an additional 350,000 outpatient visits annually. During the past 20 years, NYM has enjoyed growth in all services and has more than doubled its inpatient volume.

New York Methodist is a major teaching hospital with ten graduate medical education programs and five schools that provide training in allied health professions through its affiliation with the Weill Cornell Medical College. Medical students, residents, and fellows across many specialties including primary care, surgery, pediatrics, obstetrics and gynecology, anesthesiology, and emergency medicine receive focused training in clinical settings that teach these new clinicians to feel comfortable practicing medicine in any setting. The Hospital's experienced faculty not only supervises and educates these young doctors at the patient bedside, but also promotes learning through weekly conferences and rounds, including professional rounds, morbidity and mortality conferences, journal club, quality improvement seminars, subspecialty seminars, book reviews and service rounds.

C. PURPOSE AND NEED OF THE PROPOSED PROJECT

NYM has a programmatic need for adequate and appropriate space for ambulatory care facilities, located on its main campus. As the nation's healthcare system has evolved over the past two decades—with advances in technology, an aging population, and shifting economic forces—medical treatment has transitioned increasingly from inpatient to outpatient care. Currently, NYM lacks the amount and type of space it needs to provide state-of-the-art ambulatory care to its growing patient population.

The shift toward outpatient care is being experienced throughout the healthcare industry. Medical and surgical innovations, combined with the increasing expenses involved in a hospital

New York Methodist Center for Community Health

Project Location
Figure A-1

stay, make it essential that hospitals provide inpatient care only when that care cannot be rendered in any other setting. More and more medical conditions are being effectively treated without an overnight hospital stay or with a hospital stay that is significantly shorter than would have been required just a few years ago.

This transition is related to other trends. Major surgical procedures that require days or weeks of inpatient hospital follow-up care are increasingly being replaced by minimally invasive procedures, which can often be performed on an outpatient basis. Such procedures, although representing state-of-the-art medical care, require space that exceeds the size of current operating rooms because of the need for specialized equipment. Imaging devices and robotic systems, for example, are often large and may require additional personnel to operate them. NYM's existing facilities are incapable of meeting this need.

NYM has a particular need for appropriate, modern space for its radiation oncology center. The radiation oncology center has long been recognized for its excellence, in large part because of NYM's continuing investment in its treatment facilities. NYM was a pioneer in the use of stereotactic radiotherapy and has acquired state-of-the-art technologies for intensity modulated radiation therapy, brachytherapy, and three-dimensional conformal radiotherapy. These modern technologies, however, are currently housed in the basement of a 1950s-era campus building that cannot accommodate the types of amenities that are appropriate for cancer patients—many of whom visit NYM on a daily basis over a period of several weeks. The Center for Community Health would allow NYM to provide its patients with levels of comfort and convenience that are standard in the medical industry today and to expand services to include additional advanced technologies, such as respiratory gated 4-dimensional stereotactic radiotherapy for lung and liver cancers and intraoperative brachytherapy for breast cancer.

The medical industry's emerging focus on prevention, healing, and chronic care, efficiently delivered in an ambulatory care setting, has required a greater integration of primary and specialty care. This model, along with changes in insurance reimbursement systems, has led an increasing number of physicians to switch from private practice to institution-partnered practices. In part because of its affiliation with the New York-Presbyterian Healthcare System and its ability to offer clinical faculty positions at the Weill Cornell Medical College, NYM has been able to attract highly qualified faculty physicians with training and expertise in numerous specialties. Today, NYM is affiliated with more than 1,400 doctors and allied health professionals, including over 200 faculty physicians. As NYM continues to integrate and build patient-centered primary care in local communities (keeping care accessible and convenient to the patient), this growth leads to an increased demand for more advanced, specialty care and a need for additional state-of-the-art space for offices, examination rooms, and treatment/procedure rooms for faculty physicians and other doctors. These specialty facilities must be consolidated in a location that is proximate to NYM's other medical care facilities so that faculty physicians have efficient access to needed equipment and enhanced opportunities for collaboration.

NYM also has a need for modern inpatient facilities. The consolidation of outpatient facilities and faculty physician practices in the Center, relocated from other parts of the NYM campus, would allow for the renovation and repositioning of inpatient facilities in NYM's existing buildings. Specifically, shared patient rooms would be replaced with private rooms, which are now the standard of care for inpatients. Inpatient rooms on campus may also be enlarged to remain up-to-date with applicable standards and to provide more light and air to patients. Additionally, with the outpatients no longer sharing inpatient testing and treatment areas, there

would be increased efficiency in inpatient care, as many tests and treatments would be completed in a timelier manner. Support spaces, including dedicated patient and service elevators and storage and maintenance space, would be expanded as well. These critically needed updates and modernizations to existing inpatient facilities cannot occur without the construction of the Center for Community Health.

D. PROJECT DESCRIPTION

PROJECT SITE

The Proposed Development Site is located on the eastern portion of the northern block of the NYM campus, with frontages on 6th Street, 5th Street, and 8th Avenue. The site is part of a zoning lot that consists of the parcels located at 505-541 6th Street (502-522 8th Avenue and 512-520 5th Street), which are designated as Block 1084, Lots 25, 26, 28, 39 through 44, 46, 48, 50 through 59, 164, 1001, and 1002 (the "Zoning Lot," see **Figure A-2**). There are a series of contiguous out-parcels fronting on 5th Street which are not part of the Zoning Lot and give the Proposed Development Site a U-shape.

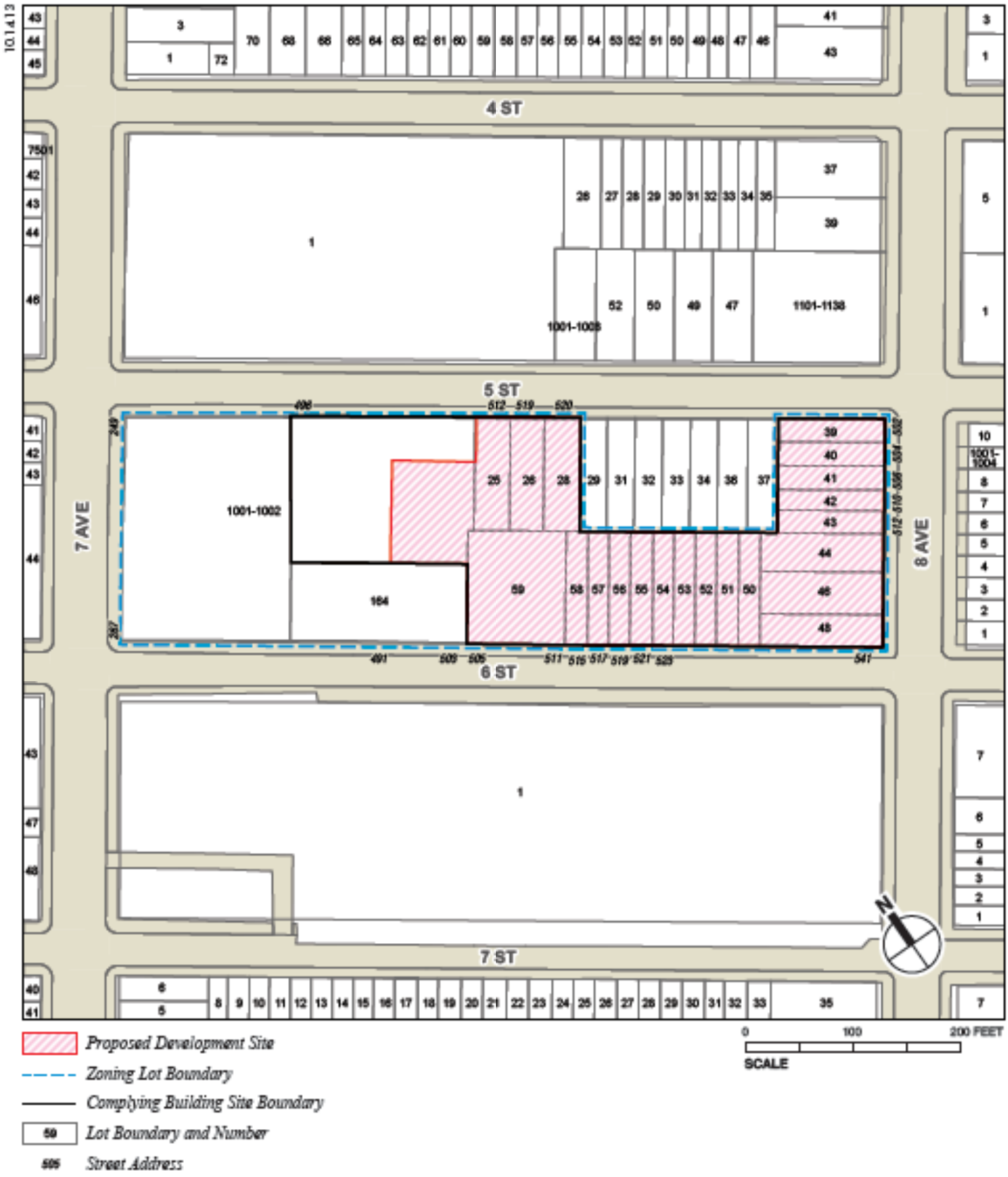
The Proposed Development Site is currently occupied by NYM-owned low-rise buildings, originally constructed as walk-up residences, and a parking lot, all of which would be demolished in connection with the construction of the Center for Community Health. The remainder of the Zoning Lot to the west is occupied by two NYM buildings to remain: the Medical Pavilion, a five-story building fronting on 7th Avenue with a below-grade and surface parking facility, accessible from existing curb cuts on 5th Street; and the Wesley House, a 12-story building on 6th Street. These buildings are both on a site that was the subject of a variance and special permit granted by the Board of Standards and Appeals (BSA) on January 11, 1994, which waived applicable height and setback, parking, loading, and curb cut regulations to allow the construction of the Medical Pavilion and the parking facility (BSA Cal. No. 142-92-BZ).

The Zoning Lot is located in an R6 zoning district (a portion of which has a C1-1 overlay), an R6B zoning district, and an R7B zoning district. The Proposed Development Site, which comprises a majority of the Zoning Lot's lot area, is located in the same residential districts but outside of the commercial overlay. The Proposed Development Site is constrained by a number of unique physical conditions. It is the only site on the NYM campus that is available for new construction and which allows the proposed Center for Community Health to be located proximate to NYM's existing clinical facilities. The remainder of the Zoning Lot to the west is occupied by existing NYM buildings, which must remain to allow the hospital to continue to operate effectively. The out-parcels on 5th Street give the Proposed Development Site an irregular configuration, which in turn constrains the dimensions of the Center's footprint and floor plates. Further, the Zoning Lot has significant sloping conditions, which impede the ability to create appropriate physical connections between buildings on the block and, when combined with the application of height and setback, lot coverage, and rear yard regulations, constrain the floor plate dimensions and configuration of a building on the Proposed Development Site.

PROPOSED DEVELOPMENT

PROGRAMMING

With the proposed BSA variances, the planned expansion of and upgrade to NYM's facilities would proceed with a Proposed Development that would provide space for both healthcare



Proposed Development and Complying Building Sites

Figure A-2

services relocated from the NYM facilities on the southern portion of the campus and new services, such as a new outpatient urgent care center.

The Proposed Development would satisfy NYM's needs by providing an ambulatory surgery center with 12 contiguous operating rooms; a new endoscopy suite with six special procedure rooms; a cancer center with both radiation oncology and chemotherapy facilities; diagnostic radiology services; physician practice offices; an urgent care center; and conference rooms. These facilities would be located on large floor plates that allow for adjacencies, thereby promoting comprehensive, coordinated caregiving and the efficient provision of services, as well as providing for future flexibility in programming as healthcare standards and NYM's needs change. The Proposed Development would also contain an accessory pharmacy and a two-level below-grade parking garage with 539 spaces.

STRUCTURE AND STREETSCAPE

The Proposed Development would contain a total of 498,500 gsf (corresponding to approximately 311,040 zsf). The building would be seven stories tall, plus two mechanical levels, with a total height (including elevator and stair bulkheads) of approximately 152 feet. As shown in **Figures A-3 and A-4**, the taller portion of the Proposed Development would face 6th Street and step down to extend to 5th Street in the midblock area. A shorter (6-story) wing, which steps down to 4-stories, would be built on the eastern side of the Proposed Development Site facing 8th Avenue.

The Proposed Development would not include significant new construction over the existing parking garage on the property because of construction challenges associated with such development. Instead, the area would be occupied by loading dock facilities, a boiler plant, and a green roof to provide a visual amenity for NYM visitors.

Figures A-5 through A-8 show the anticipated floor plans for the Proposed Development's ground floor through seventh floor. The eastern and western wings of Proposed Development's U-shaped floor plates would have dimensions of approximately 95 feet by 195 feet, which are necessary to accommodate the surgical suite's 12 operating rooms, at approximately 550 square feet each, on the third floor. This floor plate also accommodates the associated Central Sterile Services on the floor immediately below the surgical suite, and the patient preparation and recovery facilities, consisting of 10 dedicated preparation rooms and 18 dedicated recovery rooms, on the floor immediately above. The surgical suite, Central Sterile Services, and patient preparation and recovery facilities would be serviced by dedicated elevators to provide efficient and controlled connections. These adjacencies would promote efficient communication and coordination among caregivers, minimize travel distances for doctors, nurses, and patients, and minimize the duplication of support functions. The building's floor plate dimensions are also necessary to provide the required area and adjacencies for the new NYM cancer center, which would contain 60 infusion rooms and support space, on the sixth floor.

The Proposed Development would have two visitor entrances, a main entrance at mid-block on 6th Street and a secondary entrance at the corner of 8th Avenue and 6th Street (see **Figure A-9**). The 6th Street entrance would be served by a protected vehicular driveway, interior to the block and accessible by a curb cut on 6th Street, which would provide direct pick-up and drop-off access to the building's lobby and central elevators. The driveway would run beneath the Proposed Development Site in a loop for its entire north-south length, providing curbside covered spaces for standing vehicles so as to prevent queuing on 6th Street. Vehicles that access the site by the driveway would be able to continue along the loop and exit on 6th Street or

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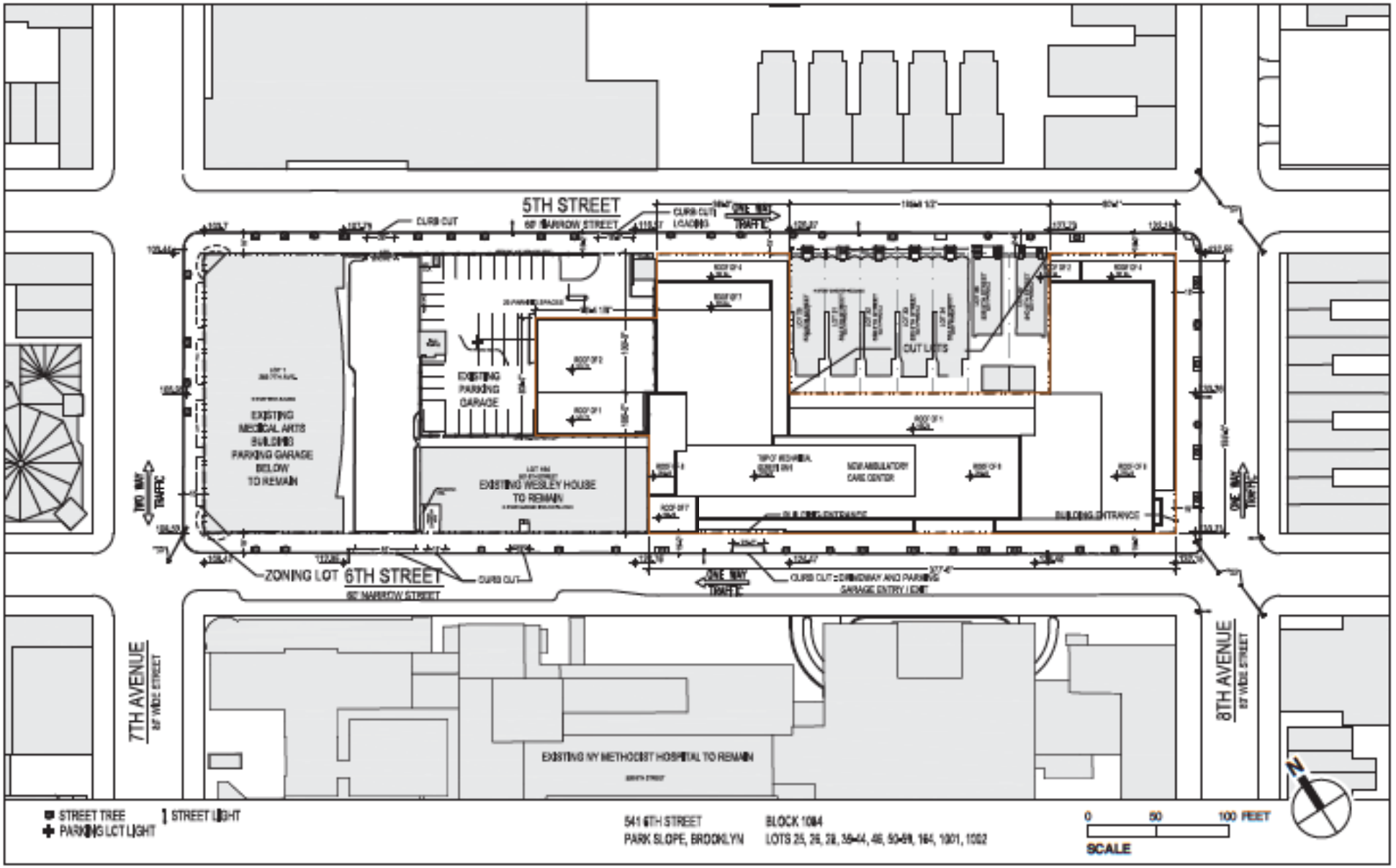

Zoning Lot Boundary

Proposed Development Site Plan
(Preliminary Drawing – For Illustrative Use Only)

Figure A-3

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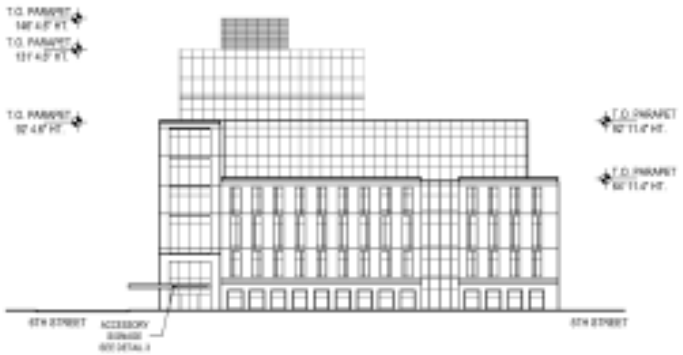
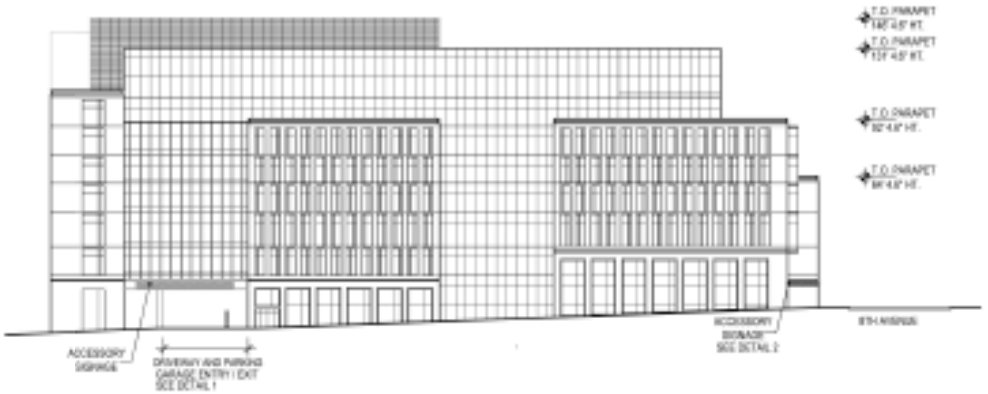


EAST ELEVATION (8TH AVE.)



SOUTH ELEVATION (6TH ST.)

WEST ELEVATION

NORTH ELEVATION (5TH ST.)

Proposed Development Elevations
(Preliminary Drawing – For Illustrative Use Only)
Figure A-4

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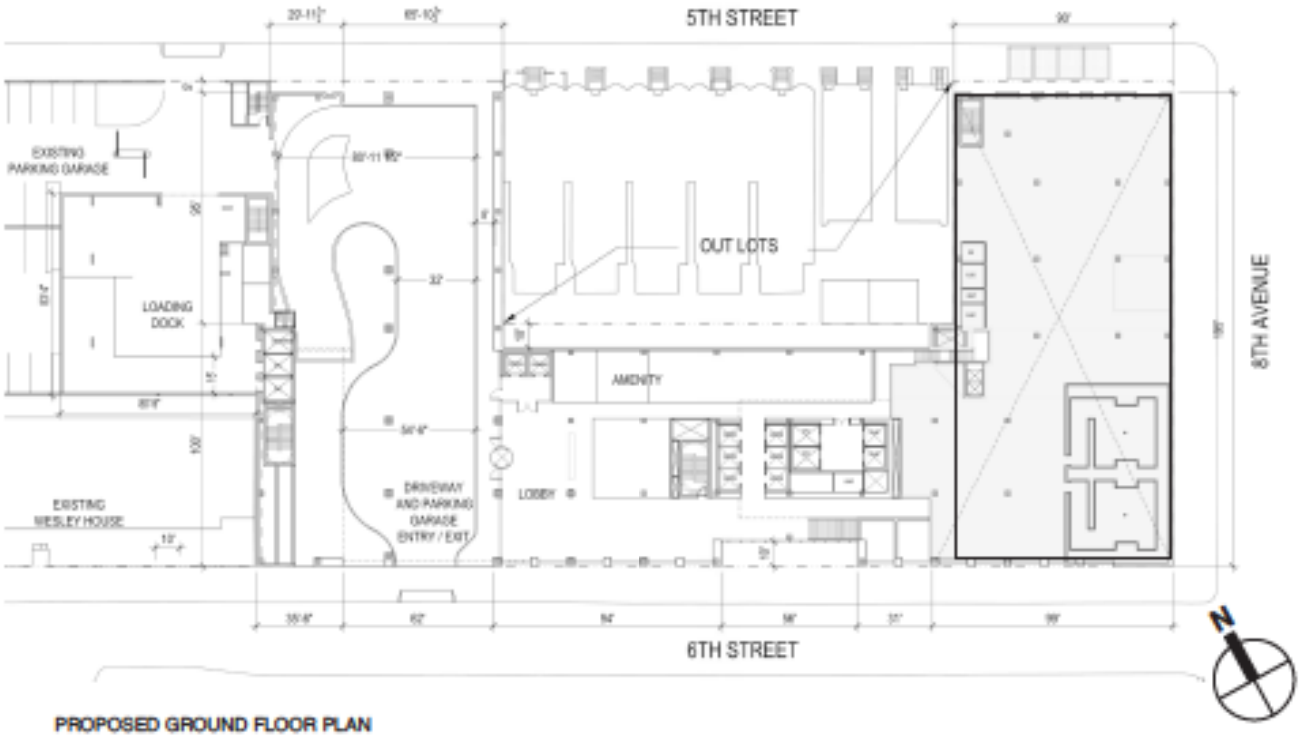

PROPOSED GROUND FLOOR PLAN

PROPOSED FIRST FLOOR PLAN

Proposed Development
Ground Floor Plan and First Floor Plan
(Preliminary Drawing – For Illustrative Use Only)

New York Methodist Center for Community Health

Figure A-5

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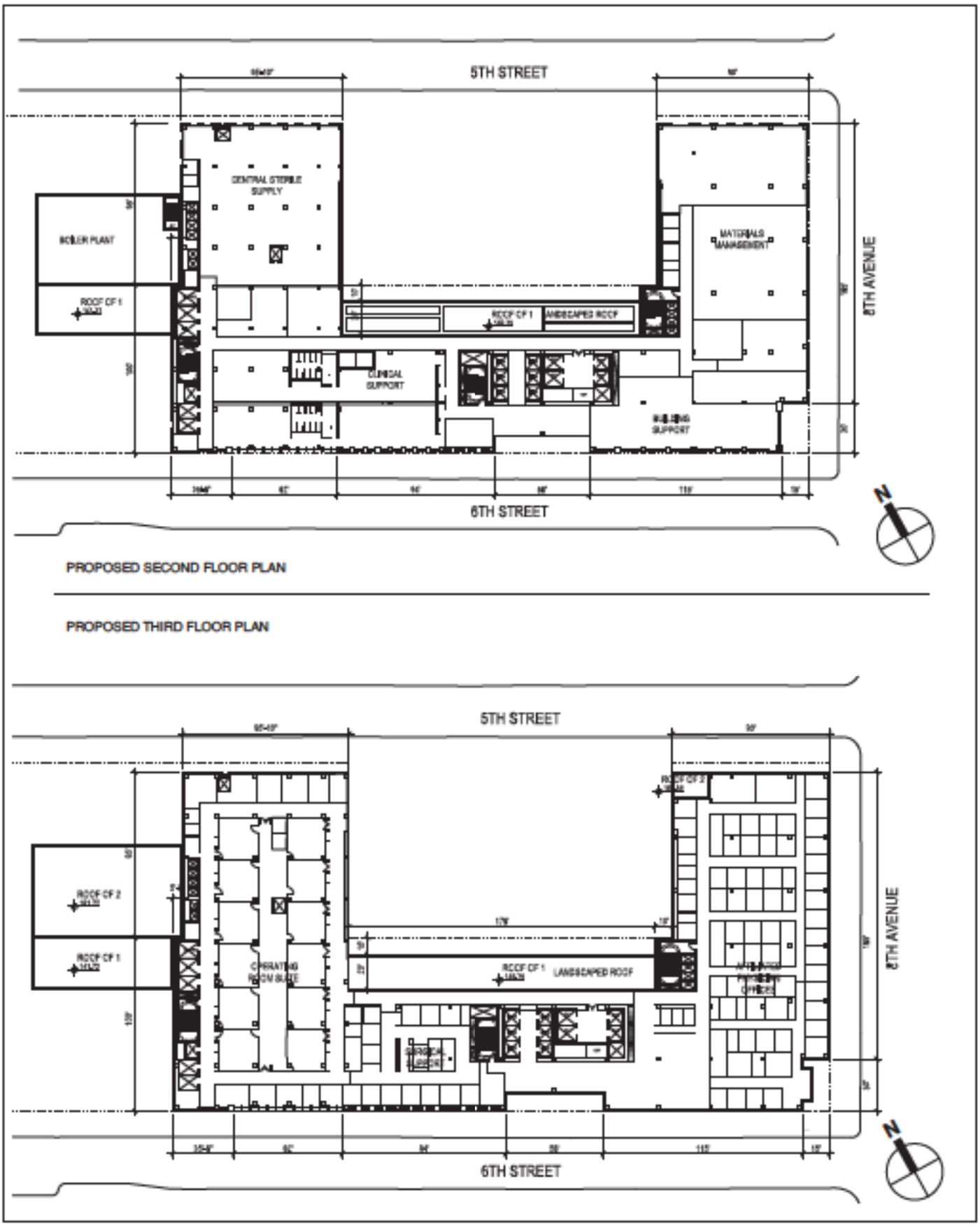

Proposed Development Second and Third Floor Plan
(Preliminary Drawing – For Illustrative Use Only)

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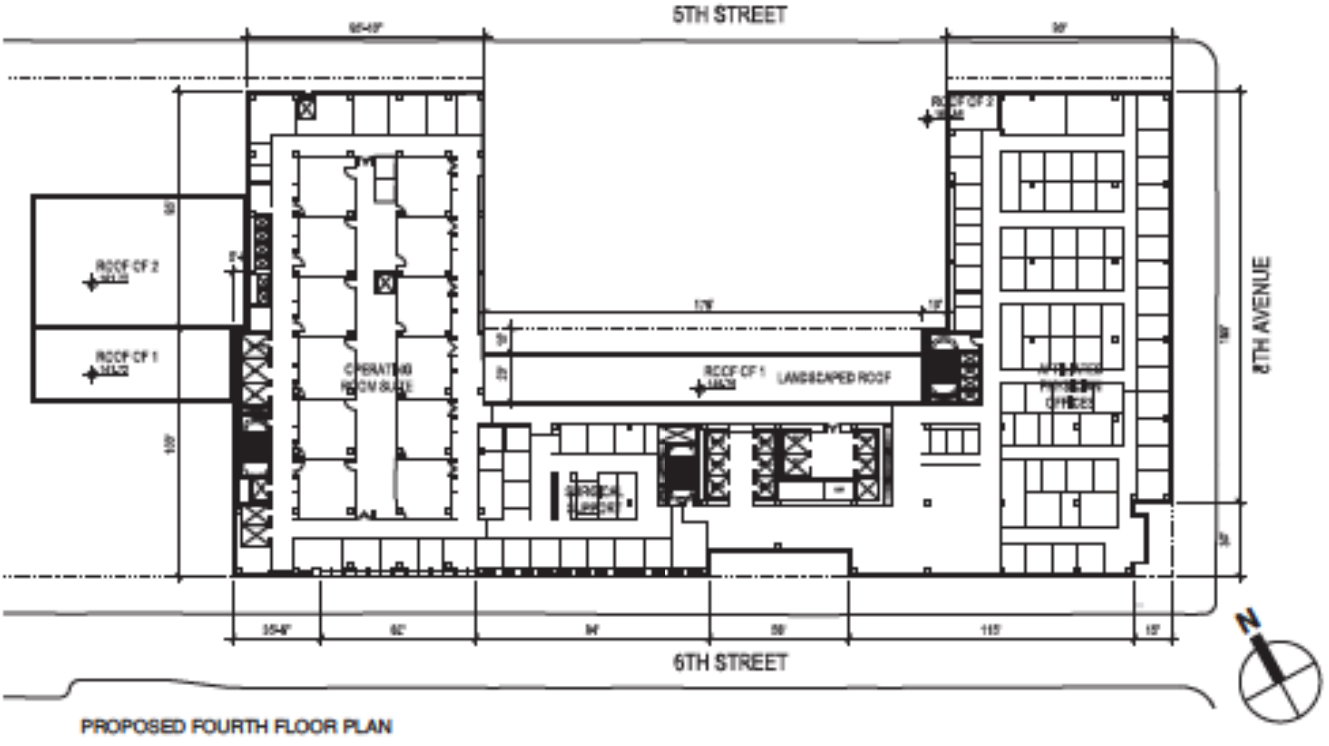
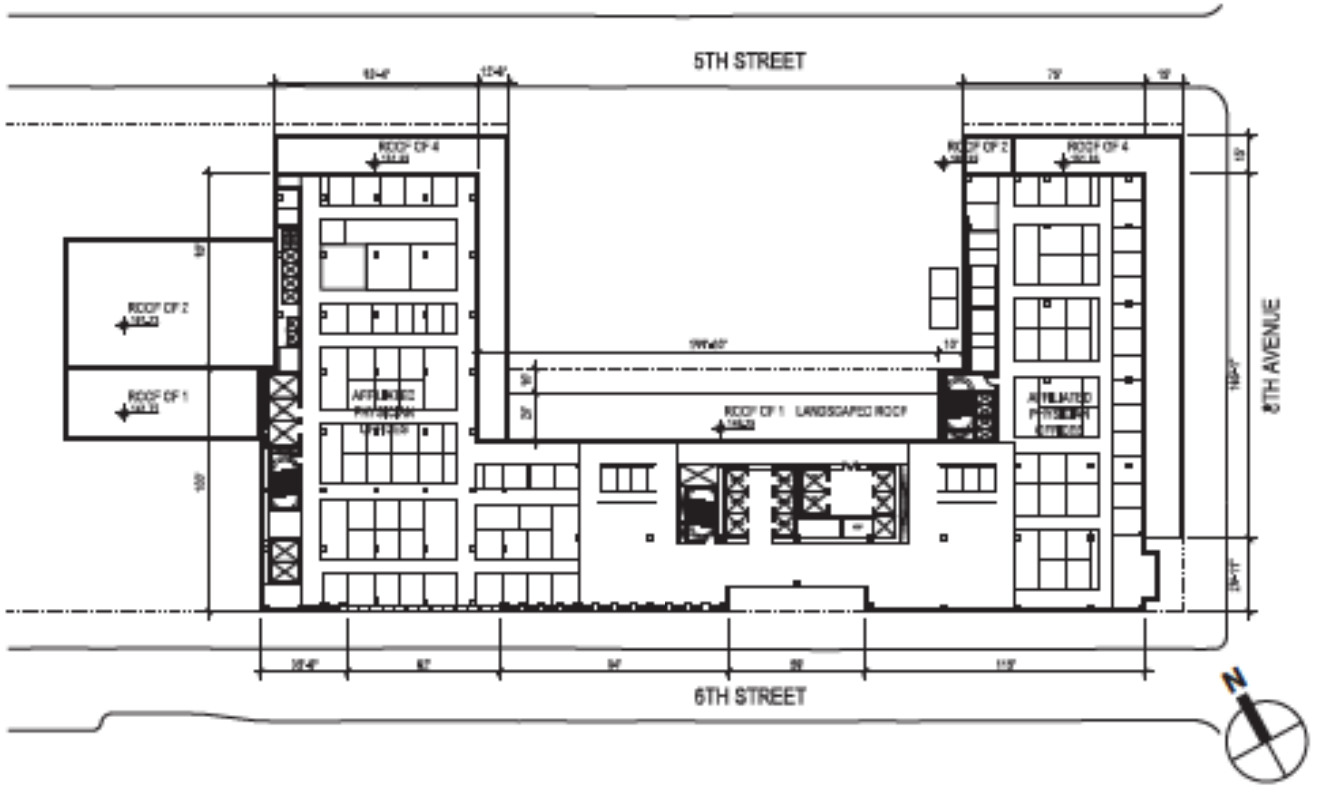


PROPOSED FOURTH FLOOR PLAN

PROPOSED FIFTH FLOOR PLAN



Proposed Development Fourth and Fifth Floor Plan
(Preliminary Drawing – For Illustrative Use Only)
Figure A-7

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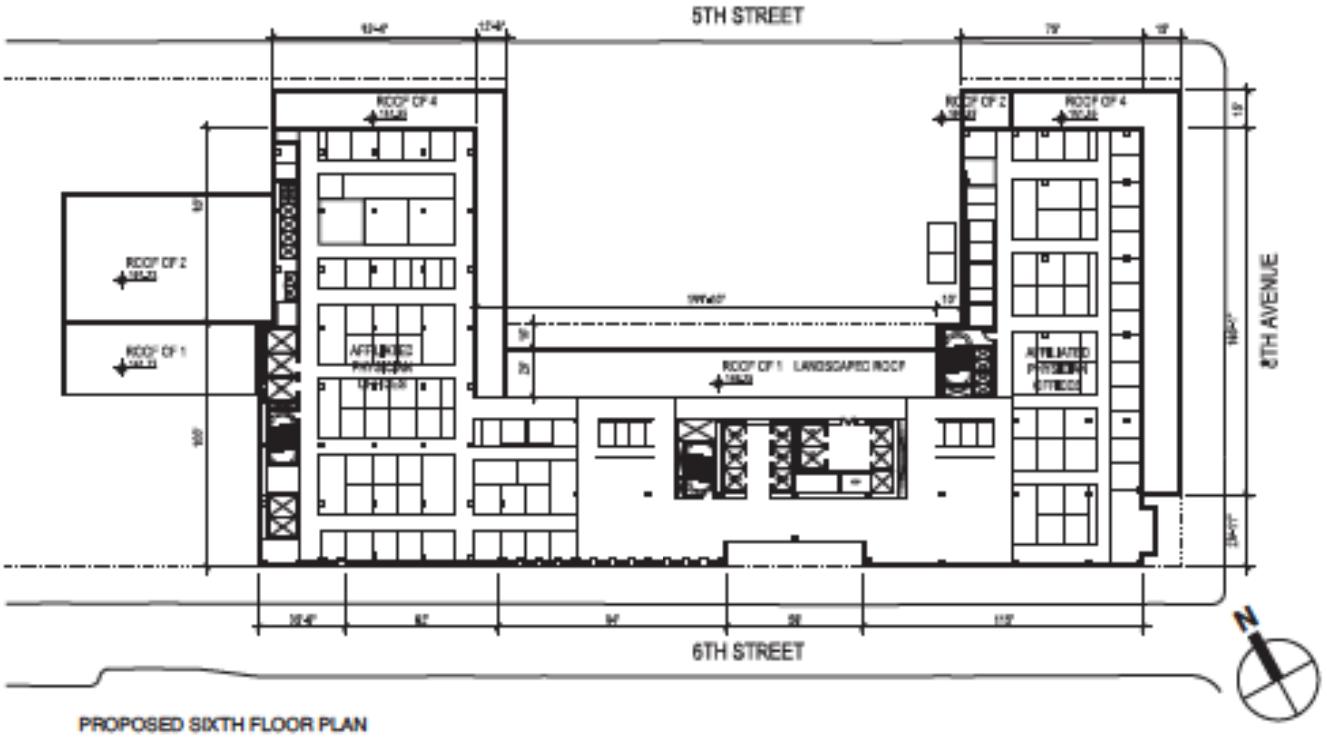
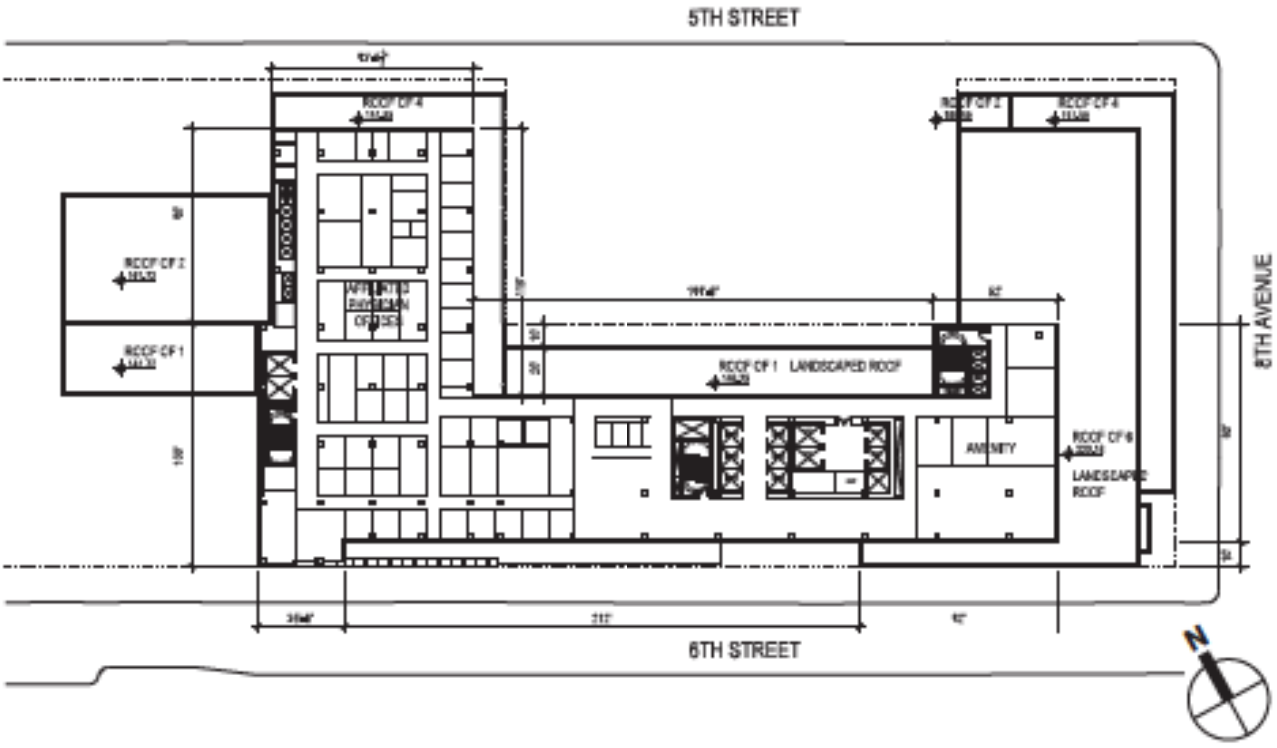


PROPOSED SIXTH FLOOR PLAN

PROPOSED SEVENTH FLOOR PLAN



Proposed Development Sixth and Seventh Floor Plan
(Preliminary Drawing – For Illustrative Use Only)

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For Illustrative Purposes Only

Proposed Development
View on 6th Street Looking West
(Preliminary Rendering – For Illustrative Use Only)
Figure A-9

directly access the below-grade parking garage, which would also connect to the existing parking garage on the block. This plan is designed to keep vehicular circulation within the Zoning Lot and minimize traffic activity on adjacent streets. It also directs vehicular entries and exits to 6th Street, adjacent to NYM buildings and away from neighboring residences.

Street trees would be provided on streets surrounding the Proposed Development Site.

A new utility conduit or expansion of the existing conduit underneath 6th Street may be constructed in order to connect the Proposed Development to the main NYM utility systems as a potentially more efficient alternative to an independent on-site utility system.

CONSTRUCTION SCHEDULE

The Proposed Development would take approximately 36 months to construct and would be completed in 2017.

To prevent construction workers from utilizing neighborhood on-street parking spaces near the Proposed Development Site, and to divert worker vehicle trips from using neighborhood roadway networks, NYM and its construction manager (Lend Lease) would take a proactive approach by requiring through subcontractor contracts that construction workers be prohibited from on-street parking. Off-street parking facilities and shuttle services would be required.

POPULATION CHANGES

The Proposed Development would employ an estimated 327 workers, including 282 hospital staff and 45 building support staff. Of the 327 workers, 175 would be relocated from other buildings on the NYM campus, and 152 would be new or transferred from NYM facilities outside of the main campus.

The Proposed Development would have a visitor capacity of approximately 221,317 patient visits per year. Currently, there are approximately 182,204 annual patient visits occurring in departments that would be affected by the Proposed Development. Of these, approximately 40,512 annual patient visits would remain in the existing NYM facilities and 141,692 visits would be moved to the Proposed Development. After accounting for transfers, the Proposed Development would generate approximately 79,625 new patient visits annually.

The Proposed Development is projected to handle approximately 774 daily patient visits, of which 278 would be new visits compared to existing conditions. For every patient that visits the outpatient facility, an average of one additional person is assumed to accompany them. Therefore, it is anticipated that a combined total of 556 new visits would occur daily in the future at the new building.

E. PROPOSED ACTIONS

DISCRETIONARY APPROVALS SUBJECT TO CEQR

The Proposed Development requires waivers of certain provisions of the Zoning Resolution (ZR), including:

- Distribution of floor area across zoning district boundaries (ZR §77-21 and §77-02);
- Lot coverage in the R6, R6B, and R7B zoning districts (ZR §24-11);
- Required rear yard equivalents in the R6 and R6B zoning districts (ZR §24-33 and §24-382);

- Height and setback in the R6 zoning district (ZR §24-522);
- Base height and maximum building height in the R6B and R7B zoning districts and street wall location in the R6B zoning district (ZR §23-633, §24-522);
- Required setbacks from rear yard line in the R6 and R6B zoning districts (ZR §24-552); and
- Number and surface area of signs (ZR 22-321)

ADDITIONAL PERMITS AND APPROVALS

The proposed Center for Community Health requires a Certificate of Need from the New York State Department of Health (NYSDOH). In addition, modification of NYM's existing New York State Department of Environmental Conservation (NYSDEC) Title V permit would be required to reflect the operation of a new boiler plant on the Proposed Development Site. Modification of the Title V permit would likely also be required should NYM decide to connect the Proposed Development to the existing boiler plant on the NYM campus, to add additional equipment to the existing permit. Work permits from the New York City Department of Environmental Protection (DEP) would be required to begin construction on the new boiler plant, and a DEP Certificate to Operate would be required upon boiler plant completion.

F. ANALYSIS FRAMEWORK

SCOPE OF ENVIRONMENTAL ANALYSIS

This document has been prepared in accordance with the guidelines presented in the 2012 *CEQR Technical Manual*. For each technical area, the analysis includes a description of existing conditions, an assessment of conditions in the future without the proposed action, and assessment of future conditions with the Proposed Development.

BASELINE CONDITIONS

EXISTING CONDITIONS

The analysis framework begins with an assessment of existing conditions on the Proposed Development Site and in the relevant study area because these can be most directly measured and observed. However, the assessment of existing conditions does not represent the condition against which the Proposed Development is measured, but serves as a starting point for the projection of future conditions with and without the Proposed Development and the analysis of its impacts.

NO-ACTION CONDITION

The future without the proposed project (the "No Action" condition) describes a future baseline condition to which the changes that are expected to result from the Proposed Development are compared. For each technical analysis, approved or designated development projects within the appropriate study area that are likely to be completed by the 2017 analysis year are considered.

New York Methodist campus – Complying Development

Absent the proposed action, NYM would construct a new facility ("Complying Development") that conforms to all applicable provisions of the Zoning Resolution, but which does not fully or adequately address NYM's programmatic needs. As shown in **Figure A-2**, the Complying

Development would encompass the Proposed Development Site but would extend further west on Lot 1001-1002, building over the existing parking garage on the site.

Programming

The Complying Development would contain the same departments and functions as the Proposed Development, but as described below, it would not permit the same comprehensive, coordinated caregiving, efficient provision of services, or for future programming flexibility that would be facilitated by the Proposed Development.

Structure and Streetscape

The Complying Development would consist of two disconnected building segments rising from a common at-grade building base structure (see **Figures A-10 through A-12**). The structure would be eight stories tall, plus two mechanical levels, with a total height (including elevator and stair bulkheads) of approximately 149 feet. The building would contain approximately 518,020 gross square feet (gsf) of floor area (corresponding to approximately 309,520 sf of zoning floor area [zsf]), approximately 19,520 gsf more than the Proposed Development.

As with the Proposed Development, the Complying Development would provide street trees surrounding the Proposed Development Site.

Table A-1 compares the Complying and Proposed Developments.

Table A-1
Comparison of Proposed Development with Complying Development

	Complying Development	Proposed Development
Total Gross Floor Area	518,020 gsf	496,500 gsf
Total Zoning Floor Area	309,520 zsf	311,040 zsf
No. of Floors	8 plus mechanical	7 plus mechanical
Max. Height	149 ft.	152 ft.

Complying Development Deficiencies

The Complying Development would have a number of critical deficiencies. The application of lot coverage, height and setback, rear yard equivalent, and floor area distribution regulations, in combination with constraints created by the Proposed Development Site's physical conditions, would result in narrow floor plate configurations that limit opportunities for functional adjacencies and introduce required duplication of support spaces. The constricted floor plate dimensions would require an inefficient configuration for NYM's new ambulatory care facilities, with the building's 12 operating rooms located in separate suites on the third and fourth floors; patient preparation located on the third floor; and surgical recovery functions located on the second floor. Central sterile supply and the materials management facilities would be located at the extreme northeast corner of the building on the third floor, far removed from the operating rooms. This configuration would create a number of suboptimal operational issues:

- Doctors, nurses, and other staff would be dispersed over multiple floors, and their travel times between treatment areas would be increased, resulting in an inefficient circulation network and, would make it more challenging to maintain the quality of patient health and safety.
- Patients would experience longer and less comfortable transfers between treatment areas.

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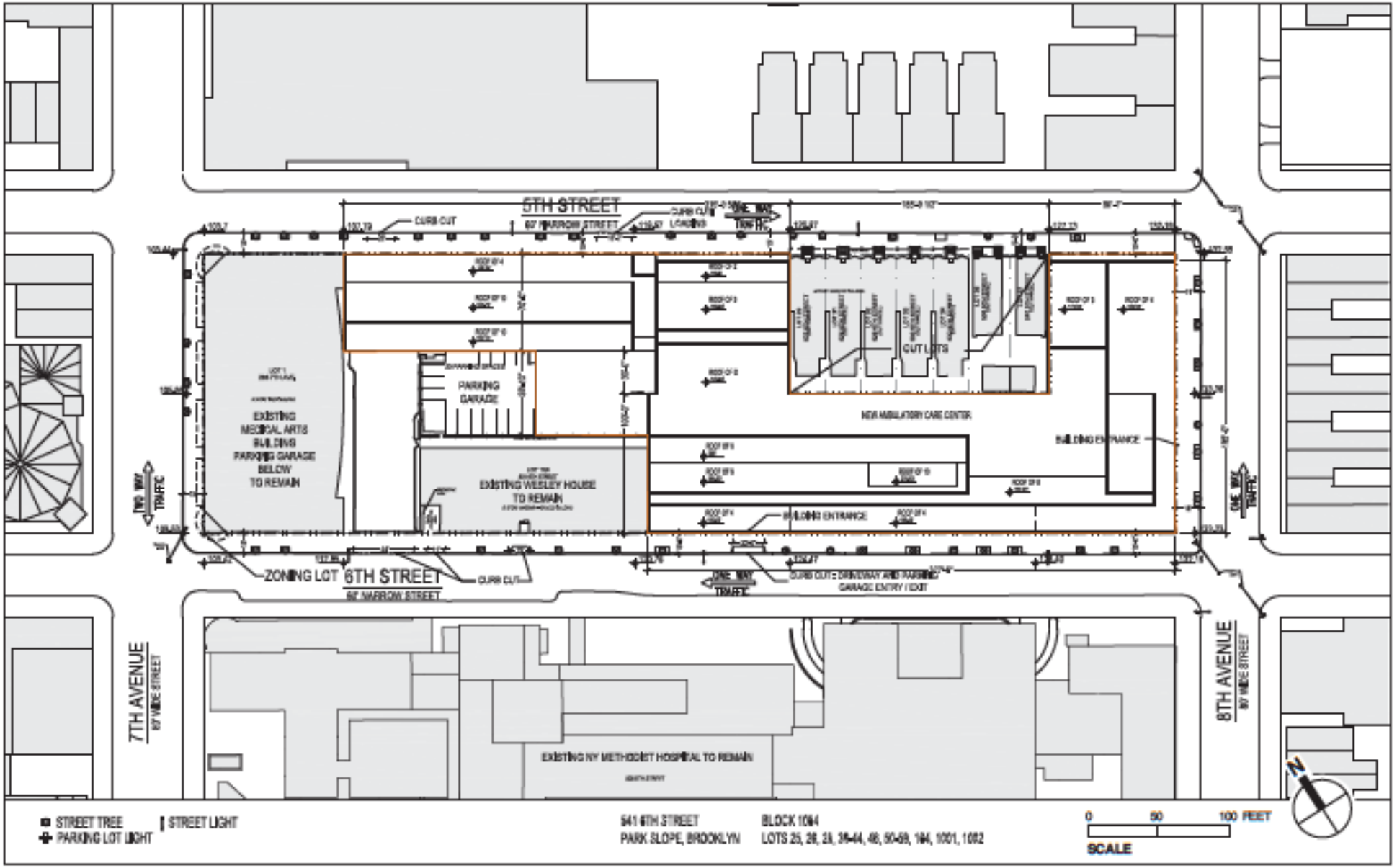


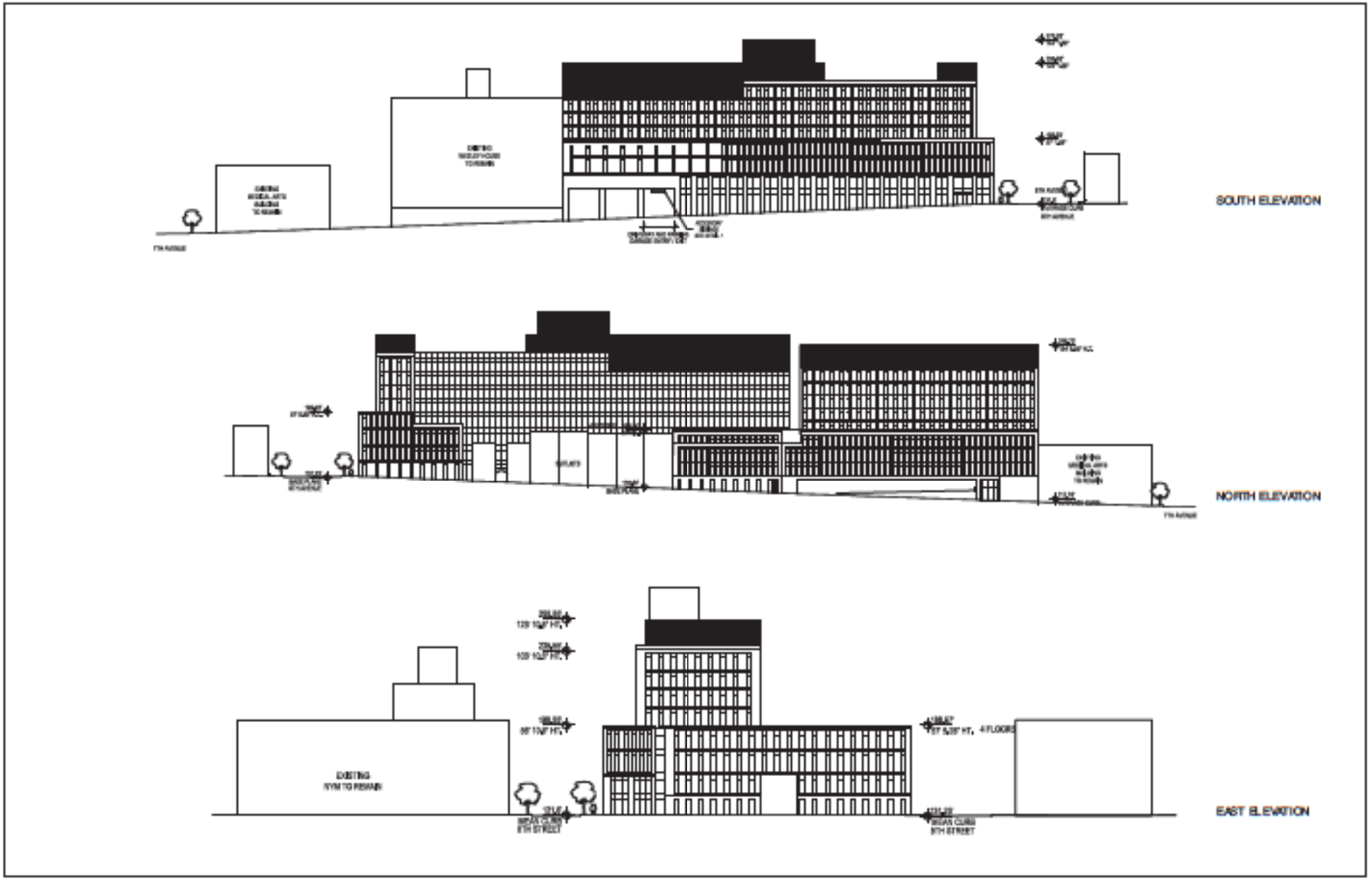
541 6TH STREET
PARK SLOPE, BROOKLYN

BLOCK 1084
LOTS 25, 28, 29, 36-44, 46, 50-59, 164, 1001, 1002

Zoning Lot Boundary

Complying Development Site Plan
(Preliminary Drawing – For Illustrative Use Only)

Figure A-10



Complying Development Elevations
(Preliminary Drawing – For Illustrative Use Only)

Figure A-11

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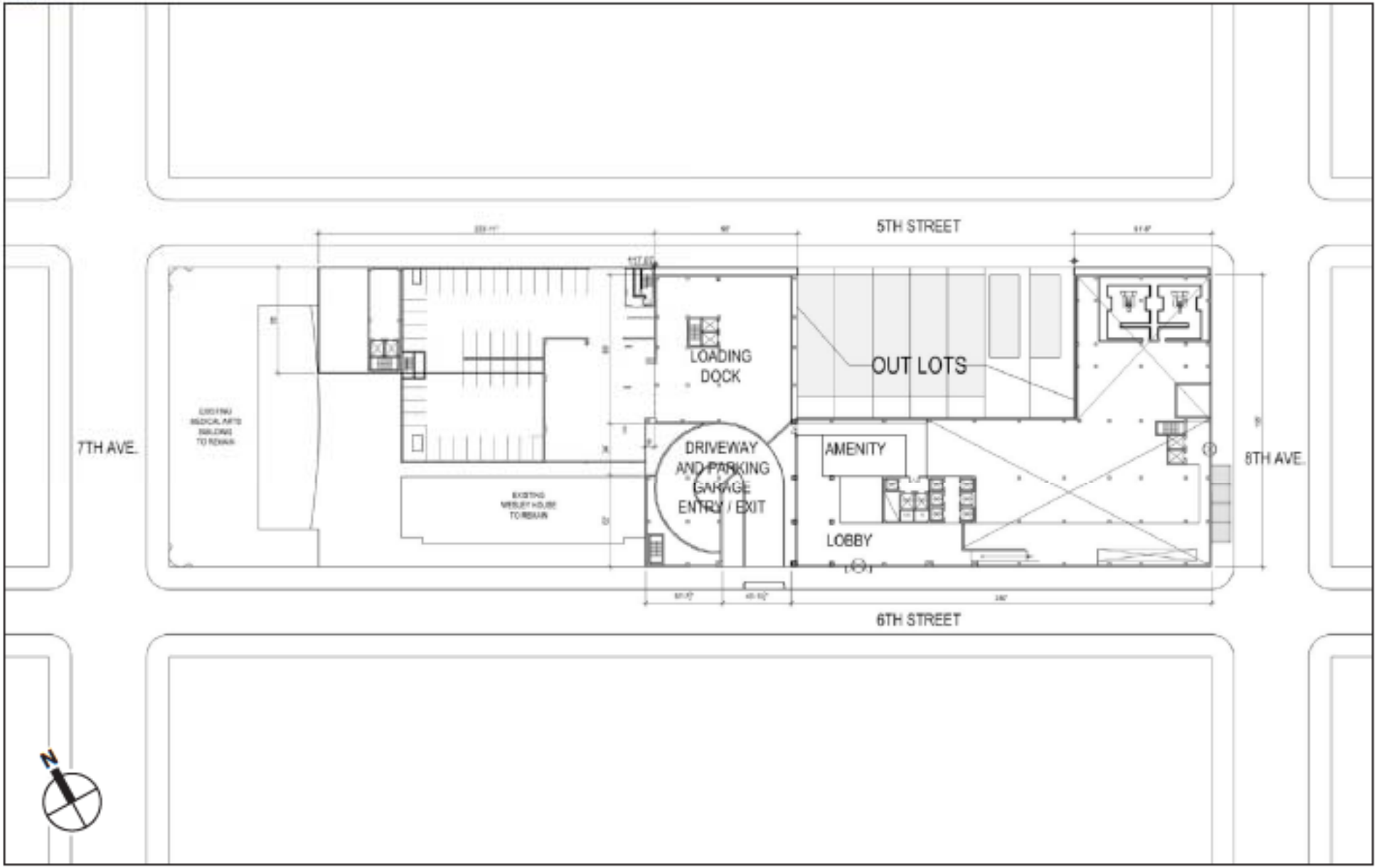


Complying Development First Floor Plan
(Preliminary Drawing – For Illustrative Use Only)

Figure A-12

- Additional NYM staff would be needed to accommodate the operating rooms and support spaces on each floor.
- Certain support functions and programmatic elements required by the Department of Health would have to be duplicated on each floor, reducing the amount of space in the building available for other healthcare functions.
- The lack of a direct connection between Central Sterile Services and the operating rooms would increase the risk of infection incidents.
- The lengthy travel path between the materials management facilities and the operating rooms would increase the risk of cross-contamination.

In addition, the constrained floor plates would result in significant program impacts to the Cancer Center and preparation and recovery suites. The Complying Development would accommodate only 20 infusion rooms with minimal support, as compared with the 60 infusion rooms in the Proposed Development, and only 16 shared preparation and recovery rooms, as compared to the 10 dedicated preparation rooms and 18 dedicated recovery rooms in the Proposed Development. These facilities would be inadequate to meet NYM's immediate and future programmatic needs.

The physical isolation of the Complying Development's western segment would create additional issues. The building segment would be connected to the remainder of the development only by the at-grade vehicular driveway and loading area. The separation of medical care facilities in the two building segments would severely impact the efficiency of the Complying Development's circulation network and impede communication and coordination among NYM's caregivers. Further, the western segment above the ground floor would necessarily be limited to faculty practices, as the permitted building envelope does not accommodate the floor plate dimensions that are needed for other ambulatory care facilities. Because these floor plates are smaller than those of the Proposed Development, there would be fewer faculty practice suites – five, as compared with seven in the Proposed Development – and they would be spread out over seven floors instead of four, requiring an inefficient duplication of shared spaces, such as reception and waiting areas. The narrow floor plates would also limit the flexibility of the space for reprogramming. Last, the separation of medical care functions in two building segments would require an additional entrance to the Complying Development on 5th street, encouraging curbside drop-offs, and would require additional elevator cores, with negative impacts on the building's programmatic and energy efficiencies.

Construction Schedule

The Complying Development would take approximately 53 months to construct and would be completed in 2018.

Construction of the Complying Development over the existing parking garage would require that major structural alterations be made to the garage. This work would require that the entire garage be closed for a three-year period, resulting in the loss of all of the existing 518 parking spaces during that time. Construction of the Proposed Development would not require closure of the parking garage.

Similar to the Proposed Development, for the Complying Development, in order to prevent construction workers from utilizing neighborhood on-street parking spaces near the Proposed Development Site, and to divert worker vehicle trips from using neighborhood roadway networks, NYM and their construction manager (Lend Lease) would take a proactive approach

by requiring through subcontractor contracts that construction workers be prohibited from on-street parking. Off-street parking facilities and shuttle services would be required.

Population Changes

Annual patient and non-patient visitors are expected to be the same with the Complying Development and the Proposed Development. For purposes of conservative analysis in the EAS, employment at the Complying Development and Proposed Development are assumed to be equal; however the Complying Development would have approximately 60 additional workers compared to the Proposed Development due to building inefficiencies that would require duplication of support spaces and create many new conflicting vehicle movements between hospital and through traffic on the public street.

Surrounding Area

The remaining buildings on the Zoning Lot, the Medical Pavilion and the Wesley House, would remain in their current condition in the future without the proposed actions.

There are no projects under development within the study area that are expected to be complete by 2017. The study area would remain a predominantly low-density residential and institutional area with a large concentration of community facilities, particularly medical facilities, schools, and religious institutions.

PROBABLE IMPACTS OF THE PROPOSED ACTIONS

The identification of potential environmental impacts is based upon the comparison of the No Action condition (the Complying Development) to the future with the proposed action (the Proposed Development). In certain technical areas (e.g., traffic, air quality, and noise) this comparison can be quantified and the severity of impact rated in accordance with the *CEQR Technical Manual*. In other technical areas, (e.g., neighborhood character) the analysis is qualitative in nature. The methodology for each analysis is presented at the start of each technical analysis. As summarized in the following attachments, the Proposed Development would not result in any significant adverse impacts. ✷

A. INTRODUCTION

Under the 2012 *City Environmental Quality Review (CEQR) Technical Manual* guidelines, a land use analysis evaluates the uses and development trends in the area that may be affected by a proposed action and determines whether that proposed action is compatible with those conditions or may affect them. The analysis also considers the action's compliance with, and effect on, the area's zoning and other applicable public policies.

The New York Methodist Hospital (NYM) is requesting waivers of certain provisions of the Zoning Resolution to facilitate development of a 498,500 gross square foot (approximately 311,000 square feet of zoning floor area) ambulatory care facility (the Center for Community Health) at 505-541 6th Street (502-522 8th Avenue and 512-520 5th Street) in Brooklyn NY. The Proposed Development Site is on the northern block of the larger NYM campus, which occupies two adjacent blocks bounded by 5th Street and 7th Street, and 7th Avenue and 8th Avenue. The Proposed Development Site is part of a zoning lot that includes existing buildings on the west end of the block, and consists of the parcels designated as Block 1084, Lots 25, 26, 28, 39 through 44, 46, 48, 50 through 59, 164, 1001, and 1002 (the Zoning Lot). There is a series of contiguous parcels that are not part of the Zoning Lot (out-parcels) fronting on 5th Street that give the Proposed Development Site a U-shape. The Proposed Development would be completed in 2017.

The new facility would provide new space for critical healthcare functions, including upgraded facilities for departments currently located on the southern block of the NYM campus. This would fulfill NYM's programmatic needs by providing improved facilities suitable for modern healthcare and alleviating overcrowding in the current NYM facilities. The proposed project requires variances granted by the New York City Board of Standards and Appeals (BSA) relating to distribution of floor area, height and setback, rear yard equivalents, rear yard setback, lot coverage, and curb cut location as set by the New York City Zoning Resolution (ZR). This attachment considers the proposed project's potential impacts on land use, zoning, and public land use policies and provides an assessment of existing and future conditions with and without the proposed project for the project site and a study area surrounding the site.

B. METHODOLOGY

According to the *CEQR Technical Manual*, a preliminary land use assessment, which includes a basic description of existing and future land uses and public policy, should be provided for all projects that would affect land use or public policy on a site, regardless of the project's anticipated effects. Accordingly, a preliminary analysis has been prepared that describes existing and anticipated future conditions for the 2017 analysis year, assesses the nature of any changes on these conditions that would be created by the Proposed Project, and identifies those changes, if any, that could be significant or adverse.

The study area for this analysis of land use, zoning, and public policy encompasses the area within ¼-mile of the Proposed Development Site, because this is the area in which the Proposed Project could reasonably be expected to have the greatest effect. As shown on **Figure B-1**, the ¼-mile study area roughly extends from Garfield Place to the north, 11th Street to the south, Prospect Park to the east, and between 5th Avenue and 6th Avenue to the west. Sources for this analysis include online resources of the New York City Department of City Planning (DCP) and the New York City Department of Buildings (DOB).

C. EXISTING CONDITIONS

LAND USE

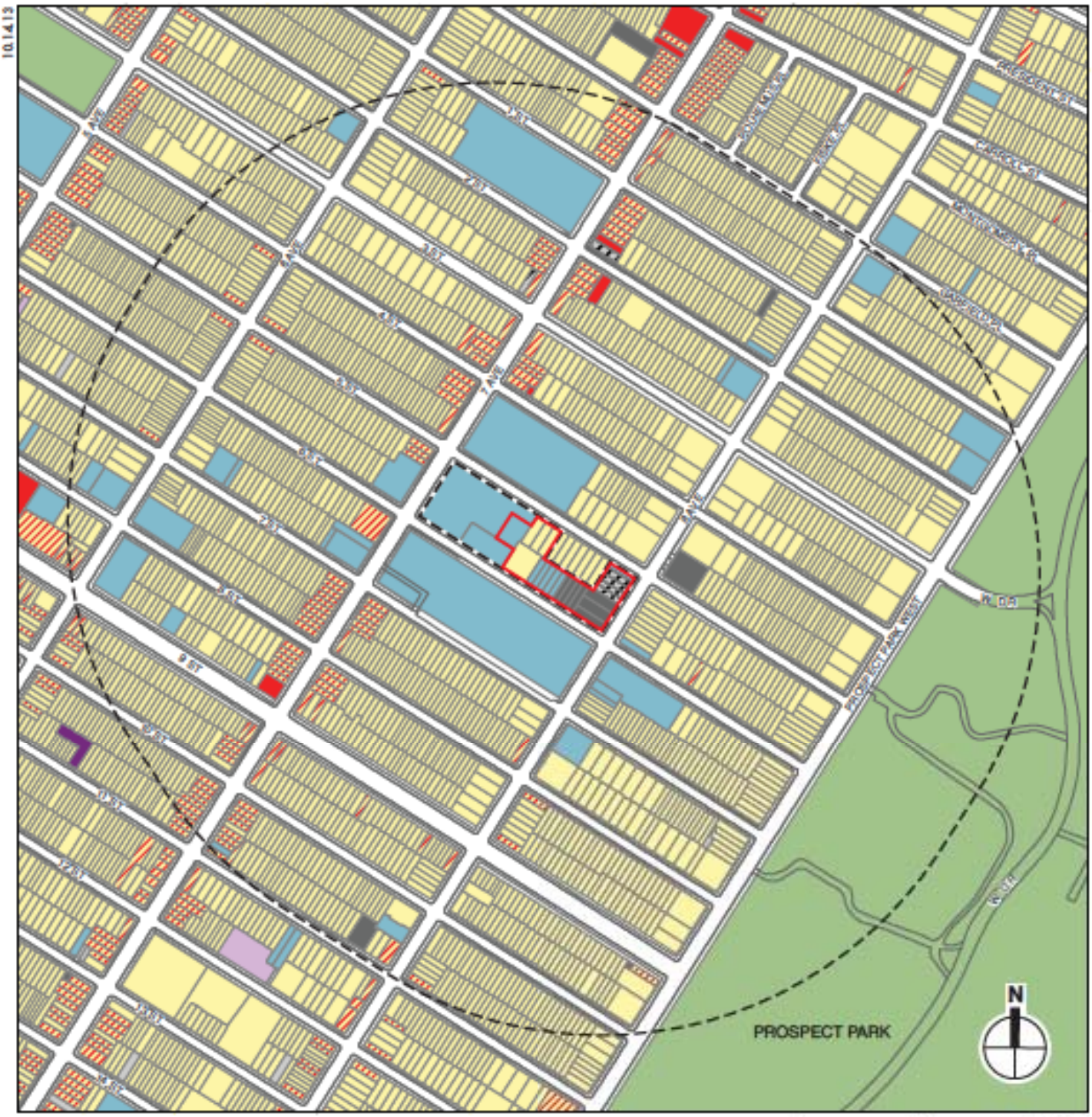
PROPOSED DEVELOPMENT SITE

As shown on **Figure A-1**, the Proposed Development Site, which is on the northern block of the NYM campus, consists of multiple lots forming a U-shaped site between the mid-block and the eastern side of Block 1084 (the "project block") with frontages on 6th Street, 5th Street, and 8th Avenue. The lots are owned by New York Methodist Hospital (NYM) and are part of a combined zoning lot that includes two additional NYM-owned sites on the western side of the project block (described below). The lots within the Proposed Development Site are partially tenanted with NYM-related uses: outpatient treatment facilities, doctors' offices, housing for NYM staff and medical students, and NYM parking.

The south side of the Proposed Development Site, facing 6th Street, contains six lots (505-523 6th Street on Lots 54-59) that are developed with low rowhouse structures typical to the Park Slope neighborhood. The rowhouses at 515-523 6th Street are 3-story former residential buildings that have been converted into medical facilities and offices affiliated with NYM, including the MRI Imaging Center, the Center for Sleep Disorders Medicine and Research, and the Center for Neuroscience and Psychotherapy. 505-511 6th Street consists of three connected 4-story brownstone-style rowhouses with apartments for NYM staff and medical students, as well as on-call rooms for NYM departments.

The southeast corner of the Proposed Development Site, facing 6th Street and 8th Avenue (Lots 44, 46, 48, and 50-53), contains a parking lot for NYM staff with 79 spaces. The northeast corner of the Proposed Development Site, facing 5th Street and 8th Avenue (502-512 8th Avenue on Lots 39-43), and the north side of the Proposed Development Site in the mid-block area facing 5th Street (512-520 5th Street on Lots 25, 26, and 28) are developed with 4-story brownstone-style rowhouses similar to those found at 505-511 6th Street. Excepting 502 8th Avenue, these buildings, which formerly contained apartments, have been fully vacated and prepared for demolition. The only remaining active use on the 8th Avenue side of the Proposed Development Site is the Park Slope Pediatrics practice on the first floor of the building on 502 8th Avenue; the upper floors, which formerly contained apartments, have been vacated.

The Proposed Development Site extends over a portion of Lots 1001-1002 facing, 5th Street (496 5th Street). Lots 1001-1002 contain the Medical Pavilion building and a below-grade garage, described below. The Proposed Development Site extends over the roof of the garage structure.



Land Use
Figure B-1

ZONING LOT

The Proposed Development Site lots will be part of a combined zoning lot that includes two additional parcels on the project block (491 6th Street on Lot 164 and 249-267 7th Avenue on Lot 1001-1002) that are owned by NYM and contain medical facilities. 491 6th Street, located on the south side of the project block facing 6th Street, is developed with the Wesley House, a 12-story building containing NYM treatment facilities, offices, and medical student housing. 249-267 7th Avenue, on the western end of the project block, is developed with the 5-story Medical Pavilion, which contains retail stores, treatment facilities and Faculty Practice offices. The Medical Pavilion includes a below-grade garage for NYM patients and visitors with 518 spaces. The entrance for the garage is located on 6th Street in between the Medical Pavilion and the Wesley House; due to the slope of the project block, the roof of the garage extends to a 1-story structure with a parking deck facing 5th Street.

STUDY AREA

As shown on **Figure B-1**, the study area contains primarily low-density residential uses, with a substantial number of institutional uses. This reflects the Park Slope area's development as a residential neighborhood in the late 19th and early 20th centuries. The majority of the residential buildings are 3- or 4-story brownstone-style rowhouses, particularly along the narrow street frontages. This includes seven brownstones located on the north side of the project block along 5th Street adjacent to the project site. Excepting some 4-story buildings that were originally constructed as multi-family apartment buildings, brownstones were generally constructed as one- or two-family dwellings, with some single-family brownstones within the study area later being converted into multi-family walkup apartments. The eastern portion of the study area also contains several larger (5- to 7-story) apartment buildings located along 8th Avenue and Prospect Park West; the avenue frontages in the western portion of the study area (6th Avenue and 7th Avenue) are generally built to a scale similar to the street frontages, with 3- or 4-story brownstones.

In addition to residential uses, the study area contains a large number of community facilities and institutions. The southern block of the NYM campus occupies the block immediately to the south of the project block, consisting of six connected 5- to 8-story buildings (known as "pavilions"). The main hospital entrance is located on the north side of the block along 6th Street (leading into the Miner Pavilion), while NYM's Emergency Department entrance and ambulance drop-off area are located on the block's western side along 7th Avenue.

The study area also contains a high concentration of schools and religious institutions. St. Saviour Catholic Church is located on 6th Street to the east of NYM, with an attached rectory house located along 8th Avenue. Two schools associated with the Church are located nearby: St. Saviour High School is located in a building connected to the Church along 6th Street, and St. Saviour Elementary School, located one block south of the Church at 8th Avenue and 7th Street. The largest school in the area, the former John Jay Educational Campus (which now contains the Secondary School for Law, the Secondary School for Journalism, Park Slope Collegiate, and Millenium Brooklyn High School) is located on the block north of the project block along 7th Avenue; other schools in the area include Public School (PS) 321, PS 39, and the Lower School of Poly Prep Country Day School.

Other religious institutions and houses of worship in the area include the Park Slope Methodist Church, All Saints Episcopal Church, Church of Gethsemane, New York City Church of Christ, Church of the Virgin Mary, Greenwood Baptist Church, Kingsboro Temple of 7th-day

Adventist, Congregation Beth Elohim, and Congregation B'nai Jacob of Park Slope. Other community facilities within the study area include the Park Slope Library (a branch of the Brooklyn Public Library) on 6th Avenue between 8th Street and 9th Street and the Brooklyn Society for Ethical Culture on Prospect Park West and 2nd Street.

7th Avenue is the main commercial corridor within the study area, with local retail businesses located on the lower floors of many of the residential buildings along the Avenue. Commercial uses are generally concentrated in the southern portion of the study area along 7th Avenue around the 9th Street subway stop: this includes a 4-story office building with ground floor retail on the northwest corner of 7th Avenue and 9th Street. The eastern side of the study area contains Prospect Park, one of New York City's largest (585 total acres) and most popular open spaces; it also represents the eastern boundary of the Park Slope neighborhood.

ZONING

The Proposed Development Site is located within three residential zoning districts: R6, R6B, and R7B. R6 districts are medium-density residential districts that are widely mapped in Brooklyn, Queens, and the Bronx and typically produce a mix of single-family homes and medium-sized apartment buildings. Residential uses are permitted to a maximum FAR of between 0.78 and 2.43, or up to 3.0 along wide streets under Quality Housing regulations. Community facility uses are also permitted in R6 districts up to a maximum Floor Area Ratio (FAR) of 4.8. R6B districts are contextual residential districts that apply the Quality Housing regulations at a lower scale (a maximum residential FAR of 2.0) and typically contain traditional rowhouse development. R7B districts are similar to R6B districts but allow for higher scale (a maximum FAR of 3.0), and generally produce 6- to 7-story apartment buildings. In both R6B and R7B districts, community facility uses are permitted in a scale that matches the permitted residential uses (maximum FARs of 2.0 and 3.0, respectively).

The majority of the study area is zoned within contextual residential districts that were introduced by the Park Slope Rezoning, adopted in 2003; the only non-contextual district, the R6 district described above, is located on the NYM campus. In addition to R6B and R7B districts, which are the most common, the study area contains R6A, R7A, and R8X districts. R6A and R7A districts are medium-density districts that are largely similar to R6B and R7B districts and permit a similar scale of development, but with higher height limits to allow for slightly taller buildings. R8X districts are higher-density districts that are primarily mapped in the northern portion of Park Slope in the area around Grand Army Plaza. Residential uses are permitted up to a maximum FAR of 6.02 (6.0 for community facility uses), with a maximum building height of 150 feet, typically producing 10- to 12-story apartment buildings.

The study area also contains commercial overlay districts (C1-3, C1-4, and C2-4) mapped over the underlying R6 and R6A zoning districts along 7th Avenue, including a portion of the project block. Commercial overlay districts are intended to provide residential areas with local retail such as grocery stores, restaurants, or salons as well as local services such as insurance or realtor offices. The scale of commercial uses is generally dictated by the underlying zoning district: in R6 and R6A districts, overlay regulations permit commercial space up to 2.0 FAR, which can be located in an independent building or on the lower floors of mixed buildings that also contain residential space (see **Table B-1** and **Figure B-2**).

10.1413

Zoning
Figure B-2

PUBLIC POLICY

Portions of the study area located north, east, and south of the project block are located within the boundaries of the Park Slope Historic District and the Park Slope Historic District Extension. In order to protect the historic districts' contributing resources from inappropriate changes or destruction, the Landmarks Preservation Commission (LPC) must approve in advance any alteration, reconstruction, demolition, or new construction within these districts' boundaries. A discussion of the Park Slope Historic District and the Park Slope Historic District Extension can be found in Attachment D, "Historic and Cultural Resources."

Table B-1
Zoning Districts Located in the Study Area

Zoning District	Maximum FAR[1]	Zone Type
R6	0.78-2.43 residential[2] 4.8 community facility	General medium-density residential district
R6A	3.0 residential 3.0 community facility	Contextual medium-density residential district
R6B	2.0 residential 2.0 community facility	Contextual medium-density residential district
R7A	4.0 residential 4.0 community facility	Contextual medium-density residential district
R7B	3.0 residential 3.0 community facility	Contextual medium-density residential district
R8X	6.02 residential 6.0 community facility	Contextual higher-density residential district
C1-3	2.0 commercial (in R6 and R6A districts)	Local retail overlay in a residential district
C1-4	2.0 commercial (in R6 and R6A districts)	Local retail overlay in a residential district
C2-4	2.0 commercial (in R6 and R6A districts)	Local retail overlay in a residential district

Notes: 1. Floor area ratio (FAR) is a measure of density establishing the amount of development allowed to the lot area. For example, a lot of 10,000 square feet with an FAR of 1 has an allowable building area of 10,000 square feet. The same lot with an FAR of 10 has an allowable building area of 100,000 square feet.
2. Under Quality Housing regulations, maximum residential FAR is increased to 3.0 along wide streets.

Sources: New York City Zoning Resolution

D. THE FUTURE WITHOUT THE PROPOSED PROJECT

LAND USE

PROPOSED DEVELOPMENT SITE

As described in Attachment A, "Project Description," NYM requires an expansion and upgrade to its hospital facilities, including replacing outdated facilities located on the Proposed Development Site and relocating departments from the main hospital facilities on the southern block of the campus to improved and expanded facilities, in order to provide modern medical care to the population in the surrounding area. Absent the proposed actions, NYM would develop a new building that conforms to the underlying zoning regulations (the Complying Development). This Complying Development would be located on the U-shaped Proposed

Development Site, described above, with an extended area above the parking deck at 496 5th Street (see **Figure A-1**). In order to develop the new facility, the existing brownstone buildings on the Proposed Development Site would be demolished; the below-grade space of the garage at 496 5th Street would be renovated with structural supports to allow for the portion of the Complying Development to be constructed above the garage. The Complying Development would contain approximately 518,018 gsf of space, including new facilities for critical NYM departments such as operating rooms and the cancer center. However, the Complying Development would not meet NYM needs for upgraded facilities due to critical deficiencies and inefficiencies, particularly those created by narrow and irregular floorplate configurations throughout the development and a lack of physical connections between the structure located above the parking garage and the remainder of the development.

The Complying Development would be constructed as two structures above a common base (see **Figure A-10**). The main section of the Complying Development would be located on the southern and eastern sides of the site with frontages on 6th Street and 8th Avenue. This section would be a narrow 8-story tower facing 6th Street with two stories of mechanical space (approximately 149 feet tall), with a 20-foot setback above the second floor, and smaller (4-story) wing at the northeast corner of the site facing 5th Street and 8th Avenue. In order to provide the required rear yard equivalent, the northern side of this section would be set back by 30 feet above the first floor. The main section would also include a below-grade garage with an entrance ramp leading to 6th Street and an at-grade loading dock connected to the garage on the northern side of the site. The main section would contain the majority of the major outpatient services. The shorter wing on the northeast corner of the site, at 8th Avenue and 5th Street, would contain a new urgent care center on the ground floor and the cancer center on the second floor (due to floorplate constraints, the cancer center in the Complying Building would have only approximately one third of the NYM's required program space). The taller tower facing 6th street would contain recovery rooms on the second floor and operating rooms on the third and fourth floors. In addition, patient preparation and special procedure rooms would be located on the third and fourth floors respectively.

The second section of the Complying Development would be built above the garage on the northern side of the site facing 5th Street, adjacent to the Medical Pavilion building. This section would be a narrow 8-story tower with two stories of mechanical space and a 20-foot setback above the second floor. Although this section would share a base with the main section through the connected below-grade space (the existing garage and the garage/loading dock in the main section), there would be no above-grade connections with the main section; this section would also require a separate entrance leading to 5th Street. In addition, a separate structural core, including reinforcements of below-grade garage space, would be needed to support the tower. This section would primarily contain faculty practice offices, along with redundant support spaces due to the lack of a connection to the main section of the building.

In addition to the new structures on the site, the development of the Complying Development may also include construction underneath 6th Street between the site and the main NYM facilities on the southern portion of the campus in order to connect the Complying Development to the existing NYM utility system, including the boiler system. While the design of the Complying Development includes space for on-site utility service, including an independent boiler system, the existing NYM utility system contains sufficient heating capacity to service the Complying Development and may be a more efficient option. Although a utility conduit currently exists underneath 6th Street, this conduit is not suitable to carry the Complying

Development's utility load; therefore, the construction of the Complying Development may include the expansion of the existing conduit or the construction of a new conduit.

The Complying Development would be built using a two-phase construction schedule that would allow the existing garage on the site to remain operational until the garage in the new space is complete in order to provide sufficient parking for NYM visitors. A full discussion of the construction phasing and logistics can be found in Attachment K, "Construction."

ZONING LOT

The remaining buildings on the Zoning Lot, the Medical Pavilion and the Wesley House, would remain in their current condition with the construction of the Complying Development.

STUDY AREA

There are no projects under development within the study area that are expected to be complete by 2017. The study area would remain a predominantly low-density residential and institutional area with a large concentration of community facilities, particularly medical facilities, schools, and religious institutions.

ZONING

No alterations to the zoning regulations on the project site or within the study area are expected to be enacted by 2017. Zoning within the study area will remain a mix of low- and medium-density residential districts, including contextual residential districts, which allow community facility uses, with a commercial overlay located along 7th Avenue.

PUBLIC POLICY

In addition to the extension of the Park Slope Historic District south of 7th Street designated in 2012, an extension at the north end of the Park Slope Historic District was calendared for designation by LPC on September 17, 2013. The proposed Park Slope Historic District Extension II consists of 5 areas north of Union Street. The Park Slope Historic District Extension II is located outside the study area. No changes to applicable public policies are expected on the Proposed Development Site or in the study area absent the proposed project. Existing public policies are expected to remain in effect.

E. THE FUTURE WITH THE PROPOSED PROJECT

LAND USE

PROPOSED DEVELOPMENT SITE

With the proposed BSA variances, the planned expansion of and upgrade to NYM's facilities would proceed with a Proposed Development that would provide space for both healthcare services relocated from the main NYM facilities on the southern portion of the campus and new services, such as a new outpatient urgent care center. Similar to the Complying Development, the existing buildings located on the Proposed Development Site, excepting the garage, would be demolished, and a new utility conduit or expansion of the existing conduit underneath 6th Street may be constructed in order the connect the Proposed Development to the main NYM heating utility systems as a potentially more efficient alternative to an independent on-site heating utility

system. The Proposed Development would be largely similar to the Complying Development's main section, with an 8-story tower (including seven floors of NYM functions and two floors of mechanical space) on the southern side of the Proposed Development Site facing 6th Street and extending to 5th Street in the midblock area and a shorter (6-story) wing on the eastern side of the Proposed Development Site facing 8th Avenue. The Proposed Development would also include a two-level below-grade garage with 543 spaces, with an attended drop-off area on the first floor leading to 6th Street. Unlike the Complying Development, the Proposed Development would not include a separate tower built over the garage on the western side of the Proposed Development Site. The Proposed Development would satisfy NYM's goals for upgraded facilities by providing space that would allow for more efficient hospital operations and staffing through the consolidation of symbiotic hospital departments and reduction of redundant support services.

The Proposed Development would contain approximately 498,500 gsf of space, with the same facilities as the Complying Development, but would be designed with features that do not conform to the underlying zoning regulations. In particular, the east and west wings of the Proposed Development would encroach on the required rear yard equivalent area above the first floor. The southern side of the building, facing 6th Street, would also encroach on the required setback area above the 4th floor. The 6th floor of the eastern wing of the Proposed Development, facing 8th Avenue, would extend beyond the required 75-foot building height limit and would not conform to street wall requirements. The Proposed Development would also not conform to zoning regulations regarding lot coverage, required rear yard setbacks, and distribution of floor area across zoning district boundaries.

The Proposed Development would fulfill NYM's programmatic needs by providing a fully interconnected building with large, uniform floorplates. In particular, the spaces extending into the required rear yard equivalent above in the mid-block area and the setback areas along 6th Street would allow for more space to be located on the southern side of the Proposed Development Site and thereby eliminate the need for an additional structure above the garage on the northern side of the Site in order to provide sufficient space for critical NYM functions. This would provide for more cohesive, efficient operations by reducing the additional support services (such as janitorial and security services) that would have been needed for the separate structure. The larger floorplates would also allow individual NYM departments, such as its surgical center and patient preparation and recovery rooms, to be consolidated and connected by dedicated elevators, and located adjacent to symbiotic practice groups, such as imaging, greatly enhancing the efficiency of NYM operations.

In the Complying Development, the location of certain departments on multiple floors and the separation of departments between floors would result in longer travelling distances of NYM staff and materials between departments, resulting in inefficient circulation and increased risk of loss of sterile services. The consolidation of functions on individual floors of the Proposed Development would reduce the travelling distance for doctors, nurses, other NYM staff between treatment areas, resulting in a more efficient internal pedestrian circulation and shorter, more comfortable patient transfers. This is particularly important for the operating rooms, as a consolidated surgical center with recovery rooms located immediately above the operating rooms and connected by a dedicated elevator provides the shortest distance for sterile transport, which improves infection control. The shorter travelling distances required for materials distribution (including central sterile supply) would also reduce the risk of cross-contamination.

Because the Proposed Development would not require a separate tower building over the garage on the north side of the Proposed Development Site, the proposed variances would also allow NYM to maintain its current parking operations, which benefits overall NYM operations. The portion of the Proposed Development located above the existing parking deck would have a second floor containing a boiler plant, and the roof above would be planted as green space to provide a visual amenity to Hospital visitors. Unlike the Complying Building, which would require the garage to be fully closed for an extended period of time during construction, the Proposed Development would allow the garage to remain largely operational during construction, providing critical parking space for NYM staff and visitors with minimal disruptions. This would also simplify construction phasing and shorten the construction period for the Proposed Development as compared to the necessary construction phasing required for the Complying Development, reducing construction disruptions on the surrounding area and the project's overall cost.

The proposed variances would also allow the Proposed Development to better match the scale and character of the surrounding area while providing sufficient space for NYM functions. In particular, with the Proposed Development, bulk would be shifted toward the mid-block area facing 6th Street and extending toward 5th Street. In this way, the scale of the building along 8th Avenue would better match the adjacent buildings, which are predominantly 60-foot-tall rowhouses, with the higher-density area located adjacent to the larger (5- to 8-story) hospital buildings to the south of the Proposed Development Site.

ZONING LOT

The proposed BSA variances would apply only to the Proposed Development Site and would not affect the remaining buildings on the Zoning Lot. The Medical Pavilion and Wesley House would remain in their current condition with the construction of the Proposed Development.

STUDY AREA

The proposed BSA variances would not affect land uses on other sites within the study area, which would remain a mix of low-density residential uses, particularly brownstone-style rowhouses, and community facility uses. Furthermore, the proposed variances would facilitate a design of the Proposed Development that would better match the scale and character of the surrounding buildings, particularly the 3- and 4-story rowhouses located on the north side of the project block and immediately to the east of the project site across 8th Avenue. Therefore, the Proposed Development would not result in any significant adverse land use impacts in the study area.

ZONING

The underlying zoning of the Proposed Development Site and the study area would remain unchanged from the conditions described in the No Action condition. The proposed variances would only apply to the Proposed Development Site and would not affect zoning controls in the remainder of the study area. Moreover, the proposed variances would not alter the uses on the project site as compared to the Complying Building and would facilitate a design of the Proposed Development that better matches the scale and built character of the surrounding area. Therefore, the proposed project would not result in any significant adverse zoning impacts on the study area.

PUBLIC POLICY

The proposed variances would not affect any other public policy applying to the project site or study area. Overall, the Proposed Development would not result in any significant adverse impacts on land use, zoning, or public policy. ✷

A. INTRODUCTION

The New York Methodist Hospital (NYM) is requesting waivers of certain provisions of the Zoning Resolution to facilitate development of a 498,500-gross-square-foot (approximately 311,000 square feet of zoning floor area) ambulatory care facility (the Center for Community Health) at 505-541 6th Street (502-522 8th Avenue and 512-520 5th Street) in Brooklyn NY. The Proposed Development Site is on the northern block of the larger NYM campus, which occupies two adjacent blocks bounded by 5th Street and 7th Street, and 7th Avenue and 8th Avenue. The Proposed Development Site is part of a zoning lot that includes existing buildings on the west end of the block, and consists of the parcels designated as Block 1084, Lots 25, 26, 28, 39 through 44, 46, 48, 50 through 59, 164, 1001, and 1002 (the Zoning Lot). There is a series of contiguous parcels that are not part of the Zoning Lot (out-parcels) fronting on 5th Street that give the Proposed Development Site a U-shape. The Proposed Development would be completed in 2017.

This section considers the potential for the Proposed Development to cast shadows on nearby publicly-accessible parks or plazas, sunlight-dependent features of historic resources, or important natural features. According to the 2012 *City Environmental Quality Review (CEQR) Technical Manual*, a shadows assessment is required if the development would result in structures (or additions to existing structures) of 50 feet or more, or if the development site is located adjacent to, or across the street from, a sunlight-sensitive resource. The Proposed Development would reach a maximum height of approximately 152 feet above median curb level, including mechanical space on the roof. Also, the Proposed Development Site is adjacent to St. Saviour's Church, an architectural resource with sunlight-sensitive features. Therefore, a shadows assessment was conducted.

This analysis concludes that the Proposed Development would not cast incremental shadow on any sunlight sensitive resources. There are no public open spaces or natural resources within the longest shadow study area and intervening buildings would prevent incremental shadow from reaching any of the nearby architectural resources with sunlight-sensitive features.

B. DEFINITIONS AND METHODOLOGY

This analysis has been prepared in accordance with New York City Environmental Quality Review (CEQR) procedures and follows the guidelines of the *CEQR Technical Manual*.

DEFINITIONS

Incremental shadow is the additional, or new, shadow that a structure resulting from a Proposed Development 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);
- *Development-generated open space* cannot experience a significant adverse shadow impact from development, according to CEQR, because without the development the open space would not exist. However, a qualitative discussion of shadows on the development-generated open space should be included in the analysis.

A significant adverse shadow impact occurs when the incremental shadow added by a proposed development 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 based on the extent and duration of new shadow and an analysis of the resource's sensitivity to reduced sunlight.

METHODOLOGY

Following the guidelines of the *CEQR Technical Manual*, a preliminary screening assessment must first be conducted to ascertain whether a development'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 development's shadow by accounting for the fact that shadows can never be cast between a certain range of angles south of the development 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 the development's 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 development. 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 using Geographic Information Systems (GIS)[1] showing the location of the Proposed Development and the surrounding street layout (see **Figure C-1**). Potential sunlight-sensitive resources were identified and shown on the map.

TIER 1 SCREENING ASSESSMENT

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

According to the *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 152 feet above average curb level (including rooftop mechanical structures); the Proposed Development could cast a shadow up to 654 feet in length (152 x 4.3). Using this length as the radius, a perimeter was drawn around the Proposed Development Site (see **Figure C-1**). Three buildings with sunlight-sensitive architectural resources are located within the perimeter of the longest shadow study area. These include: All Saints Episcopal Church; Greenwood Baptist Church; and St. Saviour's Catholic Church. Accordingly, as buildings with sunlight-sensitive architectural resources were found within this screening radius, the next tier of screening assessment was conducted, as described below.

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 development site (referred to as the "Shadow Exclusion Area"). In New York City this area lies between -108 and +108 degrees from true north. **Figure C-1** illustrates this triangular area south of the Proposed Development Site. The complementing area to the north within the longest shadow study area represents the remaining area that could potentially experience new development-generated shadow.

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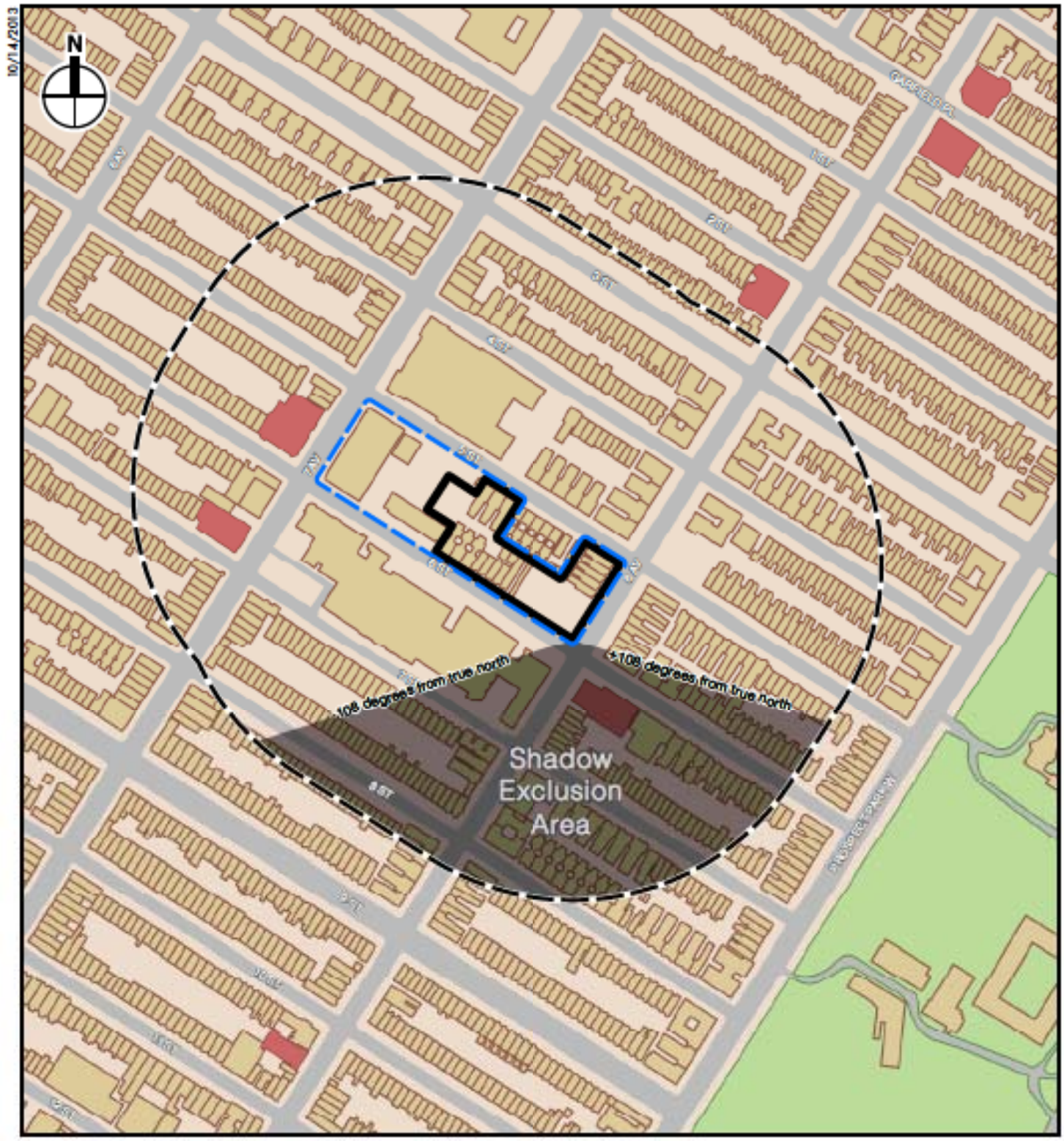
[1] Software: Esri ArcGIS 10.1; Data: New York City Department of Information Technology and Telecommunications (DoITT) and other City agencies, and site visits.



Tier 1 & 2 Screening Assessment

New York Methodist Center for Community Health

Figure C-1

Two of the sunlight-sensitive resources identified in the Tier 1 assessment (All Saints Episcopal Church and Greenwood Baptist Church) are located within the remaining shadow study area. Therefore, the next tier of screening assessment was conducted.

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 development -generated shadow could fall on a sunlight-sensitive resource, three-dimensional computer mapping software is used in the Tier 3 assessment to calculate and display the Proposed Development's shadows on individual representative days of the year. A computer model was developed containing three-dimensional representations of the elements in the base map used in the preceding assessments, the topographic information of the study area, and a reasonable worst-case three-dimensional representation of the Proposed Development.

REPRESENTATIVE DAYS FOR ANALYSIS

Following the guidance of the *CEQR Technical Manual*, 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 range of 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 have approximately the same shadow patterns.

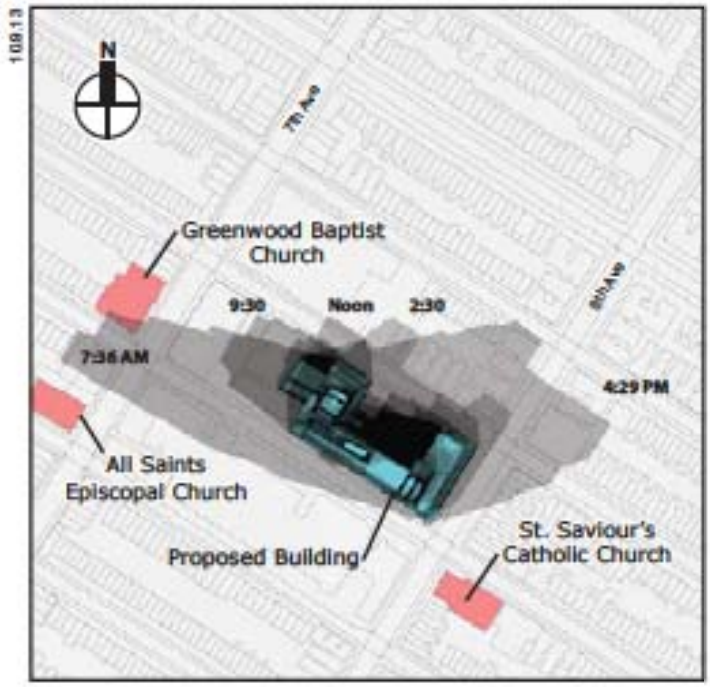
TIMEFRAME WINDOW OF ANALYSIS

The shadow assessment considers shadows occurring between one and a half hours after sunrise and one and a half hours before sunset. At times earlier or later than this 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

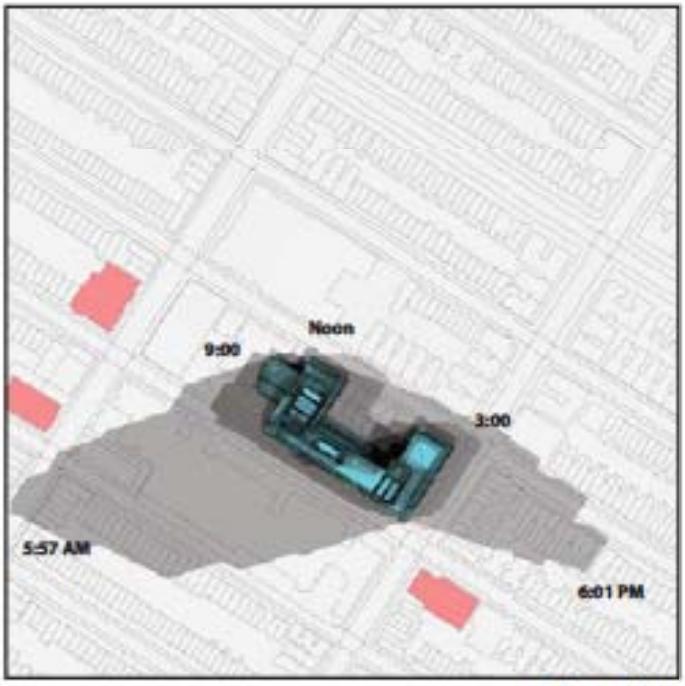
Figure C-2 illustrates the range of shadows that would occur, in the absence of intervening buildings, from the Proposed Development on the four representative days for analysis. As they move east and clockwise over the landscape, the shadows are shown occurring approximately every two hours from the start of the analysis day (one and a half hours after sunrise) to the end of the analysis day (one and a half hours before sunset).

The Tier 3 assessment concluded that the Proposed Development's shadow would be long enough to reach the Greenwood Baptist Church in the early morning of the December 21 and March 21/September 21 analysis days. In the first minutes of the May 6/August 6 analysis day shadow may also be long enough to reach the All Saints Episcopal Church. Therefore, a detailed shadow analysis is required.

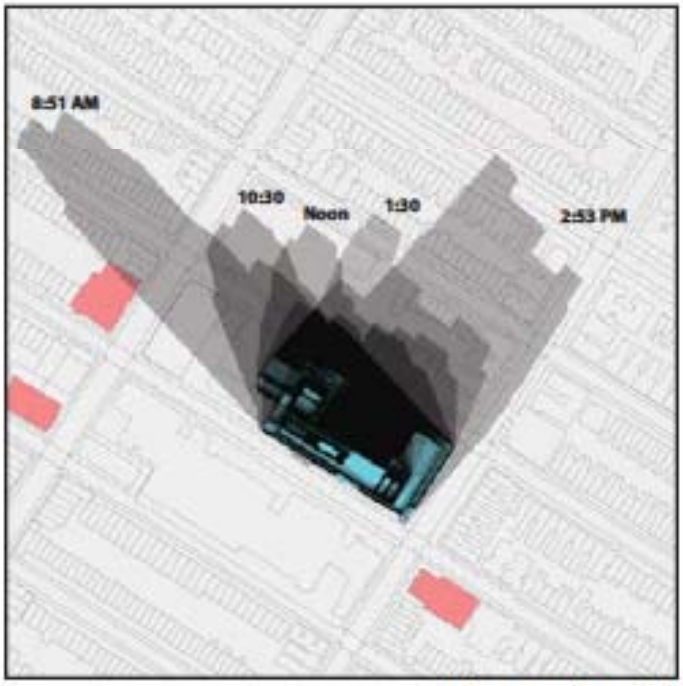


March 21/Sept. 21

May 6/August 6



June 21



December 21

Proposed Development

Architectural Resources with Sunlight-Sensitive Features

Shadow

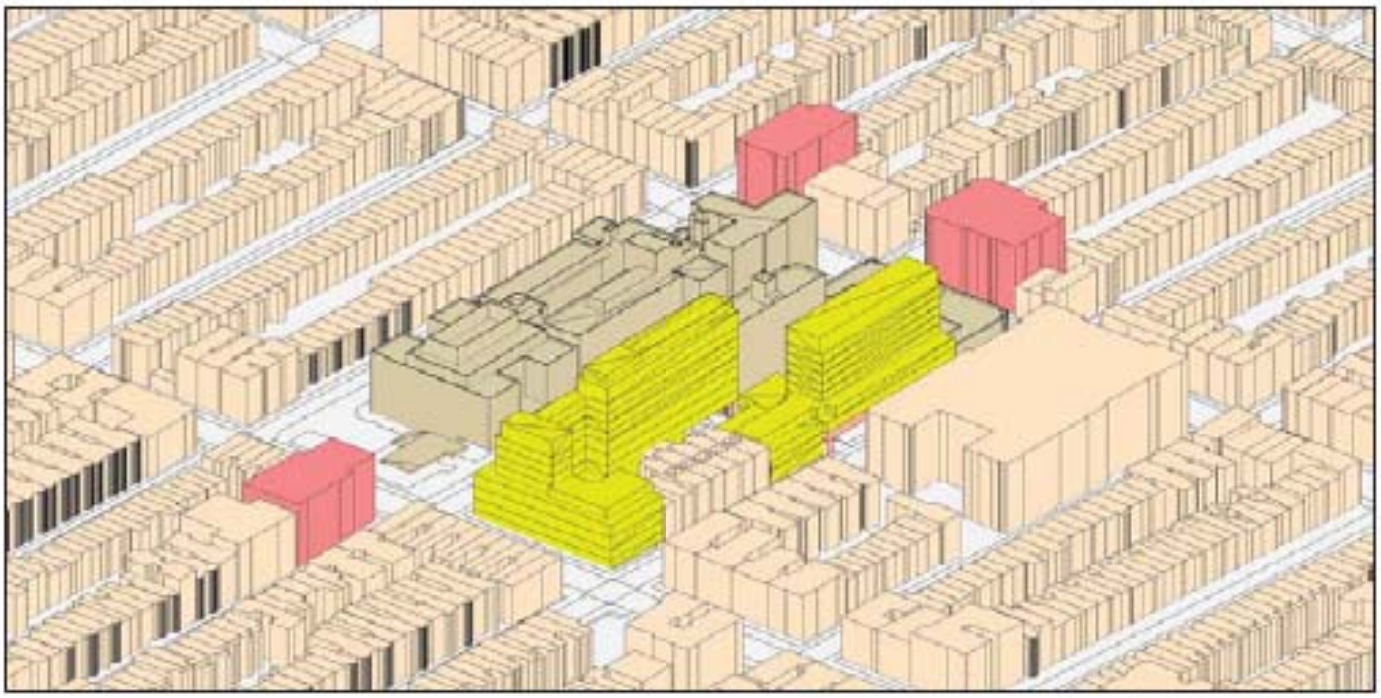
Notes: Daylight Saving Time not used. No publicly accessible open spaces in project vicinity.

D. DETAILED SHADOW ANALYSIS

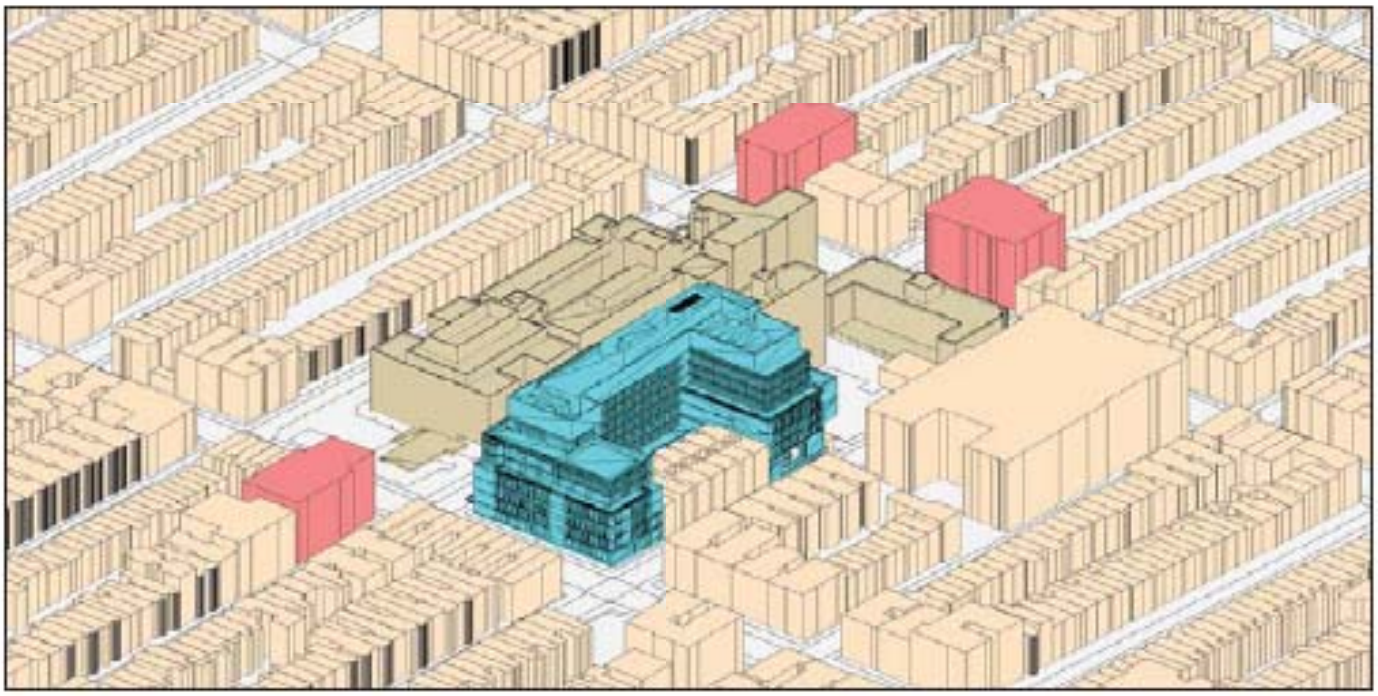
The purpose of the detailed analysis is to determine the extent and duration of new incremental shadows that fall on a sunlight-sensitive resource as a result of the Proposed Development. To evaluate the extent and duration of new shadow that would be added to a sunlight-sensitive resource as a result of the Proposed Development, the detailed shadows analysis establishes a baseline condition (future No Action) with which the future condition with the Proposed Development (future Build) is compared. In this case, the No Action condition is the as-of-right development (Complying Development). Because existing buildings and the Complying Development may already cast shadows on a sun-sensitive resource, the Proposed Development may not result in additional, or incremental, shadows upon that resource.

In order to carry out the detailed shadow analysis, the three-dimensional computer model used for the Tier 3 screening assessment was augmented by adding the existing and complying development in the study area. **Figure C-3** illustrates the computer models used in the detailed analysis of the future with the complying development and with the Proposed Development.

The detailed analysis concluded that because of existing intervening buildings to the immediate west of the Proposed Development Site, the Greenwood Baptist Church and All Saints Episcopal Church would receive no incremental shadow from the Proposed Development. Because these are the only sunlight-sensitive resource identified in the Tier 3 analysis no further analysis is necessary. The analysis concludes that the Proposed Development would not result in significant adverse shadow impacts. ✷



Future No Action Complying Development
View Southwest



Future with Proposed Development
View Southwest

Complying Development

Proposed Development

Architectural Resources with Sunlight-Sensitive Features

Three-Dimensional Computer Model
for Detailed Analysis
Figure C-3

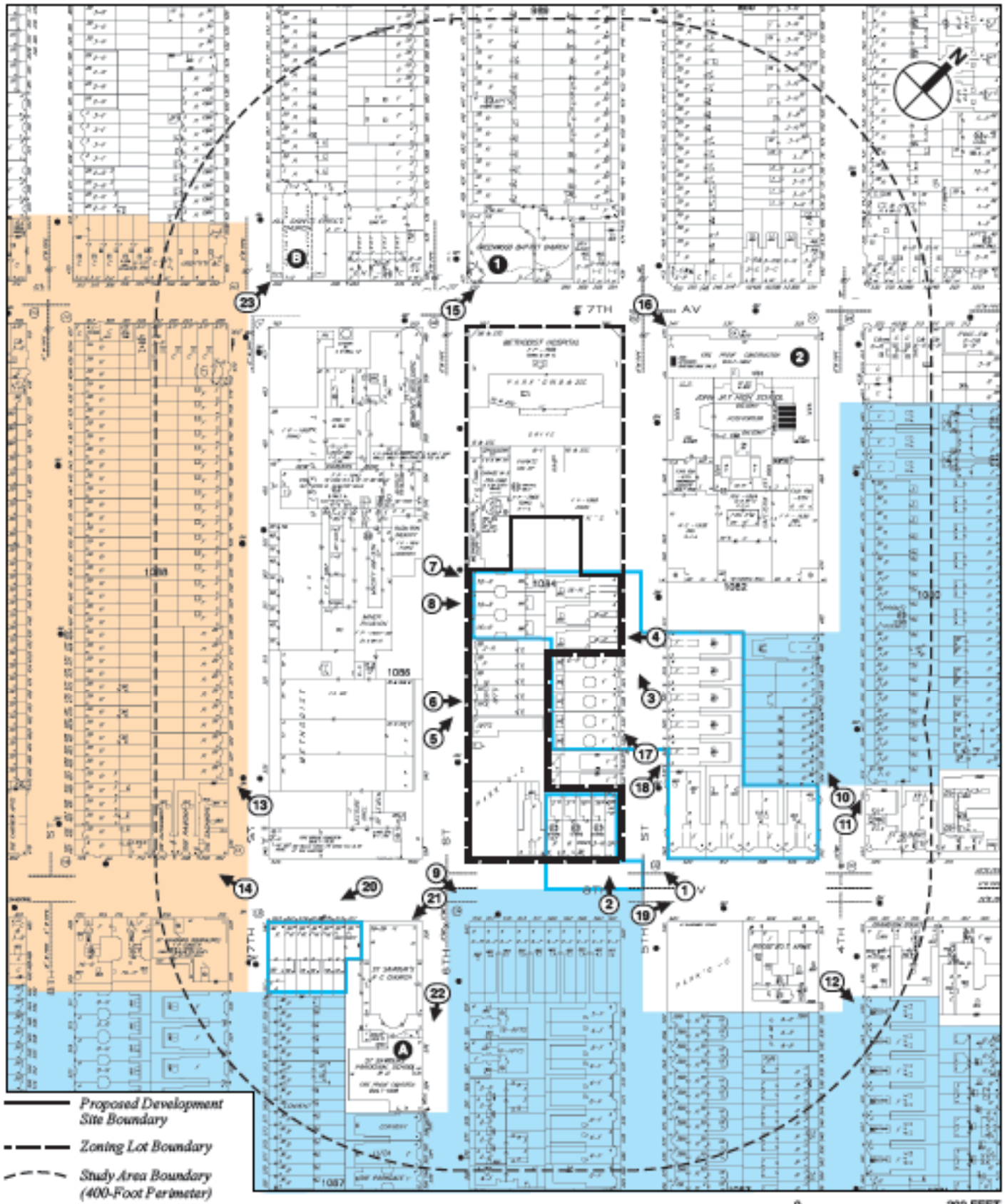
A. INTRODUCTION

The New York Methodist Hospital (NYM) is requesting waivers of certain provisions of the Zoning Resolution to facilitate development of a 498,500-gross-square-foot (approximately 311,000 square feet of zoning floor area) ambulatory care facility (the Center for Community Health) at 505-541 6th Street (502-522 8th Avenue and 512-520 5th Street) in Brooklyn NY. The Proposed Development Site is on the northern block of the larger NYM campus, which occupies two adjacent blocks bounded by 5th Street and 7th Street, and 7th Avenue and 8th Avenue. The Proposed Development Site is part of a zoning lot that includes existing buildings on the west end of the block, and consists of the parcels designated as Block 1084, Lots 25, 26, 28, 39 through 44, 46, 48, 50 through 59, 164, 1001, and 1002 (the Zoning Lot). There is a series of contiguous parcels that are not part of the Zoning Lot (out-parcels) fronting on 5th Street that give the Proposed Development Site a U-shape. The Proposed Development would be completed in 2017.

This section assesses the potential of the NYM proposed Center for Community Health to affect archaeological and architectural resources on the Proposed Development Site and in the surrounding area. The Proposed Development Site comprises a surface parking lot and several late 19th/early 20th century residential structures. Absent the proposed actions, NYM would replace these uses with a new building that conforms to the underlying zoning regulations (the Complying Development). The proposed action would also replace these uses with the Proposed Development, the Center for Community Health, which would provide new space for critical ambulatory healthcare functions and would have its bulk distributed differently than the Complying Development. This chapter considers the potential for the Proposed Development to impact historic and cultural resources in comparison to the Complying Development that would be built absent the proposed action.

The study area for archeological resources is the site itself where disturbance from excavation and construction can be anticipated. In a letter dated July 31, 2013, the New York City Landmarks Planning Commission (LPC) determined that the Proposed Development Site is not archaeologically sensitive (see **Appendix A**). Therefore, this attachment focuses on standing structures (architectural resources) only.

To evaluate potential effects resulting from on-site construction activities, and also to account for visual or contextual impacts, the study area for architectural resources is defined as extending 400 feet from the Proposed Development Site (see **Figure D-1**). Consistent with the guidance of the 2012 *CEQR Technical Manual,* designated architectural resources that were analyzed include: National Historic Landmarks (NHLs); properties listed on or formally determined eligible for listing on the State and National Register of Historic Places (S/NR), or contained with a district listed on or formally determined eligible for listing on the S/NR; New York City Landmarks (NYCLs), Interior Landmarks, Scenic Landmarks, New York City Historic Districts (NYCHDs); and resources calendared for consideration as one of the above by LPC.



New York Methodist Center for Community Health

Historic Resources
Figure D-1

Additionally, a survey was conducted to identify any previously undesignated properties that appear to be potentially eligible for NYCL designation or S/NR listing ("potential architectural resources").

B. METHODOLOGY

Consistent with the guidance of the *CEQR Technical Manual*, in order to determine whether the Proposed Development could potentially affect architectural resources, this attachment considers whether the Proposed Development would result in a physical change to any resource, a physical change to the setting of any resource (such as context or visual prominence), and, if so, whether the change is likely to alter or eliminate the significant characteristics of the resource that make it important. More specifically, as set forth in the *CEQR Technical Manual*, potential impacts to architectural resources may include the following:

- Physical destruction, demolition, damage, alteration, or neglect of all or part of an historic property;
- Changes to an architectural resource that cause it to become a different visual entity;
- Isolation of the property from, or alteration of, its setting or visual relationships with the streetscape, including changes to the resource's visual prominence;
- Introduction of incompatible visual, audible, or atmospheric elements to a resource's setting;
- Replication of aspects of the resource so as to create a false historical appearance;
- Elimination or screening of publicly-accessible views of the resource;
- Construction-related impacts, such as falling objects, vibration, dewatering, flooding, subsidence, or collapse; and
- Introduction of significant new shadows, or significant lengthening of the duration of existing shadows, over an historic landscape or on an historic structure (if the features that make the resource significant depend on sunlight) to the extent that the architectural details that distinguish that resource as significant are obscured.

B. EXISTING CONDITIONS

PROPOSED DEVELOPMENT SITE

There are no known architectural resources on the Proposed Development Site. The Proposed Development Site contains a surface parking lot and several late 19th/early 20th century buildings that are owned by NYM and are utilized for medical facilities; offices affiliated with NYM; apartments for NYM staff and medical students; and a pediatrics practice not affiliated with NYM. The surface parking lot, constructed in the second half of the 20th century, removed three early 20th century multi-family buildings on 8th Avenue and four early 20th century story rowhouses which likely matched the appearance of those at 515-523 6th Street on the Proposed Development Site. The construction trailer on 6th Street was installed ca. 2000.

Five four-story brownstones built by 1898 are located at 502-512 8th Avenue on Lots 39-43 (see **Figure D-2**). The buildings have bowed façades, stoops with shallow porticos supported on Ionic columns, modilioned cornices with swag friezes, and with decorative paneled doors at the entrances. The windows have been replaced with double hung aluminum. Four of the buildings (504-512 8th Avenue) have been fully gutted and no longer contain floors or partition walls.

502-512 8th Avenue, view southwest 1

Entry detail at 502 8th Avenue 2

Proposed Development Site -
8th Avenue
Figure D-2

The 5th Street portion of the Proposed Development Site is occupied by three four-story residential buildings (512-520 5th Street on Lots 25, 26, and 28) constructed in 1906 (see **Figure D-3**). The buildings have full-height, bay windows that flank a central entrance that is surmounted by a denticulated pediment. The ground floors are clad in limestone with a decorative course of acanthus leaves between the first and second floors. The buildings are further ornamented with a limestone window enframement at the second story above the entrance; a limestone plaque with an urn motif separates the two windows. The buildings are capped by heavy modilioned cornices. The windows and entry doors have been replaced.

The 6th Street frontage of the Proposed Development Site contains eight residential buildings (505-523 6th Street on Lots 54-59), constructed in 1906. The five rowhouses at 515-523 6th Street are clad in limestone with full height bay windows, tall stoops, and cornices with swag patterned friezes (see **Figure D-4**). Plaques with acanthus and swag motifs and egg and dart molding ornament the windows and entries at the elevated parlor floor. The entry doors are paired wood with glazed panels. The windows have been replaced with double hung aluminum and there are several glass and metal entry additions at ground level. A one-story rear extension was constructed ca. 1991, and is integrally joined with the building at 523 6th Street, extending behind the adjoining buildings to the west.

To the west, the three adjoining residential buildings at 505-511 6th Street are four-story, clad in red brick, with full height bowed bays flanking the central entrance, and with short stoops (see **Figure D-5**). Decorative elements include limestone window enframements at the first floor, paired windows capped by a stone pediment above the entrance at the second floor, and cornices that follow the curve of the bowed façades. The windows have been replaced with double hung aluminum replacements.

The interiors of the buildings on 5th and 6th Streets and the building at 502 8th Avenue have been substantially modified, particularly in the 1980s, to convert them from residences to hospital medical facilities, offices, and housing for staff and medical students.

These late 19th and early 20th century buildings constitute some of the many rowhouse and apartment buildings that were built in Park Slope in the late 19th century and early part of the 20th century. A large number of these types of buildings are included within the Park Slope Historic District and Extension (described below under "Study Area"). The buildings on the Proposed Development Site exist as small pockets within a substantially modified built context located west of 8th Avenue between 5th and 7th Streets. This area, unlike the blocks to the north and south and those east of 8th Avenue that are within the Park Slope Historic District and Extension and that are primarily dominated with intact rows of rowhouse and apartment buildings, lacks a cohesive and unified historic architectural character. This is due to the construction of large and more recently built NYM buildings of up to eight stories in height that occupy the full block to the south of the Proposed Development Site. The NYM buildings and parking facilities create large gaps and intrusions on the project block, which was historically fully developed with rowhouse and apartment buildings by 1926. The late 19th/early 20th century buildings on the Proposed Development Site do not possess significant architectural characteristics such that each property individually would meet eligibility criteria for S/NR listing or NYCL designation. However, the buildings at 502-512 8th Avenue, 505-511 6th Street, and 512-520 5th Street are of a comparable age and exterior architectural character as the rowhouses and apartment buildings located in the Park Slope Historic District and Extension. As such, they may meet eligibility criteria for inclusion within a potential extension to the Park Slope Historic District boundaries. The buildings at 515-523 6th Street have had their exteriors

512-520 5th Street, view southwest 3

Detail, 520 5th Street 4

Proposed Development Site -
5th Street
Figure D-3

512-523 6th Street, view northwest 5

Detail, 521 and 523 6th Street 5

Proposed Development Site -
6th Street
Figure D-4

505-511 6th Street, view northeast 7

Detail, 509 6th Street 8

Proposed Development Site - 6th Street
Figure D-5

more substantially modified through the addition of the steel and glass entrance additions at street level, and do not appear to retain sufficient integrity for inclusion within a potential extension to the Park Slope Historic District.

ZONING LOT

The Proposed Development Site lots will be part of a combined zoning lot that includes two additional lots on the project block (Lots 164 and 1001-1002) that are owned by NYM and contain medical uses. Lots 164 and 1001-1002 were historically occupied by rowhouse and apartment buildings that had been built on the site by 1926, and have since been removed and replaced with the current uses on the site. Lot 164, located on the south side of the project block facing 6th Street, is developed with the Wesley House, a 12-story building containing NYM treatment facilities, offices, and medical student housing that was built in 1966. The building is not architecturally distinguished and would not meet criteria for NYCL designation, nor does it meet the 50 year age criterion for S/NR listing. Lot 1001-1002, on the western end of the project block and including frontage on 6th Street, is developed with the 5-story Medical Pavilion and was built in 1996 and a one-story parking garage built in 1966. These structures do not meet the 50 year age criterion for S/NR listing and the one-story garage is undistinguished and would not meet criteria for NYCL designation.

STUDY AREA

KNOWN ARCHITECTURAL RESOURCES

There are four known architectural resources in the study area.[1]

Park Slope Historic District (NYCHD, S/NR-listed) and Extension (NYCHD)

The Park Slope Historic District, designated by LPC in 1973 and listed on the S/NR in 1980, is roughly bounded by Park Place to the north, Flatbush Avenue and Prospect Park West to the east, 14th Street to the south, and 8th Avenue to the west (6th and 7th Avenues north of 5th Street). The extension to the historic district designated by LPC in 2012 is roughly bounded by 7th Street to the north, 8th Avenue to the east (except between 14th and 16th Streets, where it extends east to Prospect Park West), 16th Street to the south, and the west side of 7th Avenue to the west. The historic district and extension includes a mix of mansions, row houses, apartment houses, and institutional buildings, almost all of which were erected in the final decades of the 19th century and the first years of the 20th century up to World War 1 (see **Figures D-6 through D-8**). These include many rows of brownstone houses as well as outstanding examples of Romanesque Revival and Queen Anne style single-family residences. The neo-Grec style is the most popular style in the historic district extension, with over 200 row houses and flats buildings designed in that style. The historic district extension also includes some two-family houses constructed between 1899 and 1909 in the Renaissance Revival style, as well as some important institutional and commercial buildings. St. Saviour Church convent is located within a former apartment building, converted in 1928, at 590 6th Street.

In addition to the recent extension of the Park Slope Historic District, approved in 2012, a second extension of the historic district to cover several blocks in the northern portion of Park Slope (an area roughly bounded by 5th Avenue, Flatbush Avenue, and Union Street) has been

[1] The Park Slope Historic District and Park Slope Historic Extension are described together.

10.14.13

Park Slope Historic District, east side of 8th Avenue between 5th and 6th Streets 9

Park Slope Historic District, south side of 4th Street west of 8th Avenue 10

Study Area -
Known Architectural Resources
Figure D-6

Park Slope Historic District, north side of 4th Street west of 8th Avenue 11

Park Slope Historic District, north side of 4th Street east of 8th Avenue 12

Study Area -
Known Architectural Resources
Figure D-7

Park Slope Historic District Extension, south side of 7th Street west of 8th Avenue 13

Park Slope Historic District Extension, west side of 8th Avenue between 7th and 8th Streets 14

Study Area -
Known Architectural Resources
Figure D-8

proposed and is under consideration by LPC. This proposed extension to the Park Slope Historic District is located outside of the study area.

Greenwood Baptist Church (S/NR-Eligible)

The Greenwood Baptist Church was designed by A.F. Leight and built in 1900 for a congregation that was incorporated in 1857 and formerly occupied a church at 23rd Street and 4th Avenue, built by the congregation in the mid-1860s. The church occupies a site at 461 6th Street, at the northwest corner of 6th Street and 7th Avenue in Brooklyn. The building is roughly rectangular in plan and faced in a brown-colored stone with gabled roofs (see **Photo 15 of Figure D-9**). The main entrance is at the southeast corner of the building, which is topped by a square, crenellated tower and lancet windows. The 7th Avenue and 6th Street façades are near mirrors of one another. On each, the main sanctuary space is identified by a gable-front section with a large Gothic arched stained glass window. There are secondary entrances to the building at the far west corner of the 6th Street façade and the far north corner of the 7th Avenue façade; each, like the main entrance, is topped by a square crenellated tower. Other decorative elements include trefoil ornament and lancet and Gothic arched windows.

John Jay Educational Campus (S/NR –eligible)

The former John Jay Educational Campus, originally the Manual Training High School, was built in 1908 and designed by C.B.J. Snyder, the Superintendent of School Buildings for the Department of Education. The name of the facility appears to have been changed in the late 1950s. John Jay was closed in 2004. Currently, the building is in use by the Secondary School for Law; the Secondary School for Journalism; Park Slope Collegiate; and Millenium Brooklyn High School. Located at 237 7th Avenue, the building occupies approximately half the block bounded by 4th and 5th Streets and 7th and 8th Avenues, and has frontage on 7th Avenue, 4th Street, and 5th Street. The building is consistent with other Snyder-designed facilities in its use of red brick and masonry decorative element, including quoins delineating end and building entrance bays (see **Photo 16 of Figure D-9**). The plan of the structure is somewhat different than other Snyder schools; rather than a typical H- or I-plan, the plan of John Jay is an I-plan where the west side of the 'I' has been filled in to create a continuous façade on 7th Avenue. The main entrance to the building is centered on 7th Avenue. The building has a one-story rusticated stone base and large, multi-paned windows, vertically separated by stone panels. The 7th Avenue façade appears to have originally had a mansard roof; this roof, as well as elaborate decoration above the fifth floor windows in this section of the building, has since been removed. Secondary entrances on 4th and 5th Streets have been partially bricked in, and some windows at the first and second levels have been covered with metal screens or grillwork. Additions dating to 1938 that match the original design of the building are located at the rear of the building on 4th and 5th Streets.

POTENTIAL ARCHITECTURAL RESOURCES

Potential Extension of the Park Slope Historic District

There are a number of rowhouses and multi-family dwellings constructed in the late to early part of the 20th century that are of a similar age and architectural character as the properties located in the Park Slope Historic District and Extension. These include the buildings at 522-532 5th Street adjacent to the Proposed Development Site built in 1905-06, four-story stone faced buildings with bowed fronts, entry porticos supported by Corinthian columns, stoops, and bracketed cornices (see **Photo 17 of Figure D-10**). The four-story buildings on the north side of 5th Street across from the Proposed Development Site at 515-529 5th Street were constructed in

Greenwood Baptist Church, 461 6th Street 15

John Jay Educational Campus, 237 7th Avenue 16

Study Area -
Known Architectural Resources
Figure D-9

10.14.13

522-532 5th Street, view southwest 17

512-529 5th Street, view northwest 18

Study Area -
Potential Architectural Resources
Figure D-10

1906 and are also clad in stone with bowed façades, porticos supported on Corinthian columns, stoops and bracketed cornices (see **Photo 18 of Figure D-10**). The west blockfront of Eighth Avenue between 5th and 4th Streets is occupied by four multi-family residential buildings built in 1908-1910. These four-story buildings have bowed façades, entry porticos that support balconies, decorative stone ornament at the second and third stories, and are capped by modilioned cornices (see **Photo 19 of Figure D-11**). The east blockfront of 8th Avenue south of St. Saviour Church contains seven three-story rowhouse structures built between 1898 and 1906. 611 and 613 8th Avenue, adjacent to St. Saviour Church, function as the church's rectory, and are clad in red brick with decorative limestone window surrounds, a stone cornice, and with a shared central entrance at street level. 615-623 8th Avenue are clad in red brick with stoops, intricately carved blind stone arches at the elevated parlor level, oriel and bay windows, and with attic stories with dormers (see **Photo 20 of Figure D-11**). As a group, these properties, in addition to certain of the late 19th/early 20th century buildings located on the Proposed Development Site as described above, could constitute potential extensions to the Park Slope Historic District.

St. Saviour Church and High School

St. Saviour Church is located at 611 8th Avenue, at the southeast corner of 8th Avenue and 6th Street. The structure was developed for a new parish created in 1905, which extended from 4th to 10th Streets and from 6th Avenue to Prospect Park West. The Romanesque style church was designed by the firm of Lynch and Orchard and constructed in 1905 and 1912-1914.The building's main façade faces 8th Avenue. It has a raised main level, accessed via a stone entry porch; a main entry with a round-arched surround and flanked by Corinthian columns; and two side entries topped by simple pediments (see **Photo 21 of Figure D-12**). The church is clad in buff-colored brick with a rusticated stone base, and has simple cornices above the first and second floors. The second floor arched windows on both the 8th Avenue and 6th Street façades are of stained glass. A stone crucifix stands atop the parapet fronting on 8th Avenue.

St. Saviour High School is adjacent to the Church at 588 6th Street and was built in 1908. It is a four-story building clad in red brick with limestone trim, including water table, beltcourses, and a denticulated cornice (see **Photo 22 of Figure D-12**). The façade at street level is patterned to provide a rusticated appearance and decorative brickwork is utilized at the parapet and beneath the windows between the third and fourth floors. The building has matching entrances at each end with limestone surrounds and cornices with egg and dart molding.

All Saints Episcopal Church

All Saints Episcopal Church at 286-288 Seventh Avenue was constructed in phases between 1881 and 1892. The church was founded in 1867 and construction of the current church at the northwest corner of Seventh Avenue and 7th Street commenced in 1881. By 1886, construction had extended to Seventh Avenue, with the cornerstone laid in 1892. The church is designed in the Romanesque-Moorish style, of yellow brick with terra cotta ornament. The primary Seventh Avenue façade has two towers with copper domes that flank a large central gable in which is set a large stained glass rose window and is topped by a stone crucifix. The entry is recessed within a large round arched opening. The church has a number of stained glass windows, including one the church's online history states was designed by Louise Comfort Tiffany. The interior is distinguished with a barrel vaulted ceiling, clerestory windows, and terra cotta ornament. The church suffered a fire in 1976, which required reconstruction of some of the interior and primary east façade, including replacement of stained glass.

402-420 8th Avenue, view northwest 19

615-623 8th Avenue, view southeast 20

Study Area -
Potential Architectural Resources
Figure D-11

St. Saviour Church, 611 8th Avenue 21

St. Saviour High School, 588 6th Street 22

Study Area -
Potential Architectural Resources
Figure D-12

All Saints Episcopal Church, 286-288 7th Avenue 23

Study Area -
Potential Architectural Resources
Figure D-13

C. THE FUTURE WITHOUT THE PROPOSED PROJECT

COMPLYING DEVELOPMENT

If none of the discretionary approvals take place, NYM has determined that it would build the Complying Development, which would contain approximately 518,020 gsf of space. The Complying Development would be built on the Proposed Development Site, requiring the removal of all existing structures, as well as on the site of an existing enclosed parking garage located adjacent to, and west of the Project Development Site on Lot 1001-1002 of the Zoning Lot. The Complying Development would consist of two disconnected building segments rising from a common at-grade base. Streetwall heights would range in height from less than 50 feet to 60 feet. The tallest sections of the Complying Development would be built along 6th Street and above the existing garage on Lot 1001-1002 (on the Zoning Lot). These portions of the Complying Development would rise to 8-stories plus two mechanical levels, for a total height of approximately 149 feet after setting back 20 feet from streetwalls of approximately 60 feet (or six stories) in height. Lower sections of the Complying Development would be located at the northeast corner of the site facing 5th Street and 8th Avenue and at the west end of the Proposed Development Site on 5th Street, adjacent to the Lot 1001-102 on the Zoning Lot.

The demolition of the late 19th/early 20th century buildings at 502-512 8th Avenue, 512-520 5th Street, and 505-511 6th Street would remove potential architectural resources from the Proposed Development Site that could constitute extensions to the Park Slope Historic District.

Eleven known architectural resources are located within 90 feet of the Proposed Development Site. These include the 10 rowhouses within the Park Slope Historic District at 501-519 8th Avenue across from the Proposed Development Site, and John Jay Educational Campus at 237 7th Avenue (aka 475-505 5th Street) which is located within 90 feet of the Proposed Development Site and the one-story garage on Lot 1001-1002 that will be developed absent the proposed actions.

A number of potential architectural resources are also located within 90 feet of the Proposed Development Site. These include the five 4-story early 20th century buildings at 522-532 5th Street adjacent to the Proposed Development Site, the five 4-story early 20th century buildings at 515-529 5th Street across from the Proposed Development Site, and the 4-story early 20th century building at 420 8th Avenue (aka 533-543 5th Street) across 5th Street from the Proposed Development Site.

These known and potential architectural resources could potentially be adversely impacted by ground-borne vibrations or other potential construction-related activities. The New York City Building Code provides some measures of protection for all properties against accidental damage from adjacent construction by requiring that all buildings, lots, and service facilities adjacent to foundation and earthwork areas be protected and supported. While these regulations serve to protect all structures adjacent to construction areas, they do not afford special consideration for historic structures.

The redevelopment of the Proposed Development Site with the Complying Development will alter the context of some of the nearby known and potential architectural resources, particularly those closest to the Proposed Development Site, including the Park Slope Historic District across 8th Avenue, John Jay Educational Campus on 5th Street, and the late 19th/early 20th century potential architectural resources located on 5th Street, 6th Street and 8th Avenue. However, these buildings are already located in a setting that has been altered through the development of

the existing larger scale NYM medical facilities on the west half of the project block and on the full block bounded by 7th and 8th Avenues and 6th and 7th Streets.

OTHER FUTURE PROJECTS AND PROPOSED ARCHITECTURAL RESOURCES

As discussed in Attachment B, "Land Use, Zoning, and Public Policy," there no projects under development within the study area that are expected to be complete by 2017. Therefore, there would be no anticipated impacts to historic and cultural resources in the study area in the future without the Proposed Development.

In addition to the extension of the Park Slope Historic District south of 7th Street designated in 2012, an extension at the north end of the Park Slope Historic District was calendared for designation by LPC on September 17, 2013. The proposed Park Slope Historic District Extension II consists of 5 areas north of Union Street. The Park Slope Historic District Extension II is located outside the study area.

D. THE FUTURE WITH THE PROPOSED PROJECT

PROPOSED DEVELOPMENT SITE

With the Proposed Development, NYM would construct new medical facilities on the Proposed Development Site. Unlike the Complying Development, no new construction would occur in the location of the one-story parking structure located on Lot 1001-1002 in the Zoning Lot. The Proposed Development would be of a lesser density than the Complying Development, with 498,500 gsf.

The Proposed Development would be seven stories tall, plus two mechanical levels, for a total height (including mechanicals) of approximately 152 feet. The taller portion of the Proposed Development would face 6th Street and would step down to extend to 5th Street in the midblock area. Along most of 8th Avenue and wrapping the corner with 5th Street, the streetwall would be four-stories, with a height of 60 feet. Beyond the streetwall, the building would set back 10 feet for an additional two stories. A two-story streetwall would extend to the west on 5th Street, with an additional four stories setting back from the streetwall. The streetwall at the west corner of the Proposed Development Site on 5th Street would also be four stories (or 60 feet), with an additional three-stories set back. Along 6th Street, the Proposed Development would primarily have a streetwall height of six-stories (approximately 90 feet) prior to stepping back.

The proposed variances would allow NYM to fulfill its programmatic needs by providing a fully interconnected building with large, uniform floorplates and to locate the taller sections of the building towards the south and west ends of the Proposed Development Site in proximity to the existing tall NYM facilities on the block to the south and the Wesley House adjacent to the Proposed Development Site on 6th Street. As in the future without the Proposed Development (i.e., the Complying Development), the Proposed Development would result in the demolition of the potential architectural resources identified on the Proposed Development Site. Because the potential architectural resources will be demolished with the Complying Development in the future without the proposed project, the redevelopment of the Proposed Development Site with the Proposed Development would not constitute a significant adverse impact on architectural resources as compared to the No Action condition.

ZONING LOT

As there are no architectural resources located on the balance of the Zoning Lot, the proposed action would not result in any significant adverse impacts on such resources.

STUDY AREA

DIRECT IMPACTS

Using the *CEQR Technical Manual* direct impact criteria noted above, the proposed action would not result in the replication of aspects of any of the resources in the study area so as to cause a false historical appearance, or the introduction of significant new shadows or lengthening of the duration of existing shadows of historic landscapes or structures. There would be no physical changes to any of the architectural resources in the study area identified above. As described in Attachment C, "Shadows," the analysis concluded that the Proposed Development would not result in significant adverse shadow impacts on architectural resources with sun sensitive features, including Greenwood Baptist Church, St. Saviour Church, and All Saints Episcopal Church.

With respect to potential construction-related impacts on nearby historic resources, a number of known and potential architectural resources are located within 90 feet of the Proposed Development Site. These include the following properties, which are the same as those described above that could be affected by the Complying Development:

Known Architectural Resources

- 10 rowhouses within the Park Slope Historic District at 501-519 8th Avenue
- John Jay Educational Campus at 237 7th Avenue (aka 475-505 5th Street)

Potential Architectural Resources

- five 4-story early 20th century residential buildings at 522-532 5th Street
- five 4-story early 20th century buildings at 515-529 5th Street
- one 4-story early 20th century building at 420 8th Avenue (aka 533-543 5th Street)

Demolition of the structures on the Proposed Development Site, followed by site preparation and construction, including the use of heavy machinery, could potentially result in inadvertent damage to the known and potential resources described above if adequate precautions are not taken. Therefore, to avoid inadvertent demolition and/or construction-related damage to these resources from ground-borne construction-period vibrations, falling debris, collapse, etc., these buildings would be included in a Construction Protection Plan (CPP) for historic structures that would be prepared in coordination with LPC and implemented in consultation with a licensed professional engineer. This CPP would be prepared as set forth in Section 523 of the *CEQR Technical Manual* and in compliance with the procedures included in the DOB's TPPN #10/88 and LPC's *Guidelines for Construction Adjacent to a Historic Landmark* and *Protection Programs for Landmark Buildings*. It would include provisions for pre- and post-construction documentation; monitoring including for cracks, settlement and vibration as deemed appropriate; stop work orders; and protection measures for falling objects and party wall exposure. The CPP would be prepared and implemented prior to demolition and construction activities and project-related demolition and construction activities would be monitored as specified in the CPP.

INDIRECT IMPACTS

The *CEQR Technical Manual* criteria for indirect, contextual impacts are as follows:

- Isolation of a property from, or alteration of, its setting or visual relationships with the streetscape, including changes to the resource's visual prominence;
- Introduction of incompatible visual, audible, or atmospheric elements to a resource's setting; and
- Elimination or screening of publicly accessible views of the resource.

Each of these criteria is discussed in more detail below, with respect to the architectural resources in the study area.

As described above, the Proposed Development, like the Complying Development, would alter the setting of nearby known and potential architectural resources. The Proposed Development would replace the paved parking lot and late 19th/early 20th three- and four-story residential buildings on the Proposed Development Site with a new institutional building of a greater bulk and height. The nearby known architectural resources include the Park Slope Historic District across 8th Avenue and John Jay Educational Campus across 5th Street, and there are also early 20th century potential architectural resources located on 5th Street, 6th Street and 8th Avenue. However, the setting of these resources has already been altered through the removal of rowhouse and multi-family dwellings built in the early 20th century that once occupied the Proposed Development Site on 8th Avenue and 6th Street in the location of the existing parking lot. Redevelopment of the western half of the project block and development of the full block between 7th and 8th Avenues and 6th and 7th Streets with NYM medical facilities contained within larger, taller, and more recently constructed buildings of up to eight stories in height has also further substantially altered the setting of the nearby historic resources. While the setting would be further altered by the Proposed Development, it would not isolate the historic properties from their setting or significantly alter the resources' visual relationship with the streetscape. As the historic resources front onto public streets, their visual prominence would not be significantly altered, as their primary façades would continue to be visible from these locations. In addition, the requested variances allow for the taller sections of the building to be located towards the south and west ends of the Proposed Development Site in proximity to the existing tall NYM facilities on the block to the south and NYM's Wesley House adjacent to the Proposed Development Site on 6th Street, and, therefore, at a greater distance from the smaller historic residential buildings along 5th Street and 8th Avenue.

NYM has occupied the full block bounded by 7th and 8th Avenues and 6th and 7th Streets since the late 19th century with the hospital facilities on the site substantially rebuilt and expanded throughout the 20th century, and with additional facilities built at the west end of the project block in the second half of the 20th century. The Proposed Development would result in buildings of a similar scale, height, and use as the existing NYM facilities in the study area that are in proximity to the architectural resources. Therefore, the Proposed Development would not introduce incompatible visual, audible, or atmospheric elements to the setting of architectural resources in the study area.

The historic resources are located along public streets, including 8th Avenue, an 80-foot-wide street, and 5th and 6th Streets, which are 60 feet wide. Therefore, the primary façades of the historic resources in the study area would continue to remain visible. Buildings with significant rooftop elements—the crucifix at the parapet of St. Saviour Church, the gabled roofs and crenellated towers of the Greenwood Baptist Church, and copper domed towers and crucifix at

the central gable of All Saints Episcopal Church—would remain prominently visible due to distance of these resources across streets from the Proposed Development Site. Therefore, the Proposed Development would not eliminate or screen publicly-accessible views of the resources.

In summary, the Proposed Development would not be anticipated to have any significant adverse impacts on historic and cultural resources with the preparation and implementation of a CPP for the known and potential architectural resources located within 90 feet of the Proposed Development Site. ✷

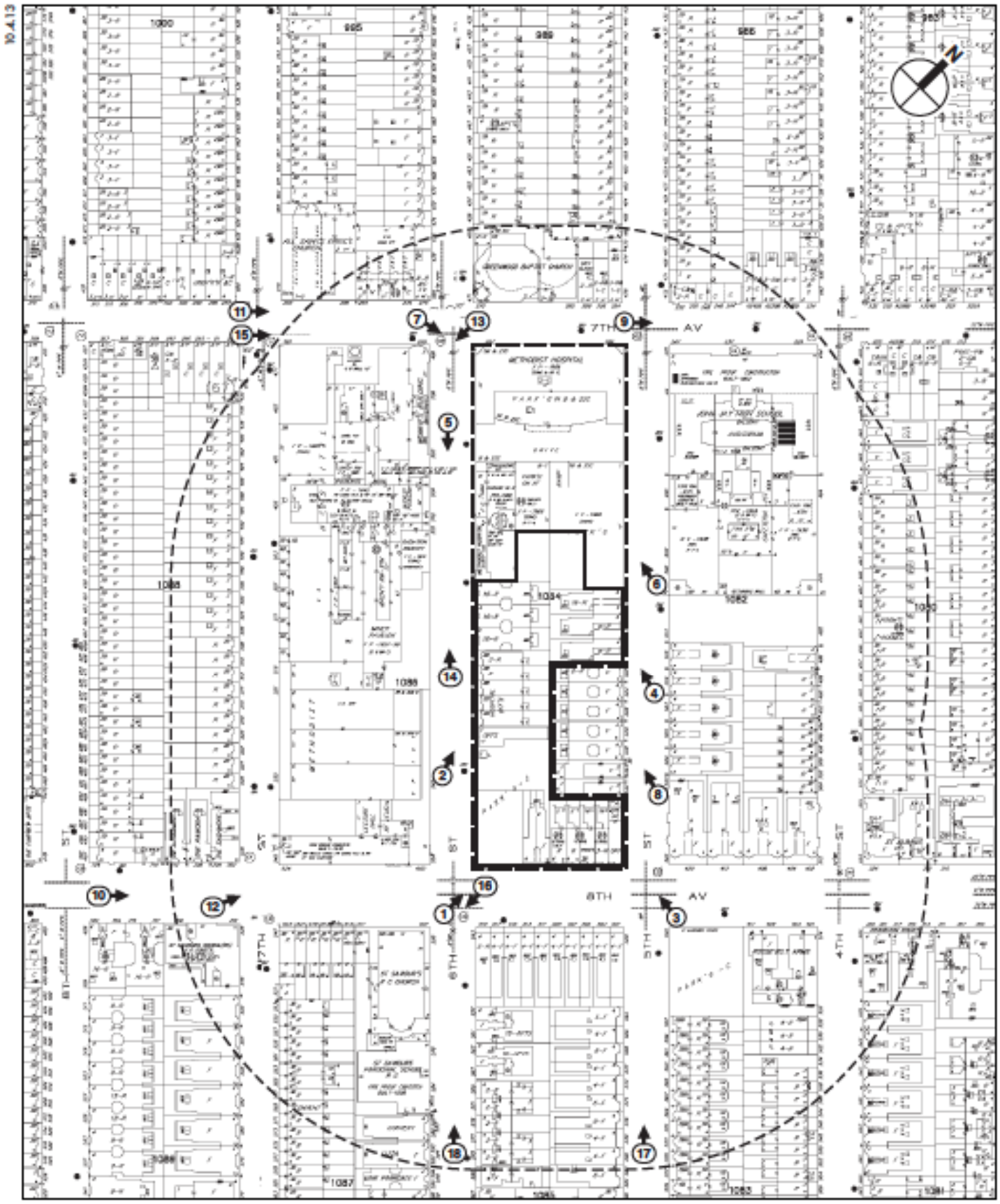
A. INTRODUCTION

The New York Methodist Hospital (NYM) is requesting waivers of certain provisions of the New York City Zoning Resolution (ZR) to facilitate development of a 498,500-gross-square-foot (approximately 311,000 square feet of zoning floor area) ambulatory care facility (the Center for Community Health) at 505-541 6th Street (502-522 8th Avenue and 512-520 5th Street) in Brooklyn NY. The Proposed Development Site is on the northern block of the larger NYM campus, which occupies two adjacent blocks bounded by 5th Street and 7th Street, and 7th Avenue and 8th Avenue. The Proposed Development Site is part of a zoning lot that includes existing buildings on the west end of the block, and consists of the parcels designated as Block 1084, Lots 25, 26, 28, 39 through 44, 46, 48, 50 through 59, 164, 1001, and 1002 (the Zoning Lot). There is a series of contiguous parcels that are not part of the Zoning Lot (out-parcels) fronting on 5th Street that give the Proposed Development Site a U-shape. The Proposed Development would be completed in 2017.

This chapter considers the potential for the proposed actions to affect the urban design and visual resources of the study area. Pursuant to the proposed actions, NYM would construct a 498,500-gross-square-foot (gsf) ambulatory care facility on the Proposed Development Site, which is located on the block bounded by 5th and 6th Streets and 7th and 8th Avenues in the Park Slope neighborhood of Brooklyn (see **Figure E-1** for a project site map). The Proposed Development requires variances granted by the New York City Board of Standards and Appeals (BSA) relating to distribution of floor area, lot coverage, rear yard, height and setback, rear yard setback, and surface area and number of signs as set by the ZR. The required variances are described in greater detail in the EAS Form, and in Attachment A, Project Description."

As defined in the 2012 *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 preliminary assessment addresses the urban design and visual resources of the study area for existing conditions, the future without the proposed actions, and the future with the proposed actions in 2017 when the Proposed Development is expected to be completed.

As described below, this preliminary assessment concludes that the Proposed Development would not result in any significant adverse impacts to urban design and visual resources from the pedestrian's perspective and no further analysis is warranted.



Proposed Development Site Boundary

Zoning Lot Boundary

Study Area Boundary (400-Foot Perimeter)

① *Photograph View Direction and Reference Number*

New York Methodist Center for Community Health

Urban Design and Visual Resources
Project Site Map
Figure E-1

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 Development would result in physical alterations to the Proposed Development Site observable by pedestrians that are not allowed by existing zoning. Therefore, the Proposed Development 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 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 Proposed Development Site are limited to the immediately surrounding streets. Therefore, the study area focuses on a 400-foot study area, consistent with the land use study area (see **Figure E-2** for an aerial map of the study area).

The *CEQR Technical Manual* recommends an analysis of pedestrian wind conditions for projects that would result in the construction of large buildings at locations that experience high wind conditions (such as along the waterfront, or other locations where winds from the waterfront are not attenuated by buildings or natural features), which may result in an exacerbation of wind conditions due to "channelization" or "downwash" effects that may affect pedestrian safety. As the Proposed Development would not result in a large building in a location that experiences high wind conditions, a pedestrian wind conditions analysis is not required.

C. PRELIMINARY ASSESSMENT

EXISTING CONDITIONS

PROPOSED DEVELOPMENT SITE

The Proposed Development Site is the northern portion of the NYM campus, which includes facilities located on the block immediately to the south, as described below. The Proposed Development Site occupies approximately half of the block and fronts on 8th Avenue and 6th and 5th Streets. On the Proposed Development Site, a paved parking lot enclosed with a metal fence is located at the intersection of 6th Street and 8th Avenue (see view 1 of **Figure E-3**). To the west of the parking lot along 6th Street, the site contains five 3-story former row houses and three 4-story former apartment buildings (see view 2 of **Figure E-3**). Designed in Renaissance Revival styles, the former row houses and apartment buildings have projecting bays, cornices, and decorative stonework. The row houses are set farther back from the street than the adjacent apartment buildings, and they have tall stoops that have been altered. In addition, the original front yard areas and ground floors of the row houses have been modified with new entrances. On 8th Avenue, there are five 3- and 4-story brownstone former apartment buildings (see view 3 of **Figure E-4**). They are all set back from the avenue behind enclosed, paved yards, but only three

Urban Design and Visual Resources Aerial Map
Figure E-2

View north from 8th Avenue at 6th Street 1

View northwest on 6th Street 2

Existing Conditions Photographs–
Proposed Development Site
Figure E-3

View west on 8th Avenue from 5th Street 3

View west on 5th Street 4

Existing Conditions Photographs–
Proposed Development Site
Figure E-4

retain their original stoops. Like the buildings on 6th Street, they are designed in a Renaissance Revival style and have projecting bays and decorative cornices. The 5th Street portion of the Proposed Development Site contains three 4-story former apartment buildings (see view 4 of **Figure E-4**). They also have stoops, projecting bays, decorative stonework, and cornices. NYM hospital uses currently occupy these brick and stone buildings.

ZONING LOT

The Proposed Development Site is part of a combined Zoning Lot occupied by two NYM buildings and a parking garage. The modern 12-story (135-foot-tall) Wesley House fronts on 6th Street, adjacent to the former apartment buildings on the Proposed Development Site. Set back from the street behind a one-story section, it is massed as a slab with a long street frontage and a brick façade articulated as a grid (see view 5 of **Figure E-5**). Adjacent to the west of the Wesley House is the entrance ramp to the below grade parking garage. Because of the slope of the project block, the roof of the garage rises above the level of 5th Street to create a 1-story structure with a tall brick wall on 5th Street (see view 6 of **Figure E-5**). The garage wall rises in height toward 7th Avenue. The 7th Avenue end of the block contains the 5-story Medical Pavilion. This modern building is faced in brick and has rounded bays at the corners and a decorative cornice to reference the historical designs of the row houses and apartment buildings found on the Proposed Development Site and throughout the study area (see view 8 of **Figure E-6**). The Medical Pavilion contains ground-floor retail along the avenue.

REMAINDER OF THE PROJECT BLOCK

On 5th Street, the Proposed Development Site wraps around two 3-story and five 4-story brick and stone apartment buildings (see view 8 of **Figure E-6**). The buildings at 536-540 5th Street are designed in a Georgian Revival style and are separated by a paved areaway accessed through a brick arch. The buildings to the west at 532-522 5th Street have rounded bays and projecting cornices. All of these buildings are set back from the street and have stoops.

STUDY AREA

Urban Design

The area around the Proposed Development Site has been developed in a grid street pattern with long rectangular blocks between the avenues. The wide, two-way 7th Avenue borders the project block on the west and is lined by a mix of low-rise residential buildings with ground-floor storefronts and low- to high-rise institutional buildings (see view 9 of **Figure E-7**). On the east side of the Proposed Development Site, 6th Avenue is a narrower, one-way street without ground-floor retail (see view 10 of **Figure E-7**). For the most part, the area around the Proposed Development Site is a leafy neighborhood of attached row houses and low-rise apartment buildings, churches, and schools. An exception is the block south of the Proposed Development Site that is developed with tall hospital buildings. The area's topography has an upward slope from 7th Avenue to Prospect Park, which is outside of the project area. As described in Attachment D, "Historic and Cultural Resources," portions of the study area are located within the boundaries of the Park Slope Historic District and Extension.

The block to the south of the Proposed Development Site is the southern portion of the NYM campus and is developed with NYM buildings that range in height from 1 to 9 stories. This complex is built around an older 6-story brick building at the 7th Avenue end of the block and an older 4-story building at the 8th Avenue end of the block. Both of those buildings are designed in a Colonial Revival style. Set parallel to 6th Street, but back from it, the building on

Wesley House. View east 5

Parking garage. View west on 5th Street 6

Existing Conditions Photographs–
Zoning Lot
Figure E-5

Medical Pavilion. View east on 7th Avenue 7

522-540 5th Street. View west 8

Existing Conditions Photographs–
Zoning Lot and Remainder of Project Block
Figure E-6

View northeast on 7th Avenue from 5th Street 9

View northeast on 8th Avenue from 8th Street 10

Existing Conditions Photographs–
Study Area
Figure E-7

7th Avenue has been enlarged with extensions at the base, and there is a ramp to the ambulance drop-off and a loading area at the corner of 7th Street (see view 11 of **Figure E-8**). The building on 8th Avenue fills the block front and maintains the scale of the surrounding residential area (see view 12 of **Figure E-8**). It is set slightly back from the street and enclosed with a metal fence. Modern brick hospital buildings fill the remainder of the block; constructed at different times, these buildings are stylistically different, and have different orientations to the street. There are sections as tall as 82, 96, and 109 feet in height (see **Figure E-9**). On both 6th and 7th Streets, sections of the complex are set back from the street. The concentration of hospital uses along both sides of 6th Street between 7th and 8th Avenues, along with the presence of tall buildings and parking, creates a busy pedestrian environment that contrasts with the neighborhood-oriented retail character along 7th Avenue and the residential character of the surrounding streets. The multiple tall buildings set back from the street in this location add to this block's contrast with the surrounding area.

Within the study area, 7th Avenue is lined with NYM buildings, low-rise brick residential buildings, a 5-story brick and stone, Beaux Arts-style school that occupies half of the block immediately north of the project block, and two stone churches—one designed in a Romanesque Revival style with a recessed arched porch, cupolas, and turrets and one designed in a Gothic Revival style with a square tower angled to the street corner (see view 15 of **Figure E-10**). Most of the residential buildings along with the Medical Pavilion on the Zoning Lot contain ground-floor retail. The sidewalks are wide and most storefronts have awnings. The pedestrian character on 7th Avenue is that of a neighborhood retail area. 8th Avenue, which lacks retail, has a residential character similar to that of the surrounding streets. Across from the Proposed Development Site, St. Saviour Roman Catholic Church occupies the southeast corner of 8th Avenue and 6th Street. It is a boxy, brick church elevated above the street and designed in a Classical Revival style (see view 16 of **Figure E-10**). A 4-story brick school is attached to the rear of the church on 6th Street. The side streets in the study area are mostly lined with 3- and 4-story brick and stone row houses and apartment buildings (see **Figure E-11**). Most are set back from the streets and have stoops. Designed in historical revival styles, they exhibit a variety of ornament. Projecting cornices and bays are common. Street trees are numerous along the side streets and 8th Avenue.

Visual Resources and Views to the Proposed Development Site

Although most streets in the study area possess distinct groups of buildings located both within and outside the boundaries of the Park Slope Historic District and there are individual buildings of architectural note, there are no prominent views of visual resources. With the exception of 7th Avenue, views through the study area tend to be short, and views of buildings tend to be limited to their immediate vicinities as a result of the narrowness of the streets and the area's low-rise character.

There are no views to the Proposed Development Site from most locations in the study area. However, there are partial views to the site along 5th and 6th Streets and 8th Avenue, which run adjacent to the Proposed Development Site. Views of the Proposed Development Site are generally limited to the immediately surrounding area because of intervening buildings and the narrowness of the streets (see view 10 of **Figure E-7** and **Figure E-11**).

View northeast on 7th Avenue at 7th Street 11

View north on 8th Avenue from 7th Street 12

Existing Conditions Photographs–
Study Area
Figure E-8

View south on 6th Street from 7th Avenue 13

View west on 6th Street 14

Existing Conditions Photographs–
Study Area
Figure E-9

View northeast on 7th Avenue from 7th Street 15

View southeast on 8th Avenue from 6th Street 16

Existing Conditions Photographs–
Study Area
Figure E-10

View northwest on 5th Street toward 8th Avenue 17

View northwest on 6th Street toward 8th Avenue 18

Existing Conditions Photographs–
Study Area
Figure E-11

NO-ACTION CONDITION

PROPOSED DEVELOPMENT SITE

Absent the proposed actions, NYM would develop a new building on the Proposed Development Site and above the parking garage on the Zoning Lot that conforms to the underlying zoning regulations (the Complying Development). In order to develop the new facility, the former row houses and apartment buildings on the Proposed Development Site would be demolished, the parking lot would be removed, and the below-grade space of the garage would be renovated with structural supports to allow for construction above the garage. The Complying Development would contain approximately 518,020 gsf of space, including new facilities for critical NYM departments similar to the program envisioned for the Proposed Development, such as ambulatory patient procedure rooms and the cancer center.

The Complying Development would be constructed as two segments above a common base. The main segment of the Complying Development would have a U-shaped footprint with frontages on 5th and 6th Streets and 8th Avenue. It would wrap around the seven apartment buildings on 5th Street that are not located on the Zoning Lot. The Complying Development would be 9 stories (including one partial and one full mechanical level) along 6th Street (approximately 150 feet tall to the top of the parapet) and 4 stories at the northeast corner of the site facing 5th Street. The 9-story segment would continue around the corner onto 8th Avenue. Along 6th Street, there would be a 20-foot setback above the 4th floor. Setbacks on 8th Avenue and 5th Street would be 10 and 15 feet above the 4th floor. There would be a below-grade garage with an entrance ramp leading to 6th Street and a below-grade loading dock connected to the garage on the north side of the site. The main segment of the Complying Development would contain the majority of the major outpatient services. The shorter wing on the northeast corner of the site would contain a new urgent care center on the ground floor and the cancer center on the second floor. The taller section on 6th street would contain operating rooms on the second, third, and fourth floors, with offices for the faculty practice on the upper floors. (See **Figure E-12** for a massing diagram of the Complying Development and **Figure E-13** for elevations of the Complying Development.)

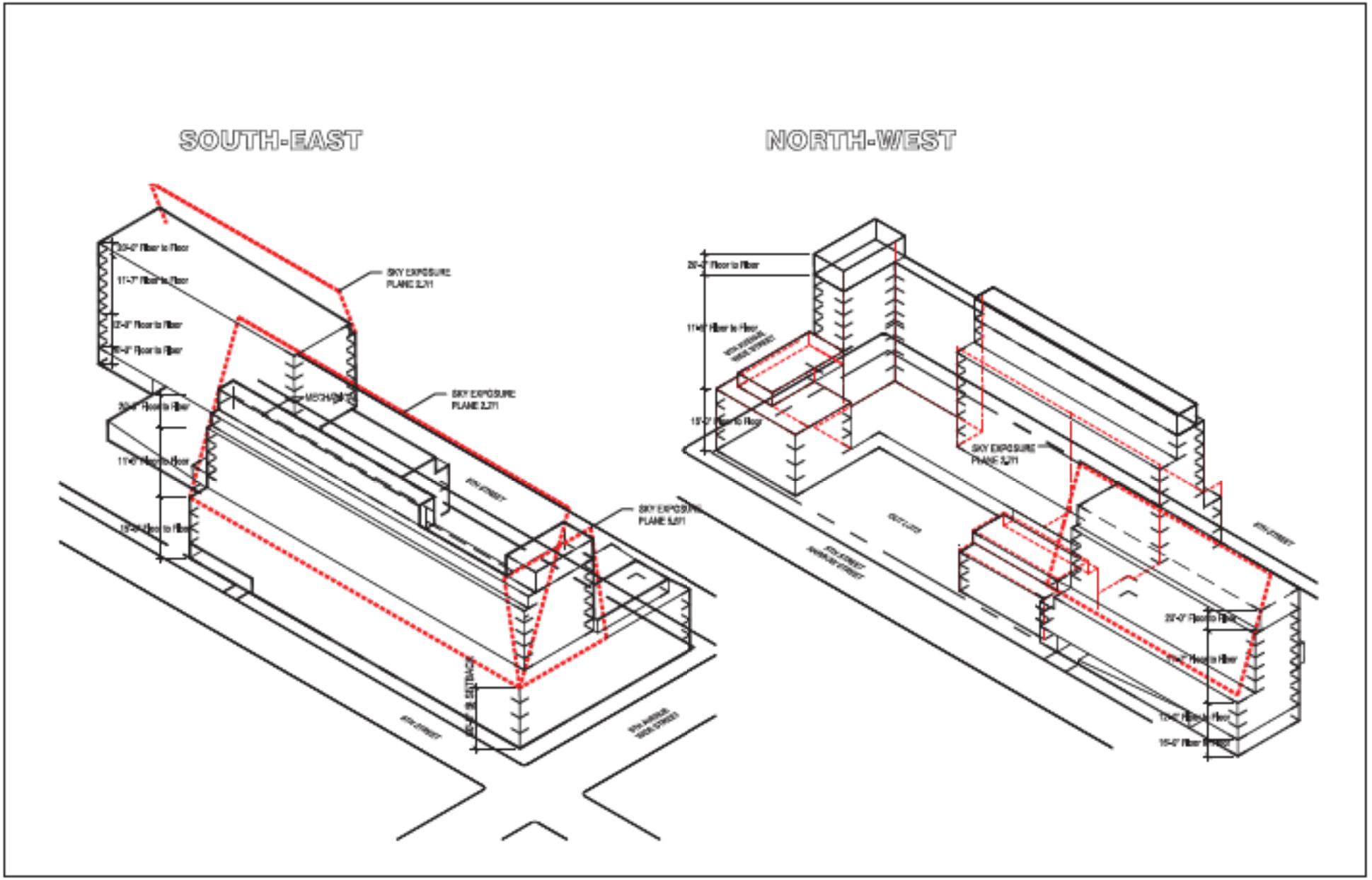
The second segment of the Complying Development would be built above the garage on the northern side of the site adjacent to the Medical Pavilion. It would be a 10-story building (approximately 149 feet tall, including two mechanical levels) with a 20-foot setback above the 4th floor. Although this segment would share a base with the main segment through the connected below-grade space (the existing garage and the garage/loading dock in the main section), there would be no above-grade connections with the main segment. This segment would primarily contain faculty practice offices.

ZONING LOT

The remaining buildings on the Zoning Lot, the Medical Pavilion and the Wesley House, would remain in their current condition with the construction of the Complying Building.

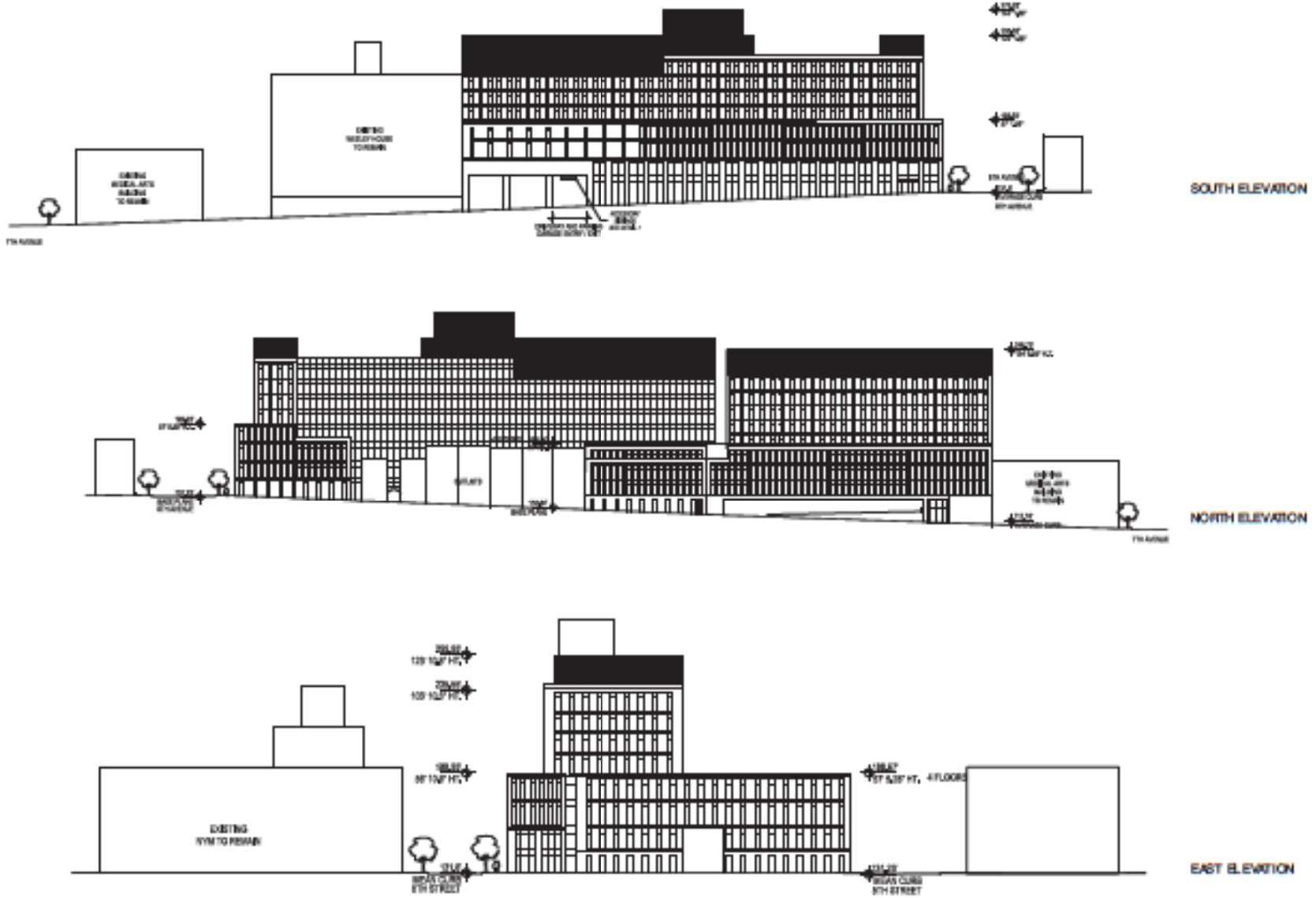
STUDY AREA

At 9 and 10 stories (approximately 150 feet tall), the Complying Development would be similar in height to the adjacent 135-foot-tall Wesley House and the tall hospital buildings on the southern portion of the NYM campus that range in height up to 109 feet tall. The Complying Development would increase the density of the study area and create consistent streetwalls along the site frontages, replacing parking and narrow, low-rise buildings set back from the street. To



Complying Development Massing Diagram
(Preliminary Drawing – For Illustrative Use Only)

Figure E-12



Complying Development Elevations
(Preliminary Drawing – For Illustrative Use Only)
Figure E-13

conform to existing zoning regulations, the Complying Development would consist of two segments massed as narrow towers with multiple setbacks, and the height of the main segment would be pushed toward 8th Avenue, which is characterized by low-rise buildings. Hospital uses would remain on the Proposed Development Site and Zoning Lot, and the pedestrian experience adjacent to the Proposed Development Site, especially along 6th Street, would continue to be busy in contrast to the surrounding residential area.

Views in the study area closest to the Proposed Development Site would be altered by the Complying Development, as it would become a new, tall element in these views, but the building would be compliant with all zoning requirements and would not obstruct any views to visual resources in the study area.

Other Future Projects

There are no projects under development within the study area that are expected to be complete by 2017. The study area would remain a predominantly low-rise neighborhood of residential and institutional buildings.

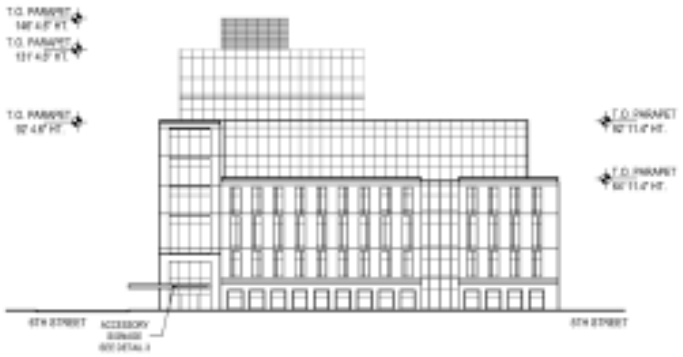
WITH-ACTION CONDITION

PROPOSED DEVELOPMENT SITE

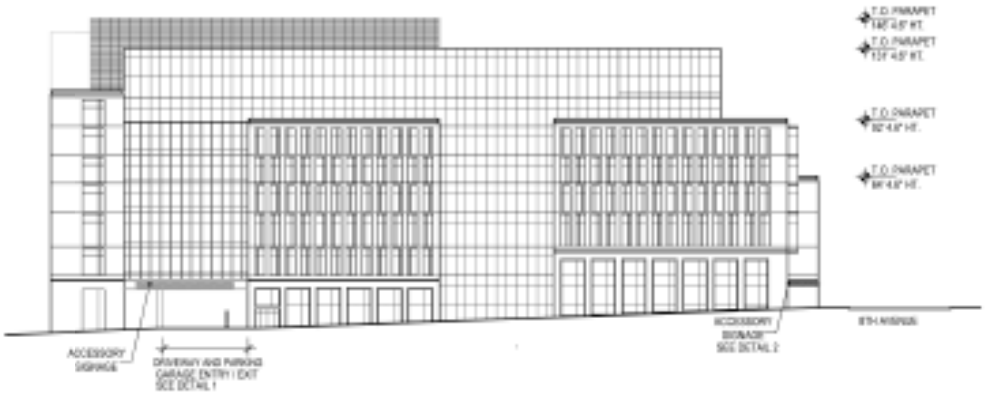
Constructed pursuant to the proposed BSA variances, the Proposed Development would be largely similar to the main segment of the Complying Development. The Proposed Development would have a U-shaped footprint, wrapping around the buildings on 5th Street that are not located on the Zoning Lot. On 6th Street, the building would be 9 stories (152 feet to the top of the mechanical equipment) at is tallest point at the western end of the site, but it would step down in height toward 8th Avenue and 5th Street. There would be a setback at the 7th floor. On 8th Avenue, the building would be 102 feet tall at 6th street with setbacks at the 5th and 7th floors and 88 feet tall at 5th Street with a setback at the 5th floor. The 88-foot height would wrap around onto 5th Street. In the midblock area on the 5th Street, the building would be approximately 131 feet tall, with setbacks at the 5th and 8th floors. The Proposed Development would also include a two-level below-grade garage with an attended drop-off area on 6th Street. (See **Figure E-14** for elevations of the Proposed Development and **Figures E-15** through **E-18** for illustrative renderings of the Proposed Development.)

The Proposed Development would contain approximately 498,500 gsf of space, with the same facilities as the Complying Development, but it would be designed with features that do not conform to the underlying zoning regulations. In particular, the southern side of the building on 6th Street would encroach on the required setback area above the 4th floor, and facing 8th Avenue, the 6th floor would extend beyond the required 75-foot building height limit. In addition, the east and west ends of the Proposed Development would encroach on the required rear yard equivalent area above the first floor. As described in Attachment B, "Land Use, Zoning and Public Policy," the proposed variances would allow the Proposed Development to better match the scale and character of the surrounding area than the Complying Building while providing sufficient space for NYM functions. In particular, with the Proposed Development, bulk would be shifted toward the mid-block area facing 6th Street across from the existing, tall hospital buildings on the southern portion of the NYM campus and extending toward 5th Street. In this way, the scale of the building along 8th Avenue would better match the surrounding low-rise residential buildings. Further, because the Proposed Development would not require a building over the garage, the proposed variances would also allow NYM to maintain its current parking operations. The overall density of the Proposed Development would be less than that of

10.15.13



EAST ELEVATION (8TH AVE.)



SOUTH ELEVATION (6TH ST)

WEST ELEVATION

NORTH ELEVATION (5TH ST)

Proposed Development Elevations
(Preliminary Drawing – For Illustrative Use Only)
Figure E-14

For Illustrative Purposes Only

Proposed Development
View from 8th Avenue Looking North
(Preliminary Rendering – For Illustrative Use Only)
Figure E-15

For Illustrative Purposes Only

Proposed Development
View on 6th Street Looking West
(Preliminary Rendering – For Illustrative Use Only)
Figure E-16

10.14.13

For Illustrative Purposes Only

Proposed Development
View from Corner of 8th Avenue and 5th Street
(Preliminary Rendering – For Illustrative Use Only)
Figure E-17

For Illustrative Purposes Only

Proposed Development
View on 5th Street Looking East
(Preliminary Rendering – For Illustrative Use Only)
Figure E-18

the Complying Development, and rather than building a 10-story building over the parking garage, the Proposed Development would add a second floor containing a boiler plant, with the roof above planted as green space to provide a visual amenity to hospital visitors.

ZONING LOT

The proposed BSA variances would apply only to the Proposed Development Site and would not affect the remaining buildings on the Zoning Lot. The Medical Pavilion and Wesley House would remain in their current condition with the construction of the Proposed Development.

STUDY AREA

Urban Design

The tallest portion of the Proposed Development would only be approximately 2 feet taller than the Complying Development, but with the proposed variances the Proposed Development would be massed to be more compatible with the surrounding low-rise residential neighborhood. The tallest portions of the Proposed Development would be shifted to the midblock on 6th and 5th Streets, adjacent to the 12-story Wesley House and across 6th Street from the tall hospital buildings on the southern portion of the NYM campus. On 6th Street, the building would decrease in height toward 8th Avenue so that the portion of the building along 8th Avenue would be compatible with the low-rise character of the avenue and the adjacent residential streets. Like the Complying Development, the Proposed Development would increase the density of the study area and create consistent streetwalls along the site frontages, replacing parking and narrow, low-rise buildings set back from the street. Hospital uses would remain on the Proposed Development Site and Zoning Lot, as with the Complying Development, and the pedestrian experience adjacent to the Proposed Development Site, especially along 6th Street, would continue to be busy in contrast to the surrounding residential area.

Visual Resources and Views to the Proposed Development Site

Like the Complying Development, the Proposed Development would not alter important view corridors or obscure visual resources from public view in the study area. Additionally, as compared to the Complying Development, the Proposed Development would create a better visual transition to the low-rise buildings along 8th Avenue. ✷

A. INTRODUCTION

The New York Methodist Hospital (NYM) is requesting waivers of certain provisions of the Zoning Resolution to facilitate development of a 498,500 gross square foot (approximately 311,000 square feet of zoning floor area) ambulatory care facility (the Center for Community Health) at 505-541 6th Street (502-522 8th Avenue and 512-520 5th Street) in Brooklyn NY. The Proposed Development Site is on the northern block of the larger NYM campus, which occupies two adjacent blocks bounded by 5th Street and 7th Street, and 7th Avenue and 8th Avenue. The Proposed Development Site is part of a zoning lot that includes existing buildings on the west end of the block, and consists of the parcels designated as Block 1084, Lots 25, 26, 28, 39 through 44, 46, 48, 50 through 59, 164, 1001, and 1002 (the Zoning Lot). There is a series of contiguous parcels that are not part of the Zoning Lot (out-parcels) fronting on 5th Street that give the Proposed Development Site a U-shape. The Proposed Development would be completed in 2017.

This attachment addresses the potential for the presence of hazardous materials resulting from previous and existing uses both on-site and in the surrounding area, and potential risks related to the Proposed Development with respect to any such hazardous materials. The Proposed Development would include demolition of all existing buildings on the Proposed Development Site except the existing parking garage, followed by excavation to approximately 45 to 50 feet below grade to allow construction of a new ambulatory care facility with three levels below grade. This assessment is based on a *Phase I Environmental Site Assessment (ESA)* prepared by AKRF, Inc. in May 2013.

B. EXISTING CONDITIONS

SUBSURFACE CONDITIONS

The development site is located approximately 115 to 135 feet above mean sea level, with the ground sloping down to the west. A geotechnical study (Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C., July 2013) indicated that the development site is underlain by a layer of fill (sand, gravel, silt, brick, and cobbles or boulders) approximately 10 to 15 feet thick, which is in turn underlain by native soils (glacial till, some silt and clay). Groundwater was not encountered during the geotechnical investigation (which included borings advanced up to approximately 100 feet deep on the development site and further west on the same block). Based on USGS mapping, groundwater is anticipated to be first encountered at approximately 90 to 130 feet below grade, and bedrock is anticipated approximately 300 feet below grade. Groundwater most likely flows toward the Gowanus Canal or Bay approximately one mile to the west. However, actual groundwater flow beneath the development site can be affected by factors beyond the scope of this study. Groundwater in Brooklyn is not generally used as a source of potable water and where used requires treatment.

PHASE I ENVIRONMENTAL SITE ASSESSMENT (ESA)

The Phase I ESA reviewed a variety of sources including: current and historical Sanborn Fire Insurance maps, aerial photographs and topographical maps; and state and federal environmental regulatory databases. It also included reconnaissance of the development site and its surroundings. The Phase I ESA identified the following:

- Most existing on-site buildings were constructed between 1888 and 1906 and were predominantly residential, with some store and office uses. The parking garage on Lot 1001-1002 (see Figure A-4 for the lot locations) was constructed in approximately 1997. NYC Buildings Department (DOB) records listed a historical medical laboratory on Lot 57. DOB records also listed oil burner applications and/or fuel oil installation approvals for Lots 25, 39, 40, 42, 43, 44, 46, 48 and 59. An abandoned, approximately 275-gallon, fuel oil aboveground storage tank (AST) with no evidence of leakage was observed in the basement at Lot 43. No evidence of other aboveground or underground storage tanks was observed. The historical tanks associated with the DOB records may have been removed, or may remain either in basement areas which were inaccessible during the reconnaissance or beneath the buildings.
- The surrounding area has been predominantly residential since the early 20th century. A cleaner/dyer and paint shops were historically located west of the development site on the same block. The south-adjacent block has been occupied by NYM since prior to 1888. The hospital and a school on the north-adjacent block, identified in the regulatory database as generators of hazardous waste and petroleum bulk storage (PBS) facilities, have some potential to affect subsurface conditions beneath the development site. Closed-status petroleum spills and open violations associated with hazardous waste generation were reported for NYM.
- Based on the age of the buildings, asbestos-containing materials (ACM) may be present (but are less likely to exist for the recently constructed parking garage on Lot 1001-1002). All of the buildings (with the exception of the garage on Lot 1001-1002) may include PCB-containing fluorescent lighting fixtures, hydraulic equipment (a lift on Lot 39) and electrical equipment, as well as lead-based paint. Fluorescent lights may contain mercury. Some damaged suspect ACM and peeling paint were observed in unoccupied areas (e.g., basements); suspect ACM and painted surfaces in occupied areas, where accessible, were observed to be in good condition.
- Small quantities of paints, cleaning and maintenance chemicals were stored in on-site basements. The observed chemicals were generally neatly stored and labeled, with no odors or staining noted. A 55-gallon plastic drum labeled "corrosive" (likely containing boiler treatment chemicals) was observed in the boiler room of 505 6th Street on Lot 59. NYM representatives indicated that small quantities of chemicals (disinfectants, etc.) were stored at on-site medical offices. Small quantities of radioactive materials were used at the MRI/Radiology center on Lot 54, but were generally stored at the main NYM campus. Any chemicals or radioactive materials requiring disposal were collected at the main NYM campus for pickup by private contractors.

C. THE FUTURE WITHOUT THE PROPOSED PROJECT

As described in Attachment A, "Project Description," in the future without the Proposed Development, a Complying Development would be built, which would encompass the Proposed Development Site but would extend further west on Lot 1001-1002, building over the existing

parking garage on the site. The extent of demolition and excavation would be similar with the Complying Development and Proposed Development, except on Lot 1001-1002, where certain structural elements in the existing parking garage would need to be demolished to construct the Complying Development.

Demolition and construction would be subject to the legal requirements set out below (including NYSDEC regulations) relating to off-site soil disposal, closure and removal of petroleum storage tanks, and handling of ACM, lead-based paint and potentially PCB-containing equipment. However, since the Complying Development would not be subject to City Environmental Quality Review (CEQR), there would be no requirement for a Subsurface (Phase II) Investigation, or for construction to be conducted in accordance with a Remedial Action Plan (RAP) and Construction Health and Safety Plan (CHASP). As such, controls on soil disturbance would potentially be less stringent than those associated with the Proposed Development.

D. THE FUTURE WITH THE PROPOSED PROJECT

CONSTRUCTION PHASE

The Proposed Development would entail demolition of all existing buildings on the Proposed Development Site except the parking garage on Lot 1001-1002, followed by excavation for the foundations and three below grade levels of a new ambulatory care facility and associated below-grade parking. The Phase I ESA identified potential sources of contamination including a historical on-site laboratory and petroleum storage, and past and/or present off-site cleaning and dyeing, hospital use, petroleum storage, spills and hazardous waste generation. Suspect ACM, PCB-containing materials and/or lead-based paint may be present in the existing buildings. Although the demolition and excavation activities associated with the proposed construction could increase pathways for human exposure, impacts would be avoided by performing these activities in accordance with the following:

- Prior to subsurface disturbance, a Phase II subsurface investigation involving the collection of subsurface samples for laboratory analysis would be conducted in accordance with a New York City Department of Environmental Protection (DEP)-approved Work Plan and Health and Safety Plan (HASP).
- Based on the findings of the Phase II, a RAP and associated CHASP would be prepared, submitted to DEP for review and approval, and implemented during the proposed construction. The RAP would address requirements for items such as: soil stockpiling, soil disposal and transportation; dust control; quality assurance; petroleum storage tank removal procedures; and contingency measures should contamination be encountered. The CHASP would include measures for worker and community protection, including personal protective equipment, dust control and emergency response procedures.
- Dewatering is not anticipated to be necessary for the proposed construction. However, if dewatering is necessary, it would be conducted in accordance with DEP requirements.
- The buildings to be demolished would be surveyed for asbestos by a NYC-certified asbestos investigator. All ACM would be removed and disposed prior to demolition in accordance with local, state and federal requirements.
- All disturbance of suspect lead-based paint would be performed in accordance with applicable requirements for disturbing lead-based paint (including federal Occupational

Safety and Health Administration regulation 29 CFR 1926.62—*Lead Exposure in Construction*).

- Unless there is labeling or test data indicating that any suspect PCB-containing electrical and hydraulic equipment and fluorescent lighting fixtures do not contain PCBs, and that fluorescent lighting bulbs do not contain mercury, if disposal is required, it would be conducted in accordance with applicable federal, state and local requirements.

With the implementation of the above measures, no significant adverse impacts related to hazardous materials would be expected during construction of the Proposed Development.

OPERATIONAL PHASE

Hazardous chemicals would be used in the Proposed Development, as they are at most medical facilities. The future use would be similar to that at the main NYM campus in terms of type of chemicals and general scale, i.e., hazardous materials would be used in small quantities under controlled conditions by trained professionals. The NYM Department of Facilities and the Life Safety Committee establish strict safety procedures and conduct regular safety training for staff and employees, as well as perform site visits of each laboratory, at least once per year, to ensure regulatory compliance. The Director of Facilities is responsible for ensuring that NYM policies and procedures conform to all city, state, and federal requirements. Hazardous material use is subject to numerous controls including:

- Supplies of commonly used chemicals would be maintained in small quantities within the laboratories and the chemical storage rooms. The quantities of hazardous materials kept in any room are limited by New York City Fire Department regulations; the actual quantities used are usually smaller. The NYM Department of Facilities would provide plans for cleanup of any spills. Personnel would be trained in proper spill response.
- All research involving the use of biohazardous agents (e.g., infectious microorganisms) would follow the research guidelines established by the National Institutes of Health and the Centers for Disease Control. Biological safety cabinets are used for most microbiological work to prevent contamination. Biological safety cabinets are of various types depending on the degree of containment required. The most common type used in NYM laboratories are Class II Type A. These are designed with inward air flow to protect personnel, and HEPA (high efficiency particulate air) filtered exhaust for sample, personnel, and environmental protection. HEPA filters remove at least 99.97 percent of particulate matter, including microorganisms.
- Radioactive isotopes are used in biomedical research primarily as a means of labeling compounds to trace their biological activity or to assist in their separation and purification. None of the dispersible radioactive materials used on campus are used in amounts that present significant external irradiation risks. Radioactive wastes with short half-lives (less than or equal to 90 days) would be stored until their radioactivity decays to acceptable levels. Solid materials with half-lives greater than 90 days would be properly labeled and containerized and transported for off-site disposal at a permitted radioactive waste disposal site. Liquid aqueous waste with half-lives greater than 90 days would be released to the sewer in accordance with local regulations and the requirements of the NYM radioactive materials license.
- Hazardous wastes would be collected and disposed of through the campus's existing centralized system under the direction of the Department of Laboratory Safety and

Environmental Health. Potentially hazardous chemical wastes would be properly containerized and labeled, collected from the laboratories, and held in a secure waste accumulation area. The wastes would be regularly removed by licensed contractors for disposal off-site. NYM is classified by the U.S. Environmental Protection Agency as a large quantity generator of hazardous wastes.

- Regulated medical wastes would be containerized in accordance with all applicable regulations, labeled and taken to a central collection location to be picked up by a permitted hauler for incineration off-site. Aqueous biological waste would be chemically disinfected on-site and released to the sewer in accordance with applicable regulations. Solid waste from certain operations would be autoclaved before removal from the laboratory, but would still be shipped as regulated medical waste with a permitted hauler.

With the implementation of NYM procedures and controls as described above, no significant adverse impacts related to hazardous materials would be expected during the operation of Proposed Development. ✷

A. INTRODUCTION

The New York Methodist Hospital (NYM) is requesting waivers of certain provisions of the Zoning Resolution to facilitate development of a 498,500-gross-square-foot (gsf) (approximately 311,040 sf zoning floor area) ambulatory care facility (the Center for Community Health) at 505-541 6th Street (502-522 8th Avenue and 512-520 5th Street) in Brooklyn, NY. The Proposed Development Site is located on the north block of the larger NYM campus, which occupies two adjacent blocks bounded by 5th Street and 7th Street, and 7th Avenue and 8th Avenue. The Proposed Development Site is part of a zoning lot that includes the existing buildings on the west end of the block and consists of the parcels designated as Block 1084, Lots 25, 26, 28, 39 through 44, 46, 48, 50 through 59, 164, 1001, and 1002 (the Zoning Lot). There is a series of contiguous parcels fronting on 5th Street which are not part of the Zoning Lot (out parcels) fronting on 5th Street that give the Development Site a U-shape. The Proposed Development would be completed in 2017.

This analysis assesses the potential for transportation impacts by comparing the Complying Development (No-Action Condition) and the Proposed Development (With-Action Condition). A summary of the transportation planning factors to be used for the analyses of traffic, parking, transit, and pedestrian conditions for the ambulatory care center to be built on the Proposed Development Site are also included.

Currently, most ambulatory procedures (outpatient) take place across 6th street, directly south of the Proposed Development Site, in several contiguous buildings that comprise a portion of NYM's campus. Medical services provided in many of these existing facilities would be moved to the new building on the Proposed Development Site, which would also include some expansion in both staffing and patient capacity. The space in the existing building that previously housed the outpatient facilities would be used to update and modernize the hospital's inpatient facilities and no additional travel demand is expected within these existing buildings.

This analysis will compare the incremental change in travel demand between the Complying Development and the Proposed Development. The Complying Development (No-Action Condition) would consist of a 518,020 gsf building and would include a below-grade garage. The Proposed Development (With-Action Condition) would consist of a 498,500 building and would also include a below-grade garage. While the Proposed Development would include a new on-site patient drop-off/pick-up area with a mid-block entrance on 6th Street, the Complying Development would have curbside drop-off/pick-up. Detailed descriptions of the Complying Development and Proposed Development are provided below.

The programmatic space of the Complying Development and the Proposed Development would consist of similar functions and sizes. However, due to zoning limitation, the Complying Development would be not able to operate as efficiently as the Proposed Development. The Complying Development would require approximately 60 additional employees (mostly back-

of-house) as compared to the Proposed Development, while still providing services to the same volume of patients. Having more employees would yield a higher travel demand for the Complying Development as compared to the Proposed Development. This would result in a negative incremental change in travel demand when comparing the Complying Development to the Proposed Development. However, the transportation analysis will conservatively assume that the Complying Development would employ the same number of people as the Proposed Development. Quantitatively speaking, both development scenarios would then have the same travel demand. However, as will be discussed in detail below, the two development scenarios would have different traffic assignment patterns due to the differing configurations in the patient drop-off/pick-up locations.

COMPLYING DEVELOPMENT (NO-ACTION CONDITION)

The Complying Development would consist of an ambulatory care center of approximately 518,020 gsf (309,520 zsf) and would include a new 85,500 sf below-grade garage. A ramp off of 6th Street (midblock between 7th and 8th Avenue) would provide access to the new garage, which would have a capacity of 539 accessory parking spaces and would be connected to the existing below-grade garage. Pedestrian access would be provided off 5th Street, 6th Street and 8th Avenue. All taxi and passenger car drop-off/pick-up would take place curbside along the building frontages of 5th Street, 6th Street, and 8th Avenue. This would require changes to existing parking regulations and would ultimately reduce the number of available on-street parking spaces during the weekday period. The Complying Development would include a new loading dock with access off of 5th Street within the boundaries of the existing parking deck.

THE PROPOSED DEVELOPMENT (WITH-ACTION CONDITION)

The Proposed Development would consist of an ambulatory care center of approximately 498,500 gsf and a below-grade accessory garage of approximately 539 accessory parking spaces. The Proposed Development would also include a new on-site drop-off/pick-up area along the western edge of the building with access provided exclusively off 6th Street. This drop-off area would have a ramp leading to the new below-grade parking garage. Pedestrian access is provided off of 5th Street (through the new driveway), 6th Street and 8th Avenue. The Proposed Development would also include a new loading dock with access off of 5th Street within the boundaries of the existing parking deck. The Proposed Development would require zoning waivers from the Board of Standards and Appeals (BSA).

B. PRELIMINARY ANALYSIS METHODOLOGY

The 2012 *CEQR Technical Manual* describes a two-level screening procedure for the preparation of a preliminary analysis to determine if quantified operational analyses of transportation conditions are warranted. According to the 2012 *CEQR Technical Manual,* if a proposed project is expected to result in fewer than 50 peak hour vehicle trips and fewer than 200 peak hour transit or pedestrian trips, further quantified analyses are not warranted. If these thresholds are exceeded, detailed trip assignments (Level 2) are to be performed to estimate the incremental trips that could be incurred at specific transportation elements and to identify potential locations for further analyses. If the trip assignments show that the Proposed Development (compared to the Complying Development) would generate 50 or more peak hour vehicle trips at an intersection, 200 or more peak hour subway trips at a subway station, 50 or more peak hour bus trips in one direction along a bus route, or 200 or more peak hour pedestrian

trips traversing a sidewalk, corner reservoir area or crosswalk, then further quantified operational analyses may be warranted to assess the potential for significant adverse impacts on traffic, transit, pedestrians, parking, and vehicular and pedestrian safety.

C. LEVEL 1 SCREENING ASSESSMENT

A Level 1 trip generation screening assessment was conducted to estimate the numbers of person and vehicle trips by mode expected to be generated by the Proposed Development (compared to the Complying Development) during the weekday AM, Midday, and PM peak hours. These estimates were then compared to the *CEQR Technical Manual* analysis thresholds to determine if a Level 2 screening and/or quantified operational analyses may be warranted. The Level 1 screening assessment is described below.

PRELIMINARY TRANSPORTATION PLANNING FACTORS

The Proposed Development Site would consist of a new ambulatory care center for NYM. In the future under both the Proposed Development and the Complying Development scenarios, many of the facilities in the existing building would be moved across the street to the new building on the Proposed Development Site. There would also be some consolidation of off-site facilities, which would also be relocated on the Proposed Development Site. This would allow NYM to meet the growing demand for outpatient procedures in the neighborhood, as well as Brooklyn as a whole. **Table G-1** lists the existing outpatient facilities that would be moved to the new building on the Proposed Development Site. Also shown in the table are the number of staff and yearly patient visits for each facility. A comparison between the existing (2013) and future outpatient facilities is provided. Most of the existing outpatient facilities on the NYM main campus as well as several located off-site would be moved or expanded to occupy the Proposed Development Site. Lastly, the table also shows the net increase in medical staff and patient visits. As discussed above, these numbers are applicable to both the Complying Development and the Proposed Development, and thus **Table G-1** and the discussion below refers generally to the "new building." It should be noted that the Complying Development would be completed in 2018, while the Proposed Development would be completed in 2017. As will be discussed in Attachment K "Construction" the construction of the Complying Development would be more complex and, thus, take slightly longer to complete then the Proposed Development. However, since both developments would provide the same programmatic space, and are assumed to employ the same amount of people who would provide medical services to the same volume of patients, the travel demand would not be affected by the completion date.

Table G-1
Summary of Affected Out-Patient Facilities

Uses to be Transferred From Existing 6th Street Building	2013 Affected Uses in Existing 6th Street Building			Future Uses Remaining in Existing 6th Street Building			Future Uses in New Building			Increment Over 2013 Existing		
	Size (Sf)	Staff	Annual Visits	Size (Sf)	Staff	Annual Visits	Size (Sf)	Staff	Annual Visits	Size (Sf)	Staff	Annual Visits
Pre-Admissions Testing	1,714	8	10,560	0	0	0	1,513	8	11,405	-201	0	845
Ambulatory Radiology (1)	6,639	9	19,534	6,639	5	11,046	6041	9	10,050	6,041	5	1,562
Employee Health Services (2)	800	4	4,846	0	0	0	755	4	4,900	-45	0	54
Radiation Oncology	11,338	13	15,846	11,338	8	11,157	13,779	13	13,843	13,779	4	9,154
Cardiology Faculty Practice	14,979	14	9,000	14,979	9	6,771	6,925	14	3,129	6,925	3	900
Orthopedics Faculty Practice	4,950	20	17,081	0	0	0	9,575	20	19,643	4,625	4	2,562
Neurosciences Faulty Practice	6,174	55	31,035	0	0	0	7,715	55	33,116	1,541	0	2,081
Women's Health Practice	6,174	12	27,176	0	0	0	6,290	12	29,893	116	4	2,717
Ambulatory Surgery	8,670	42	12,743	8,670	23	4,014	21,055 (4)	24	9,748	21,055	5	1,019
Ambulatory PACU (2) (Post Acute Care Unit)	1,928	18	12,743	1,928	10	4,014	0	10	9,748	0	2	1,019
Phlebotomy (2)	128	6	23,945	0	0	0	1,765	6	26,339	1,637	2	2,394
Endoscopy and Pain Management	4,936	17	7,800	4,936	7	2,574	10,012	17	6,006	10,012	7	780
Urgent Card	NA			NA			5,700	6	13,000	5,700	6	13,000
Pharmacy	400	3	0	0	0	0	2,000	6	0	1,600	3	0
Surgery Faculty Practice	2,000	16	3,859	0	0	0	2,000	24	13,000	0	8	9,141
Head & Neck Institute	NA			NA			N/A	10	18,200	N/A	10	18,200
Uses Being Moved from Off-Site Locations												
Hyperbaric Wound Care (5)	1,500	2	720	0	0	0	2,610	2	792	2,610	2	792
Urology Faculty Practice (5)	1,300	12	11,250	1,300	7	4,950	2,935	12	19,800	2,935	14	19,800
Cancer Center (5)	11,200	20	15,600	0	0	0	15,005	20	19,692	15,005	28	19,692
Summary	**2013 Existing Uses Being Affected**			**Future Uses Remaining in Existing Building or Off-Site**			**Future Uses in the Proposed Development Site**			**Increment Over 2013 Existing Uses**		
	Size (Sf)	Staff	Visits	Size (Sf)	Staff	Visits	Size (Sf)	Staff	Visits	Size (Sf)	Staff (3)	Visits (3)
	84,830	271	182,204 annual	49,790	69	40,512 yearly	115,675	282	221,317 annual	95,263	107	102,245 annual
			3,504 weekly			779 weekly			4,256 weekly			1,966 weekly
			637 weekday			142 weekday			774 weekday			358 weekday
			319 Saturday			71 Saturday			387 Saturday			179 Saturday

Notes:
(1) - 40% reduction in ambulatory radiology visits is assumed due to link trips other uses
(2) Staff included in total calculation but visitors are linked with other uses in the Proposed Development Site and are not counted
(3) 45 additional back of house staff to be add to the forecast & 1 family/friend assumed to accompany each patient
(4) Includes PACU (Post Acute Care Unit)
(5) Uses located off-site moving partially or completely to the Proposed Development Site
Source: - New York Methodist Hospital

As shown in **Table G-1**, under existing (2013) conditions there are approximately 182,204 annual outpatient visits in departments that would be affected by the construction of the new building on the Proposed Development Site. In the future, 40,512 visits would remain in the existing NYM facilities (either on the Main Campus or Off-site) and 141,692 annual patient visits would be moved to the new building. **Table G-1** also shows that the projected patient volume of the new building would be approximately 221,317 visits annually. Approximately, 22,620 annual patient visits would be moving from off-site locations (half a mile away or greater) to the new building. Given the distance from the current off-site facilities to the Proposed Development Site, it should be conservatively assumed that the existing off-site patient visits and staffing would be considered as new travel demand in the study area. Therefore, after accounting for transfers; the new building would generate approximately 102,245 new patient visits annually.

The Proposed Development would employ 282 medical staff, of which 175 would be relocated from the existing NYM building across 6th Street, and 107 would be new or relocated from off-site locations as compared to existing conditions (2013). In addition, there would be approximately 45 new building support staff (totaling 152 new employees). As noted previously, the Complying Development would not operate as efficiently as the Proposed Development. Thus, to provide services to the same number of patients the Complying Development would require approximately 60 additional employees as compared with the Proposed Development. This would result in greater travel demand for the Complying Development as compared to the Proposed Development. However, this analysis will conservatively assume that the Complying Development would employ the same number of people as the Proposed Development.

On average in the future, the new building would handle 774 total daily patient visits, of which 258 would be new visits or relocated from off-site locations as compared with existing conditions (2013). An average of one additional person is assumed to accompany every patient that visits the outpatient facilities. Therefore, it is anticipated that a combined total of 716 new patient/visitors visits would occur daily in the future at the new building.

Transportation planning factors for both development scenarios are identical. **Table G-2** shows the preliminary transportation planning factors to be used for the travel demand forecast generated by the new building in the weekday AM, Midday, and PM peak hours. These include trip generation rates, temporal and directional distributions, mode choice factors, vehicle occupancies and truck trip factors for medical uses. The temporal distributions, mode choice and auto occupancy for the staff were derived from data collected at NYM. Transportation planning factors for outpatient/visitors were based on the *NY Presbyterian Hospital Ambulatory Care Center FEIS (2012)*. The truck trip generation rates and temporal distributions were based on the *MSK Ambulatory Care Center EAS (2012)*.

Table G-2
Transportation Planning Assumptions

User:	New Staff	New Patient/Visitors
	(1)	(1)
Daily Weekday Population:	152*	716**
Trip Generation:	(1)	(1)
Weekday	2 per person	2 per person
Temporal Distribution:	(2)	(3)
AM	21.5%	7.0%
MD	2.0%	10.0%
PM	15.0%	7.0%
	(4)	(5)
Modal Splits:	AM/MD/PM	AM/MD/PM
Auto	50.0%	40.0%
Auto Drop-off	0.0%	5.7%
Taxi/Ambulette	2.0%	31.0%
Subway	26.0%	14.3%
Bus	10.0%	5.0%
Walk/Other	12.0%	4.0%
	100.0%	100.0%
	(2)	(3)

In/Out Splits:	In	Out	In	Out
AM	100%	0%	100%	0%
MD	25%	75%	50%	50%
PM	5%	95%	20%	80%
Vehicle Occupancy:	(4)		(5)	
Auto	1.30		2.30	
Taxi	1.50		1.80	

Truck Trip Generation:	(6)		
	0.20		
	per 1,000 sf		
	(6)		
AM	10.0%		
MD	9.0%		
PM	5.0%		
	In	Out	-
AM/MD/PM	50.0%	50.0%	

Notes:

(1) Daily Population Provided by NY Methodist Hospital -2013

(2) Data Collected from NY Methodist 5th Street Parking Lot (Staff Only) -2013

(3) PHA Survey at NY Presbyterian Hospital Ambulatory Care Center - 2012

(4) SSE Employee Mode choice survey for NY Methodist

(5) SSE Travel Demand Factors Memorandum at NY Presbyterian Hospital Ambulatory Care Center 2012 (Mode choice adjusted for Brooklyn Site)

(6) MSK Ambulatory Care Center, (2012)

* Includes 107 new Medical Staff and 45 new support staff

** Includes 358 new patients and 358 family/friends accompanying patients

TRIP GENERATION

Table G-3 provides the overall estimated number of project-generated trips and peak hour volumes in the weekday AM, Midday and PM peak hours for each mode of transportation. As the Complying Development and the Proposed Development are assumed to each employ and provide services for the same number of people on a daily basis, both development scenarios would have identical travel demands. Therefore, as explained in further detail below, there would be no incremental change in the number of pedestrian or vehicle trips between the No-Action and With-Action conditions.

As shown in **Table G-3**, the Complying Development and Proposed Development would each generate a total of 90, 91, and 79 new vehicle trips (in and out combined) in the weekday AM, Midday and PM peak hours, respectively (vehicle trips include auto and truck trips, and trips by taxi, which have been balanced to reflect that some taxis arrive or depart empty). The remaining trips generated by the new building would be transferred from the existing NYM facility.

The Complying Development and the Proposed Development would each generate a total of 31, 21, and 26 subway trips during the weekday AM, Midday and PM peak hours, respectively. New bus trips would increase by 12, 8, and 9 riders in the weekday AM, Midday, and PM peak hours, respectively. New walk-only trips would increase by 12, 8, and 9 trips during the weekday AM, Midday and PM peak hours, respectively. It should be noted that while the walk-only trip volumes do not include the walk trips generated by trips from the project sites to/from subway stations and bus stops; these trips would be included in a pedestrian analysis.

The incremental change in travel demand between the Complying Development and the Proposed Development is provided in **Table G-4**. As both development scenarios would have identical program space, there would be no difference in travel demand between the Complying Development and the Proposed Development. The Proposed Development would not exceed any *CEQR Technical Manual* thresholds warranting further analysis; however, the Complying Development and Proposed Development would have different circulation/access configurations. Therefore, a Level 2 screening assessment has conservatively been conducted to determine if any intersections require a detailed analysis.

Table G-3
Travel Demand Forecast

Land Use:		New Staff		New Patient/Visitors			
Population		152		716			
Peak Hour Trips:							
AM		65		100			
MD		6		143			
PM		46		100			
Person Trips:						**Total Person**	
		In	Out	In	Out	In	Out
AM	Auto	33	0	40	0	73	0
(8-9)	Auto Drop-off	0	0	6	0	6	0
	Taxi	1	0	31	0	32	0
	Subway	17	0	14	0	31	0
	Bus	7	0	5	0	12	0
	Walk/Other	8	0	4	0	12	0
	Total	66	0	100	0	166	0
		In	Out	In	Out	In	Out
MD	Auto	1	2	29	29	30	31
(12-1)	Auto Drop-off	0	0	4	4	4	4
	Taxi	0	0	22	22	22	22
	Subway	0	1	10	10	10	11
	Bus	0	0	4	4	4	4
	Walk/Other	0	1	3	3	3	4
	Total	1	4	72	72	73	76
		In	Out	In	Out	In	Out
PM	Auto	1	22	8	32	9	54
(5-6)	Auto Drop-off	0	0	1	5	1	5
	Taxi	0	1	6	25	6	26
	Subway	1	11	3	11	4	22
	Bus	0	4	1	4	1	8
	Walk/Other	0	5	1	3	1	8
	Total	2	43	20	80	22	123
Vehicle Trips :						**Total**	
		In	Out	In	Out	In	Out
AM	Auto (Total)	25	0	17	0	42	0
	Taxi/Auto Drop-off	1	0	20	0	21	0
	Balanced Taxi					21	21
	Truck*					3	3
	Total	26	0	37	0	66	24
		In	Out	In	Out	In	Out
MD	Auto (Total)	1	2	13	13	14	15
	Taxi/Auto Drop-off	0	0	14	14	14	14
	Balanced Taxi					28	28
	Truck*					3	3
	Total	1	2	27	27	45	46
		In	Out	In	Out	In	Out
PM	Auto (Total)	1	17	3	14	4	31
	Taxi/Auto Drop-off	0	1	3	16	3	17
	Balanced Taxi					20	20
	Truck*					2	2
	Total	1	18	6	30	26	53

Note: *Truck Volumes Based on Building Size not Population

Table G-4
Comparison in Travel Demand Between the Complying and Proposed Developments

	Time Period	Complying Development	Proposed Development	Net Difference
New Staff	Daily	152	152	0
New Patients	Daily	716	716	0
New Auto/ Taxi/Truck Trips	AM	89	89	0
	Midday	91	91	0
	PM	77	77	0
New Subway Trips	AM	30	30	0
	Midday	21	21	0
	PM	26	26	0
New Bus Trips	AM	11	11	0
	Midday	8	8	0
	PM	9	9	0
Walk/Other Trips	AM	11	11	0
	Midday	7	7	0
	PM	9	9	0

D. LEVEL 2 SCREENING ASSESSMENTS

A Level 2 screening assessment involves the assignment of project-generated trips to the study area street network, pedestrian elements and transit facilities, and the identification of specific locations where the incremental project-generated increase in demand exceeds the *CEQR Technical Manual* analysis thresholds above for which a quantitative analysis is required. Based on the estimates of additional peak-hour transit and pedestrian trips generated by the new building, a Level 2 screening assessments is not required. However, due to the variation in the taxi drop-off/pick-up patterns between the Complying Development and the Proposed Development, a Level 2 screening assessment was performed to determine if any intersections require a detailed analysis.

VEHICLE TRAFFIC

The *CEQR Technical Manual* Level 2 screening criterion of 50 peak-hour vehicle trips applies to individual intersections rather than total trips generated, as is the case for the Level 1 screening. **Figures G-1 and G-2** show the vehicle trip assignments for the Complying Development and the Proposed Development, respectively, for the weekday AM, Midday, and PM peak periods. **Figure G-3** shows the net difference in vehicle trips between the two development scenarios at intersections around the Proposed Development Site. It should be noted that, as required by the prior BSA approval, the 5th Street access to the existing garage, which has been temporarily closed, would be open and functional during the weekday peak hours.

Table G-5 summarizes the net increase in vehicle traffic at study area intersections. As shown in **Table G-5**, the most substantial increase in vehicle traffic volumes would occur at the intersection of 7th Avenue and 6th Street. Almost all of this additional traffic demand would be

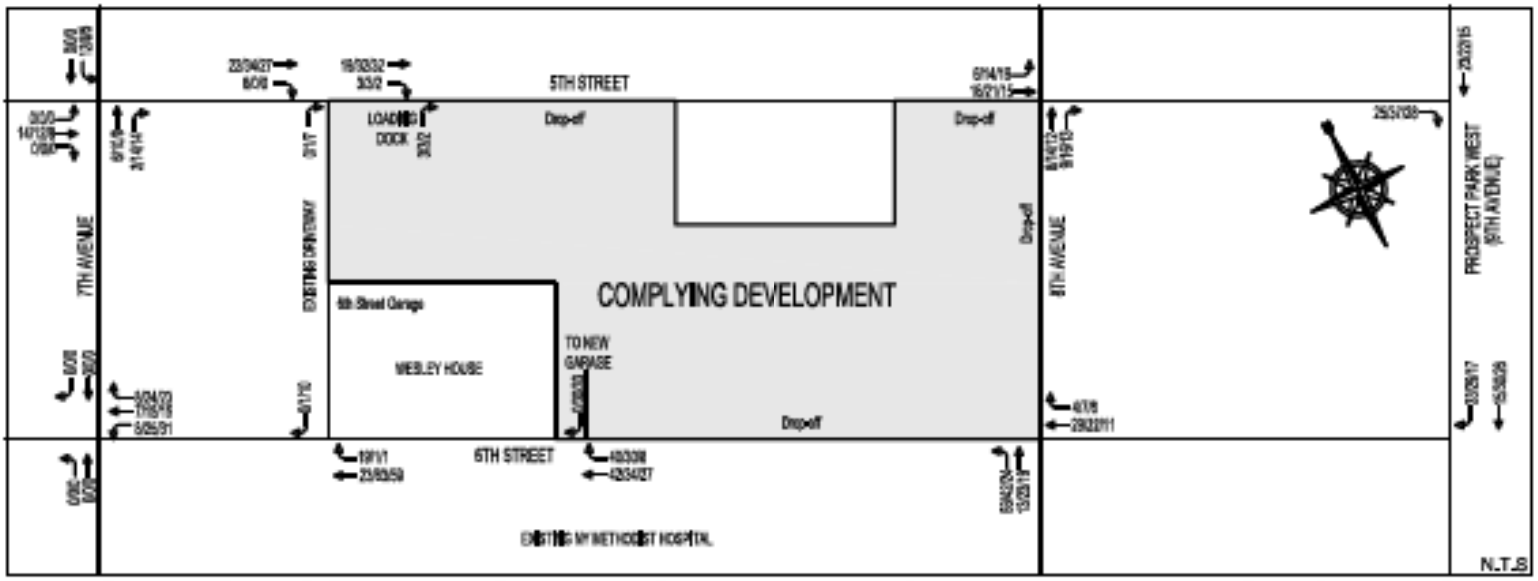


FIGURE G-1 COMPLYING DEVELOPMENT NEW/DIVERTED TRAFFIC VOLUMES

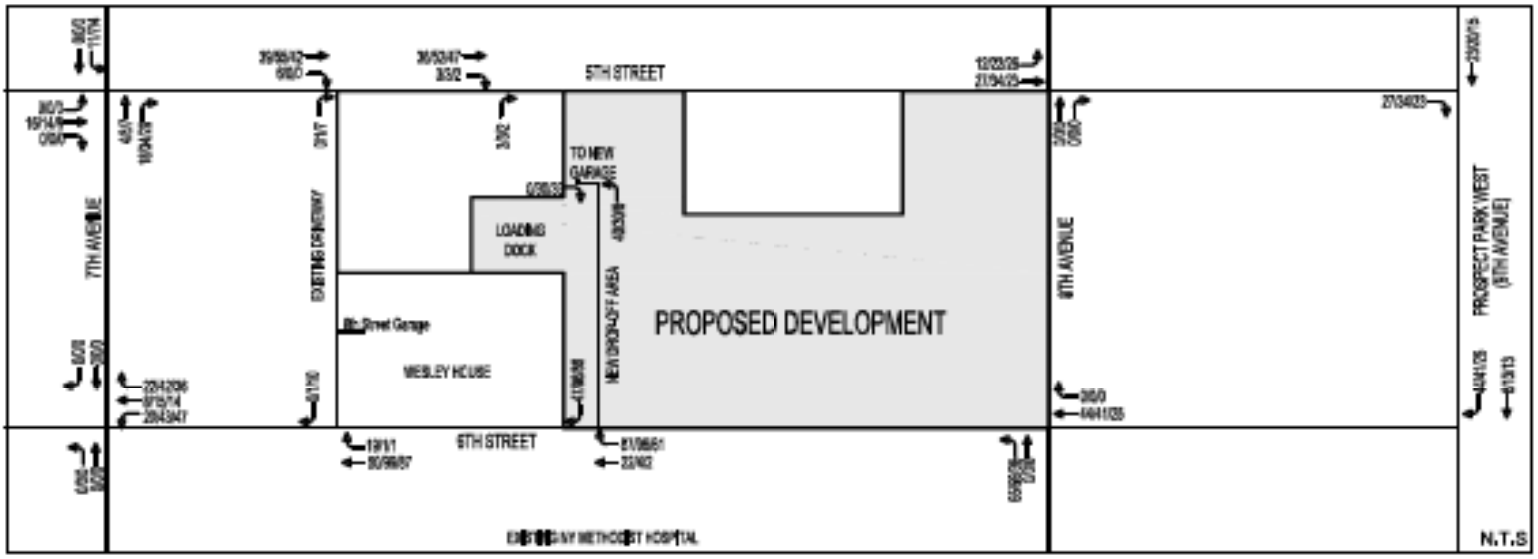


FIGURE G-2 PROPOSED DEVELOPMENT NEW/DIVERTED TRAFFIC VOLUMES

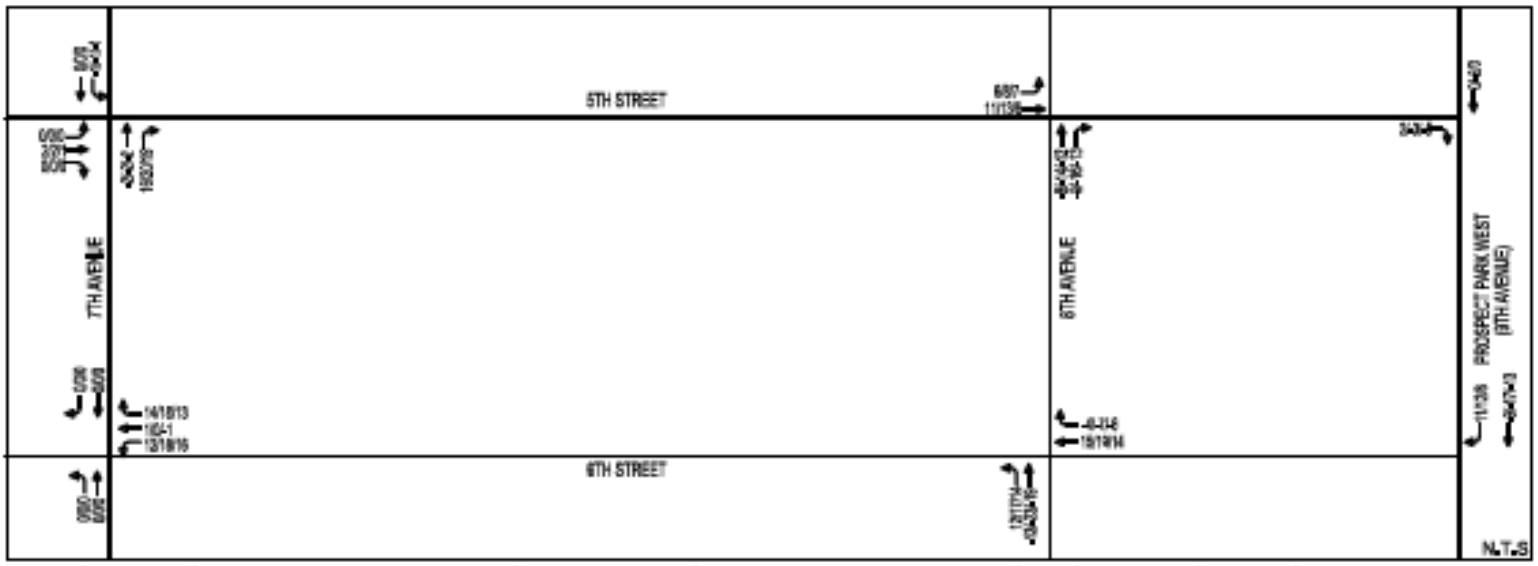


FIGURE G-3 NET DIFFERENCE IN NEW/DIVERTED TRAFFIC VOLUMES AT STUDY AREA INTERSECTIONS

LEGEND:

5/4/3 - PEAK HOUR TRAFFIC VOLUME (AM/MIDDAY/PM)

→ - DIRECTION OF TRAFFIC

Table G-5
Net Difference in Vehicle Trips Between Complying Development and Proposed Development

Intersection	Peak Hour	Complying Development Vehicle Trips	Proposed Development Vehicle Trips	Net Difference
7th Avenue (N-S) @	AM	34	49	15
5th Street (EB)	MD	44	63	19
	PM	36	49	13
7th Avenue (N-S) @	AM	23	50	27
6th Street (WB)	MD	64	100	36
	PM	69	97	28
8th Avenue (NB) @	AM	39	39	0
5th Street (EB)	MD	65	56	-9
	PM	59	49	-10
8th Avenue (NB) @	AM	99	109	10
6th Street (WB)	MD	94	100	6
	PM	60	63	3
Prospect Park West (SB) @	AM	48	50	2
5th Street (EB)	MD	59	54	-5
	PM	43	38	-5
Prospect Park West (SB) @	AM	48	50	2
6th Street (WB)	MD	59	54	-5
	PM	43	36	-5

on the 6th Street approach to 7th Avenue. This is primarily due to the Proposed Development's on-site midblock drop-off/pick area which only provides access off of 6th Street. This configuration would concentrate most of the new traffic for the Proposed Development on 6th Street, which operates one-way westbound. The Complying Development would not provide an on-site drop-off/pick up area, however as mentioned previously, this activity would occur curbside along 5th Street, 6th Street, and 8th Avenue. This would result in a more evenly distributed vehicle demand on all the streets which border the Complying Development, but would create more conflicting vehicle movements, as explained below.

As shown in **Table G-5**, a maximum of 36 additional vehicle trips would be generated at any study area intersection during any peak hour. As this does not exceed the *CEQR Technical Manual* threshold of 50 vehicles at an intersection during a peak hour, a detailed traffic analysis is not warranted and no significant adverse traffic impacts are expected.

As noted previously, the Complying Development would handle all patient drop-offs/pick-ups curbside at building entrances along 5th Street, 6th Street and 8th Avenue, while the Proposed Development would handle all of this activity on-site. With curbside drop-offs/pick-ups, the Complying Development would create many new conflicting vehicle movements between hospital traffic and through traffic on the public street. The Proposed Development would remove these conflicts from the public street, thus improving the overall quality of traffic flow around the hospital.

E. PARKING

The construction of both the Complying Development and the Proposed Development would eliminate an existing surface parking lot and reduce the available capacity on another lot. A loss of on-site accessory parking would occur and would be replaced in both development scenarios. It is estimated that the construction of either development scenario would result in a loss of approximately 113 on-site parking spaces. These accessory parking spaces would be replaced in the new below-grade garages. The Complying Development and the Proposed Development would also provide 426 additional parking spaces as per zoning (1 parking space per 800 zsf) plus 113 additional spaces for a total of 539 spaces in the below-grade garage. The parking demand is calculated based on the travel demand forecast presented in **Table G-3**.

The total capacity of the garage would be 539 parking spaces under both development scenarios. As noted previously, both development scenarios would introduce a travel demand of 152 employees and 716 patient/visitors. Parking demand would increase similarly. **Table G-6** shows the hourly forecasted additional traffic volumes through the garage (in and out) and the overall resulting parking demand. New parking demand would peak at 92 spaces from 11 AM – 12 PM, which would be substantially below the required 426 spaces provided in either development scenario. Therefore, it is anticipated that all parking demand would be accommodated on-site and no short fall of parking is expected.

The existing below-grade garage and parking deck would have a future capacity of 484 parking spaces as opposed to 518 spaces under existing conditions. This represents a loss of 34 spaces due to the construction of the loading dock on the parking deck and connections made to the new garage below. Overall, the combined existing and new garage would have a total parking capacity of 1,023 spaces including the remaining parking on the garage deck. An overall garage capacity of 1,023 parking spaces would satisfy the required parking for the new building plus the previous BSA variance for the existing garage and would accommodate parking displaced by construction. **Table G-7** shows the overall future parking demand for the entire NYM campus. Parking demand is anticipated to peak at approximately 649 spaces or approximately 63% of capacity during the weekday Midday period.

The parking space requirement established by the Zoning Resolution does not take into account the relocation of existing uses in the immediate area to a new building in the future. However, as discussed previously much the new building's program space will be taken up with existing uses that are transferred from the existing building across 6th Street. The existing NYM campus garage is located directly adjacent to where the new building will be. Therefore, parking demand from the existing uses that would be moving into the new building would already have been accounted for under existing conditions and only the expansion or relocation from off-site facilities would add to the future parking demand.

Table G-6
Future Weekday Parking Demand

Hour (Beginning)	Future Staff		Future Patients/Visitors		Garage Accumulation
	In	Out	In	Out	
1200	0	0	0	0	0
100	0	0	0	0	0
200	0	0	0	0	0
300	0	0	0	0	0
400	1	0	0	0	1
500	2	0	0	0	2
600	3	0	0	0	5
700	10	0	5	0	19
800	25	0	13	0	57
900	11	1	12	1	77
1000	2	0	12	2	89
1100	1	1	11	8	92
1200	1	2	10	10	91
1300	1	2	10	10	89
1400	0	2	9	10	86
1500	0	9	8	10	76
1600	1	12	7	13	58
1700	1	17	3	11	34
1800	0	10	0	11	14
1900	0	0	0	8	7
2000	0	0	0	4	2
2100	0	0	0	2	0
2200	0	0	0	0	0
2300	0	0	0	0	0
Total	58	58	97	97	

Notes:
(1)-Staff Daily Parking Pattern Base on data Provide from NYM 5th Street Parking lot.
(2)-Patient/Visitor Daily Pattern Base on PHA field survey at NY Presbyterian Ambulatory Care Center (2012)

Table G-7
Total Garage Weekday Parking Demand

Hour (Beginning)	Existing Parking Demand		Future Staff		Future Patient/ Visitors Parking		Total Future Parking Demand	Percent of Future Total Capacity
	In	Out	In	Out	In	Out		
1200	2	11	0	0	0	0	61	5.96%
100	1	14	0	0	0	0	48	4.66%
200	1	2	0	0	0	0	47	4.57%
300	1	1	0	0	0	0	46	4.52%
400	2	1	1	0	0	0	48	4.70%
500	11	1	2	0	0	0	59	5.79%
600	35	1	3	0	0	0	95	9.33%
700	133	3	10	0	5	0	239	23.37%
800	178	13	25	0	13	0	442	43.24%
900	133	52	11	1	12	1	544	53.15%
1000	85	28	2	0	12	2	612	59.86%
1100	56	31	1	1	11	8	639	62.51%
1200	46	35	1	2	10	10	649	63.47%
1300	42	51	1	2	10	10	638	62.36%
1400	38	49	0	2	9	10	623	60.95%
1500	36	70	0	9	8	10	579	56.58%
1600	34	104	1	12	7	13	492	48.05%
1700	19	132	1	17	3	11	354	34.62%
1800	21	119	0	10	0	11	235	23.00%
1900	34	70	0	0	0	8	192	18.74%
2000	34	57	0	0	0	4	164	16.06%
2100	8	61	0	0	0	2	110	10.71%
2200	6	31	0	0	0	0	85	8.27%
2300	4	20	0	0	0	0	69	6.71%
	958	958	58	58	97	97		

The increase in parking demand shown in **Tables G-6** and **G-7** represents the new staff and patients/visitors that are anticipated to use the garage under both development scenarios. It should be noted that both the Complying Development and the Proposed Development are not seeking any waivers in reducing the amount of parking that is required to be provided under zoning for a new medical building. This will result in the new garage providing an excess of available parking spaces to accommodate demand in the future.

The Proposed Development would not reduce the available on-street parking capacity. However, it should be noted that both the Complying Development and the Proposed Development would provide vehicular access to on-site facilities through a curb cut from the public street. This new access would result in the removal of some on-street parking spaces along 6th Street. However, the curb cut for the existing parking lot at the corner of 6th Street and 8th Avenue will be removed under both development scenarios Therefore, the curb cut access to this lot would be converted from a driveway to legal on-street parking, replacing the loss of parking spaces from the new driveway curb cut.

Both the Complying Development and the Proposed Development not would result in a reduction of available on-street parking capacity during the overnight and weekend periods. However, since the Complying Development would utilize all building frontages for curbside

drop-off/pick-up, it is estimated that approximately 33 on-street parking spaces would be lost during the operating hours that are typical of ambulatory care centers (7 AM and 7 PM). Overnight on-street parking regulations would permit parking around the Complying Development. No change to on-street parking regulations is anticipated in the future with the Proposed Development.

CONCLUSION

The Complying Development and the Proposed Development were assumed to generate the same travel demand for this analysis. Therefore, the net difference in vehicle, transit, and pedestrian trips would be zero. However, the Complying Development and the Proposed Development would have different vehicle trip assignments due to the difference in drop-off/pick-up configurations for each of the two development scenarios. The vehicle trip assignments show that, as a result, the Proposed Development would increase the traffic by at most 36 vehicles through any study area intersection during any peak hour. As this falls below the *CEQR Technical Manual* threshold of 50 vehicles, the Proposed Development would not result in any significant adverse traffic impacts and additional detailed analysis is not warranted. The Proposed Development would result in fewer conflicting vehicular movements, on local streets, since access is limited to the driveway entrance on 6th Street.

With respect to parking, both development scenarios would provide 539 new parking spaces, which would be expected to handle all anticipated new demand as well as the displaced demand from the loss of surface parking. The Complying Development is expected to eliminate 33 on-street parking spaces during the operating hours of the ambulatory care center. The Proposed Development would not result in any loss to the on-street parking supply. As mentioned previously, on-street parking spaces would be lost along 6th Street to provide a vehicular access driveway for either development scenario. However, this loss would be mitigated and there would be no change in the overall on-street parking capacity as a result of either development scenarios during the overnight or weekend periods.

As the Proposed Development is expected to meet all new and displaced parking demand, and as the Level 2 screening assessment performed for the Proposed Development indicates that a detailed analysis is not warranted, the Proposed Development is not expected to result in significant adverse parking impacts based on *CEQR Technical Manual* criteria, therefore, additional detailed analysis of parking conditions is not warranted. ✷

A. INTRODUCTION

The New York Methodist Hospital (NYM) is requesting waivers of certain provisions of the Zoning Resolution to facilitate development of a 498,500-gross-square-foot (approximately 311,000 square feet of zoning floor area) ambulatory care facility (the Center for Community Health) at 505-541 6th Street (502-522 8th Avenue and 512-520 5th Street) in Brooklyn NY. The Proposed Development Site is on the northern block of the larger NYM campus, which occupies two adjacent blocks bounded by 5th Street and 7th Street, and 7th Avenue and 8th Avenue. The Proposed Development Site is part of a zoning lot that includes existing buildings on the west end of the block, and consists of the parcels designated as Block 1084, Lots 25, 26, 28, 39 through 44, 46, 48, 50 through 59, 164, 1001, and 1002 (the Zoning Lot). There is a series of contiguous parcels that are not part of the Zoning Lot (out-parcels) fronting on 5th Street that give the Proposed Development Site a U-shape. The Proposed Development would be completed in 2017.

This attachment examines the potential for air quality impacts from the Proposed Development. 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 heating and hot water systems. Indirect impacts are impacts that are caused by emissions from nearby existing sources or by emissions from on-road vehicle trips generated by a development or changes to future traffic conditions due to the development.

The maximum hourly incremental traffic from the Proposed Development would not exceed the 2012 *City Environmental Quality Review (CEQR) Technical Manual* carbon monoxide (CO) screening threshold of 170 peak hour trips at nearby intersections in the study area, or the fine particulate matter ($PM_{2.5}$) emission screening threshold of 12 equivalent heavy duty diesel vehicles discussed in Chapter 17, Sections 210 and 311 of the *CEQR Technical Manual*. Therefore, a quantified assessment of mobile source emissions from project-generated traffic is not warranted.

The Proposed Development would potentially include a natural gas-fired heat and hot water installation. As a potential alternative, the Proposed Development would be connected to the existing boiler plant at the NYM facility across Sixth Street. However, a stationary source analysis that assumed a stand-alone addition of new boiler equipment was conducted to evaluate the worse case potential future pollutant concentrations from the proposed combustion equipment.

Two emergency diesel-fueled generators with a capacity of 1.5 megawatts each would be installed to serve the Proposed Development in the event of the loss of utility electrical power. The emergency generators would be tested periodically for a short period to ensure its availability and reliability in the event of a sudden loss in utility electrical power. It would not be utilized in a peak load shaving program,[1] minimizing the use of this equipment during non-

[1] The term "peak load shaving" refers to the use of customer-operated (non-utility) generators to produce electricity at the request of the local electrical utility in order to reduce the electrical demand during peak demand periods, particularly during the summer period.

emergency periods. Emergency generators are exempt from NYSDEC air permitting requirements, but would require a permit or registration issued by DEP, depending on the generator capacity. The emergency generators would be installed and operated in accordance with DEP requirements, as well as other applicable codes and standards. Since they would be used on a very limited basis (during actual emergencies) and would also be part of the Complying Development, no significant adverse air quality impacts are predicted from emergency generators.

The Proposed Development would include a Pharmacy Department. However, the compounds that would be stored and used within the Pharmacy Department would not require or involve the use of fume hoods to control hazardous fumes and vapors. Therefore, no analysis of potential effects of a chemical spill on nearby air intakes or operable windows is warranted.

As described in detail below, this analysis concludes that the Proposed Development would not result in any significant adverse air quality impacts.

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 CO are predominantly influenced by mobile source emissions. Particulate matter (PM), volatile organic compounds (VOCs), and nitrogen oxides (nitric oxide, NO, and nitrogen dioxide, NO_2, 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 (SO_2) are associated mainly with stationary sources, and some sources utilizing non-road diesel such as large international marine engines. On-road diesel vehicles currently contribute very little to SO_2 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, NO_2, SO_2, 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 rapidly 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 Development is not expected to significantly alter traffic conditions. Since the Proposed Development would result in fewer new peak hour vehicle trips than the *CEQR Technical Manual* screening threshold of 170 trips at nearby intersections in the study area, a quantified assessment of on-street CO emissions is not warranted.

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 Development 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. An analysis of Proposed Development-related emissions of these pollutants from mobile sources was therefore not warranted.

In addition to being a precursor to the formation of ozone, NO_2 (one component of NO_x) is also a regulated pollutant. Since NO_2 is mostly formed from the transformation of NO in the atmosphere, it has mostly been of concern further downwind from large stationary point sources, and not a local concern from mobile sources. (NO_x emissions from fuel combustion consist of approximately 90 percent NO and 10 percent NO_2 at the source.) However, with the promulgation of the 2010 1-hour average standard for NO_2, local sources such as vehicular emissions may become of greater concern for this pollutant.

Potential impacts on local NO_2 concentrations from the fuel combustion of the potential addition of heat and hot water boiler systems for the Proposed Development were evaluated.

LEAD

Airborne lead emissions are currently associated principally with industrial sources. Lead in gasoline has been banned under the Clean Air Act, and therefore, lead is not a pollutant of concern for the Proposed Development. Therefore, an analysis of this pollutant is not warranted.

RESPIRABLE PARTICULATE MATTER—PM_{10} 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 (PM_{10}, 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 Development 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*. The Proposed Development would result in a slightly smaller building than the No Action condition; therefore, since $PM_{2.5}$ impacts are evaluated on an incremental basis, a $PM_{2.5}$ analysis from the Proposed Development's stationary sources is not warranted. Therefore, an analysis of potential impacts from PM is not warranted.

SULFUR DIOXIDE

SO_2 emissions are primarily associated with the combustion of sulfur-containing fuels (oil and coal). SO_2 is also of concern as a precursor to $PM_{2.5}$ and is regulated as a $PM_{2.5}$ precursor under the New Source Review permitting program for large sources. Due to the federal restrictions on the sulfur content in diesel fuel for on-road and non-road vehicles, no significant quantities are emitted from vehicular sources. Vehicular sources of SO_2 are not significant and therefore, analysis of SO_2 from mobile and/or non-road sources is not warranted.

As part of the Proposed Development, natural gas would be burned to fuel the building's heat and hot water systems. The sulfur content of natural gas is negligible; therefore, no analysis was performed to estimate the future levels of SO_2 with the Proposed Development.

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, NO_2, ozone, respirable PM (both $PM_{2.5}$ and PM_{10}), SO_2, 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 standards are generally either the same as the secondary standards or more restrictive. The NAAQS are presented in **Table H-1**. The NAAQS for CO, annual NO_2, and 3-hour SO_2 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 PM, settleable particles, non-methane hydrocarbons, 24-hour and annual SO_2, and ozone which correspond to federal standards that have since been revoked or replaced, and for the noncriteria pollutants beryllium, fluoride, and hydrogen sulfide.

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

Pollutant	Primary		Secondary	
	ppm	µg/m³	Ppm	µg/m³
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 (NO_2)				
1-Hour Average [3]	0.100	189	None	
Annual Average	0.053	100	0.053	100
Ozone (O_3)				
8-Hour Average [4,5]	0.075	150	0.075	150
Respirable Particulate Matter (PM_{10})				
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 (SO_2) [8]				
1-Hour Average [9]	0.075	196	NA	NA
Maximum 3-Hour Average [1]	NA	NA	0.50	1,300

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.

(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. Effective April 12, 2010.
(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 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.

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 PM_{10} 24-hour average standard was retained and the annual average PM_{10} standard was revoked. EPA recently lowered the primary annual-average standard from 15 µg/m³ to 12 µg/m³, effective March 2013.

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 and instituting 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 these standard has been postponed and is currently in review.

EPA lowered the primary and secondary standards for lead to 0.15 $\mu g/m^3$, 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 also 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.)

Federal ambient air quality standards do not exist for noncriteria pollutants; however, as mentioned above, the New York State Department of Environmental Conservation (NYSDEC) has issued standards for three noncriteria compounds. NYSDEC has also developed a guidance document DAR-1 (October 2010), which contains a compilation of annual and short term (1-hour) guideline concentrations for numerous other noncriteria compounds. The NYSDEC guidance thresholds represent ambient levels that are considered safe for public exposure.

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 plans, 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 $PM_{2.5}$ non-attainment area under the Clean Air Act due to exceedance of the annual average standard. Based on recent monitoring data (2006-2011), annual average concentrations of $PM_{2.5}$ in New York City no

longer exceed the annual standard. EPA has determined that the area has attained the 1997 annual $PM_{2.5}$ NAAQS, effective December 15, 2010. Although not yet a redesignation to attainment status, this determination removes further requirements for related SIP submissions. New York State submitted a redesignation request and maintenance plan to EPA in February 2013. As stated above, EPA has recently lowered the annual average primary standard to 12 $\mu g/m^3$. EPA will make initial attainment designations by December 2014. Based on analysis of 2009-2011 monitoring data, it is possible 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. In November 2009, EPA designated the New York City Metropolitan Area as nonattainment with the 2006 24-hour $PM_{2.5}$ NAAQS. The nonattainment area includes the same 10-county area originally 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. Although not yet a redesignation to attainment status, this determination removes further requirements for related SIP submissions. New York State submitted a redesignation request and maintenance plan to EPA in February 2013.

Nassau, Rockland, Suffolk, Westchester, Lower Orange County Metropolitan Area (LOCMA), and the five New York City counties (the New York–New Jersey–Long Island Nonattainment Area, New York portion) 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. The 1-hour standard was revoked in 2004 when it was replaced by the 8-hour ozone standard, but certain further requirements remained ('anti-backsliding'). On December 7, 2009, EPA determined that the Poughkeepsie nonattainment area (Dutchess, Orange, Ulster, and Putnam counties) has attained the 1-hour standard. 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 (LOCMA was moved to the Poughkeepsie moderate non-attainment area for 8-hour ozone). On February 8, 2008, NYSDEC submitted final SIP revisions to EPA to address the 1997 8-hour ozone standard. Based on recent monitoring data (2007-2011), EPA determined that the Poughkeepsie and the NY-NJ-CT nonattainment areas have attained the 1997 8-hour ozone NAAQS (0.08 ppm). Although not yet a redesignation 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 (NY portion of the New York–Northern New Jersey–Long Island, NY-NJ-CT NAA) as a marginal non-attainment area for the 2008 ozone NAAQS, effective July 20, 2012. SIPs will be due in 2015.

New York City is currently in attainment of the annual-average NO_2 standard. EPA has designated the entire state of New York as "unclassifiable/attainment" of the 1-hour NO_2 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 1-hour SO_2 standard, replacing the former 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. Draft attainment designations were published by EPA in February 2013, indicating that EPA is deferring action to designate areas in New York State and expects to proceed with designations once additional data are gathered."

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 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 H-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.

D. METHODOLOGY FOR PREDICTING POLLUTANT CONCENTRATIONS

HVAC CEQR TECHNICAL MANUAL SCREENING ANALYSIS

The Proposed Development's current design includes a natural gas-fueled boiler installation to serve for process, heating and hot water systems. It is anticipated that the installation would consist of three identical 300 Boiler Horsepower units, with one of the three boilers designated as a standby.

A possible alternative design, which would connect the Proposed Development to the existing NYM boiler plant across Sixth Street, is being considered. This alternative would eliminate the need for a separate boiler plant for the Proposed Development. The NYM campus operates under a Title V facility operating permit issued by the New York State Department of Environmental Conservation. The existing boiler plant has excess capacity which is believed to be sufficient to provide services to the Proposed Development. Further study will be required to determine whether connecting the Proposed Development to the existing NYM boiler plant is feasible. However, for the purpose of this EAS, the potential impacts of a separate boiler plant system were assessed to conservatively account for the potential inclusion of new equipment.

The screening methodology described in the *CEQR Technical Manual* was used for the analysis of potential annual NO_2 impacts from the proposed boilers, and considered impacts on neighboring uses of a similar or greater height—specifically on the existing residential buildings

[1] *CEQR Technical Manual*, Chapter 1, section 222, June 2012; and State Environmental Quality Review Regulations, 6 NYCRR § 617.7

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.

The maximum development floor area was used as input for the screening analysis. Based on the proposed plant design, natural gas would be used exclusively. The primary pollutant of concern from natural gas is NO_2.

AERSCREEN ANALYSIS

Potential 1-hour NO_2 impacts from the Proposed Development's boiler system were evaluated using the EPA-approved AERSCREEN model (version 11076, EPA, 2011). The AERSCREEN model was endorsed by EPA[1] as a replacement to the SCREEN3 model. Similar to SCREEN3, AERSCREEN predicts worst-case 1-hour impacts downwind from a point, area, or volume source. AERSCREEN generates application-specific worst-case meteorology using representative minimum and maximum ambient air temperatures, and site-specific surface characteristics such as albedo, Bowen ratio, and surface roughness. The model incorporates the PRIME downwash algorithms that are part of the AERMOD refined model and utilizes BPIPRIM to provide a detailed analysis of downwash influences on a direction-specific basis. AERSCREEN also incorporates AERMOD's complex terrain algorithms and utilizes the AERMAP terrain processor to account for the actual terrain in the vicinity of the source on a direction-specific basis. The model was run both with and without the influence of building downwash and with urban diffusion coefficients based on a review of land-use maps of the area. Other model options were selected based upon EPA guidance.

If the worst-case concentrations predicted by AERSCREEN are above significant impact levels, further analysis with AERMOD would be required to determine the potential for air quality impacts from a proposed project. However, if the worst-case concentrations predicted by the AERSCREEN model are below significant impact levels, there is no potential for impact and no further analysis is required.

EMISSION RATES AND STACK PARAMETERS

The NO_x emissions rate was conservatively calculated based on emission factors obtained from the EPA *Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume I: Stationary Point and Area Sources*. In addition, the NO_x emission rate for the Proposed Development was estimated using the maximum number of boilers that would be operating under peak load conditions (2).

The exhaust for the proposed boiler plant would be directed to the top of the roof of the proposed building. Stack parameters were determined based on the current project design or estimated based on similar sized equipment.

[1] Memorandum, "AERSCREEN Released as the EPA Recommended Screening Model", April, 22, 2011.

Table H-2 presents the emission rates and stack exhaust parameters used in the AERSCREEN analysis.

Table H-2
Emission Rates and Stack Parameters

Parameter	Value
Stack Height (ft)[1]	155
Stack Diameter (ft)[2]	4
Exhaust Velocity (m/s)[3]	2.6
Exhaust Temperature (F)[4]	300
NO_x Emission Rate (g/s)[5]	0.303

Notes:
(1) The stack height is based on an exhaust that is 3 feet above the highest tier of the building.
(2) The stack diameter is based on current design.
(3) The stack exhaust flow rate and velocity are estimated based on the type of fuel and heat input rates.
(4) The exhaust temperature was estimated based on typical exhaust temperature for commercial boilers.
(5) Emission rate is based on AP-42 emission factor and the heat input of two boilers.

NO_2 concentrations from the proposed project's boiler system were estimated using NO_2 to NO_x ratios of 0.8 for the maximum 1-hour concentration. The 0.8 ratio used is the recommended default ambient ratio per EPA guidance.[1]

METEOROLOGICAL DATA

The meteorological data used by the AERSCREEN model is generated by the MAKEMET program which uses application-specific worst-case meteorology, using representative minimum and maximum ambient air temperatures, and site-specific surface characteristics such as albedo, Bowen ratio, and surface roughness to determine worst-case hourly impacts. The default minimum and maximum air temperatures of 250 K and 310 K, a minimum wind speed of 0.5 m/s, and an anemometer height of 10 m were used in the model. Surface characteristics from the LaGuardia meteorological station were also used.

RECEPTOR LOCATIONS

Receptor information provides the distance from the source, terrain height, and height above ground for selected locations. The nearest building to the proposed project with sensitive uses of a similar or greater height was determined to be well outside of a 400-feet radius around the Proposed Development. Accordingly, receptors were placed at regularly spaced intervals to determine the minimum distance at which a potential significant adverse air quality impact would be predicted, which would then be compared with GIS map information to determine whether any sensitive uses exist within that distance. A 7.5-minute digital elevation model (DEM) file was used to incorporate the influence of terrain, and a terrain pre-processor program (AERMAP) was used to determine the representative elevation for the receptor.

[1] EPA, Memorandum, "Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO_2 National Ambient Air Quality Standard, March 1, 2011.

BACKGROUND CONCENTRATIONS

To estimate the maximum expected pollutant concentration at a given receptor, the predicted impact must be added to a background value that accounts for existing pollutant concentrations from other sources that are not directly accounted for in the model. Consistent with the form of the standard, for the 1-hour NO_2 averaging period, the 3-year average of the annual 98th percentile daily maximum 1-hour average concentration was used. This NO_2 background concentration, 126.1 $\mu g/m^3$, was added to the maximum 1-hour NO_2 concentration from AERSCREEN to obtain the total 1-hour NO_2 concentration.

E. THE FUTURE WITH THE PROPOSED PROJECT

The following sections describe the results of the analyses performed to assess the potential impacts on the surrounding community from the stationary sources associated with the Proposed Development.

CEQR TECHNICAL MANUAL SCREENING ANALYSIS

The screening methodology in the *CEQR Technical Manual* was performed assuming the total size of the proposed project (498,500 gsf) and the use of natural gas, and an exhaust height of 155 feet (3 feet above the estimated height of the Proposed Development). The nearest building of a similar or greater height was determined to be beyond 400 feet; therefore, in accordance with the guidance provided in the *CEQR Technical Manual*, the 400-foot distance was chosen for the analysis. Based on these conditions, there would be no potential for significant adverse air quality impacts because the Proposed Development would be below the maximum permitted size shown in Figure 17-8 of the *CEQR Technical Manual*.

AERSCREEN ANALYSIS

An AERSCREEN modeling analysis was performed to determine potential 1-hour NO_2 impacts from the exhaust stack for the boiler system associated with the Proposed Development. Maximum predicted concentrations were added to the design ambient background concentration and compared to the NAAQS.

The AERSCREEN analysis determined that the Proposed Development would not result in a concentration exceeding the 1-hour NO_2 NAAQS at receptors beyond approximately 500 feet of the Proposed Development. Since the distance to the nearest building of a similar or greater height was greater than 500 feet, no significant air quality impacts related to 1-hour average NO_2 are expected to occur from the Proposed Development. ✷

A. INTRODUCTION

The New York Methodist Hospital (NYM) is requesting waivers of certain provisions of the Zoning Resolution to facilitate development of a 498,500-gross-square-foot (approximately 311,000 square feet of zoning floor area) ambulatory care facility (the Center for Community Health) at 505-541 6th Street (502-522 8th Avenue and 512-520 5th Street) in Brooklyn NY. The Proposed Development Site is on the northern block of the larger NYM campus, which occupies two adjacent blocks bounded by 5th Street and 7th Street, and 7th Avenue and 8th Avenue. The Proposed Development Site is part of a zoning lot that includes existing buildings on the west end of the block, and consists of the parcels designated as Block 1084, Lots 25, 26, 28, 39 through 44, 46, 48, 50 through 59, 164, 1001, and 1002 (the Zoning Lot). There is a series of contiguous parcels that are not part of the Zoning Lot (out-parcels) fronting on 5th Street that give the Proposed Development Site a U-shape. The Proposed Development would be completed in 2017.

This attachment assesses the potential for the Proposed Development to result in significant adverse noise impacts. The Proposed Development would result in the same amount of traffic as the Complying Development that would be constructed in the future without the proposed actions and would consequently not have the potential to cause a significant noise impact due to mobile source noise (i.e., it would not result in a doubling of Noise passenger car equivalents [Noise PCEs] that would be necessary to cause a 3 dB(A) increase in noise levels). However, ambient noise levels adjacent to the Proposed Development Site were considered in order to address City Environmental Quality Review (CEQR) noise abatement requirements for the proposed building.

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 discernable and therefore more intrusive than many of the lower frequencies (e.g., the lower notes on the French horn).

"A"-WEIGHTED SOUND LEVEL (DB(A))

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 "dB(A)," and it is the

descriptor of noise levels most often used for community noise. As shown in **Table I-1**, the threshold of human hearing is defined as 0 dB(A); quiet conditions (as in a library, for example) are approximately 40 dB(A); levels between 50 dB(A) and 70 dB(A) define the range of noise levels generated by normal daily activity; levels above 70 dB(A) would be considered noisy, and then loud, intrusive, and deafening as the scale approaches 130 dB(A).

Table I-1
Common Noise Levels

Sound Source	(dB(A))
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 dB(A) increase in level appears to double the loudness, and a 10 dB(A) decrease halves the apparent loudness.
Sources: Cowan, James P. *Handbook of Environmental Acoustics*, Van Nostrand Reinhold, New York, 1994. Egan, M. David, Architectural Acoustics. McGraw-Hill Book Company, 1988.

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

SOUND LEVEL DESCRIPTORS

Because the sound pressure level unit of dB(A) 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. 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.

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}.

For purposes of the Proposed Development, the 1-hour L_{10} descriptor ($L_{10(1)}$) has been selected as the noise descriptors to be used in this noise impact evaluation. The 1-hour L_{10} is the noise descriptor used in the *CEQR Technical Manual* (January 2012 edition) noise exposure guidelines for City environmental impact review classification.

C. NOISE STANDARDS AND CRITERIA

NEW YORK CEQR NOISE CRITERIA

The *CEQR Technical Manual* defines attenuation requirements for buildings based on exterior noise levels (see **Table I-2**). Recommended noise attenuation values for buildings are designed to maintain interior noise levels of 45 dB(A) or lower for residential uses and interior noise levels of 50 dB(A) or lower for retail uses and are determined based on exterior $L_{10(1)}$ noise levels.

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

	Marginally Unacceptable				Clearly Unacceptable
Noise Level With Proposed Project	$70 < L_{10} \leq 73$	$73 < L_{10} \leq 76$	$76 < L_{10} \leq 78$	$78 < L_{10} \leq 80$	$80 < L_{10}$
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 development. Retail uses 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 dB(A).
Source: New York City Department of Environmental Protection.

D. EXISTING NOISE LEVELS

Existing noise levels were measured at three (3) locations adjacent to the Proposed Development Site. Site 1 was located on 5th Street between 7th Avenue and 8th Avenue, Site 2 was located on 8th Avenue between 5th Street and 6th Street, and Site 3 was located on 6th Street between 7th Avenue and 8th Avenue (see **Figure I-1**). At Sites 1, 2, and 3 existing noise levels were measured for 20-minute periods during AM, MD (midday), and PM peak traffic hours on Tuesday May 21, 2013.

EQUIPMENT USED DURING NOISE MONITORING

Measurements were performed using a Brüel & Kjær Sound Level Meter (SLM) Type 2260, a Brüel & Kjær ½-inch microphone Type 4189, and a Brüel & Kjær Sound Level Calibrator Type 4231. The SLM has a laboratory calibration date within one year of use. The Brüel & Kjær SLM is a Type 1 instrument according to ANSI Standard S1.4-1983 (R2006). The microphone was mounted at a height of approximately 5 feet above ground. The SLM was field 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 (dB(A)). The data were

10.4.13

0 200 FEET
SCALE

Proposed Development Site Boundary

Zoning Lot Boundary

1 *Noise Receptor*

New York Methodist Center for Community Health

Noise Receptor Location
Figure I-1

digitally recorded by the sound level meter and displayed at the end of the measurement period in units of dB(A). 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 I-3**.

Table I-3
Existing Noise Levels (in dBA)

Receptor Site	Measurement Location	Time	L_{eq}	L_1	L_{10}	L_{50}	L_{90}
1	5th Street between 7th Avenue and 8th Avenue	AM	63.7	75.1	66.2	58.9	55.9
		MD	60.5	65.9	62.6	60.9	55.9
		PM	59.7	68.0	62.8	57.1	55.8
2	8th Avenue between 5th Street and 6th Street	AM	61.9	70.6	65.2	58.8	54.4
		MD	63.8	74.2	67.6	58.6	54.6
		PM	61.0	68.8	64.5	58.0	54.9
3	6th Street between 7th Avenue and 8th Avenue	AM	64.0	71.4	67.1	61.8	58.7
		MD	67.2	72.7	66.2	63.0	61.4
		PM	64.1	73.0	66.0	62.1	59.7

At each of the receptor sites, vehicular traffic was the dominant noise source. Measured noise levels were relatively low and reflected the level of vehicular activity on the adjacent roadways. In terms of the CEQR criteria, the existing noise levels at Sites 1, 2, and 3 would be in the "marginally acceptable" category.

E. BUILDING ATTENUATION REQUIREMENTS

As shown in **Table I-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 dB(A) or lower for residential uses and interior noise levels of 50 dB(A) or lower for retail uses. The exterior $L_{10(1h)}$ noise levels at the Proposed Development Site in the future with the proposed project would be less than 70 dBA. The *CEQR Technical Manual* does not provide a specific requirement for the level of window/wall attenuation for exterior noise levels below 70 dBA.

Nevertheless, the Proposed Development would be constructed using standard construction methods, including acoustically rated windows and air conditioning as an alternate means of ventilation. The proposed building façade, including these elements, would be expected to provide a composite Outdoor-Indoor Transmission Class[1] ("OITC") such that interior noise levels would be 45 dBA or lower for residential uses and 50 dBA or lower for commercial uses.

In addition, the building mechanical system (i.e., heating, ventilation, and air conditioning systems) would be designed to meet all applicable noise regulations (i.e., Subchapter 5, §24-227 of the New York City Noise Control Code and the New York City Department of Buildings Code) and to avoid producing levels that would result in any significant increase in ambient noise levels. ✷

[1] 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. A building façade generally consists of wall, glazing, and any vents or louvers associated with building mechanical systems. The OITC classification is defined by the American Society of Testing and Materials ("ASTM" E1332-10) and is used in the acoustical design of building façades.

A. INTRODUCTION

The New York Methodist Hospital (NYM) is requesting waivers of certain provisions of the Zoning Resolution to facilitate development of a 498,500 gross square foot (approximately 311,000 square feet of zoning floor area) ambulatory care facility (the Center for Community Health) at 505-541 6th Street (502-522 8th Avenue and 512-520 5th Street) in Brooklyn NY. The Proposed Development Site is on the northern block of the larger NYM campus, which occupies two adjacent blocks bounded by 5th Street and 7th Street, and 7th Avenue and 8th Avenue. The site is part of a zoning lot that includes existing buildings on the west end of the block, and consists of the parcels designated as Block 1084, Lots 25, 26, 28, 39 through 44, 46, 48, 50 through 59, 164, 1001, and 1002 (the Zoning Lot). There is a series of contiguous parcels that are not part of the Zoning Lot (out-parcels) fronting on 5th Street that give the Development Site a U-shape. The Proposed Development would be completed in 2017.

This chapter considers the effects of the proposed actions on neighborhood character. Neighborhood character is an amalgam of various elements that give a neighborhood its distinct "personality." These elements may include a neighborhood's land use, urban design, visual resources, historic resources, socioeconomics, traffic, and noise. Not all of these elements affect neighborhood character in all cases; a neighborhood usually draws its distinctive character from a few defining elements. According to the *CEQR Technical Manual*, neighborhood character impacts are rare and occur under unusual circumstances in which, in the absence of an impact in any of the relevant technical areas, a combination of moderate effects to the neighborhood would result in an impact to neighborhood character. Moreover, a significant impact identified in one of the technical areas that contribute to a neighborhood's character is not automatically equivalent to a significant impact on neighborhood character.

As described in Attachment A, "Project Description," the proposed project would provide new space for critical healthcare functions, including expanded ambulatory care facilities to serve a growing patient population, consolidated facilities for faculty physicians (offices, examination rooms, and treatment/procedure rooms), and modern, state-of-the-art facilities for NYM services such as endoscopy and radiation oncology. This would fulfill NYM's programmatic needs by providing improved facilities suitable for modern healthcare, as well as allowing for the consolidation of inpatient functions and alleviating overcrowding in the current NYM facilities. For each of the key technical areas related to neighborhood character, this chapter describes existing conditions, future conditions without the proposed actions, and conditions with the proposed actions. In addition, in accordance with the guidance of the *CEQR Technical Manual*, this analysis considers the potential for the proposed actions to affect neighborhood character through a combination of moderate effects in relevant technical areas.

B. METHODOLOGY

According to the *CEQR Technical Manual,* an analysis of neighborhood character begins with a preliminary assessment to determine whether changes expected in other technical areas may affect an element that contributes to neighborhood character. The assessment should identify the defining features of the neighborhood, and assess whether the project has the potential to affect these defining features, either through the potential for significant adverse impacts or a combination of moderate effects. Potential effects on neighborhood character may include:

- *Land Use*. When development resulting from a proposed project would have the potential to change neighborhood character by: introducing a new, incompatible land use; conflicting with land use policy or other public plans for the area; changing land use character; or resulting in significant land use impacts.
- *Urban Design and Visual Resources*. In developed areas, urban design changes have the potential to affect neighborhood character by introducing substantially different building bulk, form, size, scale, or arrangement. Urban design changes may also affect block forms, street patterns, or street hierarchies, as well as streetscape elements such as streetwalls, landscaping, curb cuts, and loading docks. Visual resource changes have the potential to affect neighborhood character by directly changing visual features such as unique and important public view corridors and vistas, or public visual access to such features.
- *Historic Resources*. When a project would result in substantial direct changes to a historic resource or substantial changes to public views of a resource, or when a historic resources analysis identifies a significant impact in this category, there is a potential to affect neighborhood character.
- *Socioeconomic Conditions*. Changes in socioeconomic conditions have the potential to affect neighborhood character when they result in substantial direct or indirect displacement or addition of population, employment, or businesses; substantial differences in population or employment density; or if a project results in changes to a unique industry.
- *Open Space*. Changes in open spaces have the potential to affect neighborhood character when a proposed project would result in the overburdening of existing open space facilities or would exacerbate an existing deficiency in open space.
- *Shadows*. When an action would result in a substantial reduction in the usability of an open space, or in the use, enjoyment or appreciation of the sunlight-sensitive features of a historic resource as a result of increased shadow, there is a potential to affect neighborhood character.
- *Transportation*. Changes in transportation conditions can affect neighborhood character in a number of ways. For traffic to have an effect on neighborhood character, it must be a contributing element to the character of the neighborhood (either by its absence or its presence), and it must change substantially as a result of the project. Such substantial traffic changes can include: change in level of service (LOS) to C or below; change in traffic patterns; change in roadway classifications; change in vehicle mixes; substantial increases in traffic volumes on residential streets; or significant traffic impacts, as identified in that technical analysis. Regarding pedestrians, when a proposed project would result in substantially different pedestrian activity and circulation, it has the potential to affect neighborhood character.
- *Noise*. For a project to affect neighborhood character in regard to noise, it would need to result in a significant adverse noise impact and a change in acceptability category.

A preliminary assessment of the Proposed Development determined that there were no potential significant adverse impacts on socioeconomic conditions or open space resources within the study area, therefore these technical areas were not included in a consideration of the Proposed Development's potential significant adverse impacts on neighborhood character.

According to the *CEQR Technical Manual*, a proposed project can also have a combination of moderate effects to several elements that cumulatively may affect neighborhood character. Therefore, this analysis also evaluates the potential for the proposed project to affect neighborhood character through a combination of effects.

STUDY AREA

As stated in the 2012 *CEQR Technical Manual*, the study area for a preliminary analysis of neighborhood character is typically consistent with the study areas in the relevant technical areas that contribute to the defining elements of the neighborhood. Therefore, the study area for this analysis reflects those considered for the other analyses, which include areas up to 1/4-mile from Proposed Development Site. As such, the study area for neighborhood character extends 1/4-mile from the Proposed Development Site to include the area roughly bounded by Garfield Place to the north, 11th Street to the south, Prospect Park to the east, and between 5th Avenue and 6th Avenue to the west (see **Figure A-1**).

C. PRELIMINARY ASSESSMENT

EXISTING CONDITIONS

The neighborhood character of the study area is defined by several key components, including its land use pattern as a predominantly low-density residential area. As described in Attachment B, "Land Use, Zoning, and Public Policy," the portion of the Park Slope neighborhood located within the study area contains primarily 3- or 4-story brownstone-style rowhouses, many of which have been converted into multi-family walk-up apartments, with several larger (5- to 7-story) apartment buildings in the eastern portion of the study area along 8th Avenue and Prospect Park West. The study area also contains a large concentration of community facility and institutional uses, with a number of schools and religious institutions, as well as the existing NYM campus located on two adjacent blocks bounded by 7th Avenue, 5th Street, 8th Avenue, and 7th Street. The character of the area is also defined in part by its proximity to Prospect Park, one of New York City's largest and most popular parks. Prospect Park was largely responsible for attracting low-density rowhouse development to the surrounding area in the late 19th and early 20th centuries, and remains a prominent feature of the eastern side of the study area.

The character of the study area is also defined by the unique urban design element produced by the predominant brownstone-style rowhouses within the area. These rowhouses are largely set farther back from the street than the adjacent apartment buildings, and many feature tall stoops, enclosed paved yards, projecting bays, decorative stonework, and cornices.

A substantial stock of historic and architectural resources also contributes substantially to the character of the study area. These resources include the Park Slope Historic District, designated by LPC in 1973 and listed on the S/NR in 1980, and the extension to the historic district designated by LPC in 2012, both of which contain a mix of mansions, row houses, apartment houses, and institutional buildings, almost all of which were erected in the late 19th century and the first years of the 20th century up to World War 1. The Historic District and extension include

outstanding examples of Romanesque Revival and Queen Anne style single-family residences and neo-Grec style row houses and flats buildings.

Although they were not included within the boundaries of the Historic District and extension, several buildings located on the Proposed Development Site (502-512 8th Avenue, 505-511 6th Street, and 512-520 5th Street) appear to meet eligibility criteria for inclusion within a potential extension to the Park Slope Historic District boundaries; the remaining buildings on the Proposed Development Site (515-523 6th Street) have had their exteriors more substantially modified through the addition of the steel and glass entrance additions at street level, and do not appear to retain sufficient integrity for inclusion within a potential extension to the Park Slope Historic District. Other known or potential architectural resources in the study area include Greenwood Baptist Church, the John Jay Educational Campus, St. Saviour Church and High School, All Saints Episcopal Church, and other rowhouses and multi-family dwellings that are of a similar age and architectural character as the properties located in the Park Slope Historic District and Extension which, as a group, could constitute potential extensions to the Park Slope Historic District.

Both vehicular traffic and noise levels in the study area are also relatively low. Because the low traffic and noise levels within the study area are largely reflections of the area's predominantly low-density residential nature, and these characteristics are comparable to those in many similar neighborhoods throughout the City, they are not considered character-defining elements of the neighborhood.

THE FUTURE WITHOUT THE PROPOSED PROJECT

As described in Attachment A, "Project Description," absent the proposed actions NYM would construct a new facility that conforms to all applicable provisions of the Zoning Resolution (ZR), but which does not fully or adequately address the hospital's programmatic needs. This as-of-right development ("Complying Development") would consist of two disconnected building segments rising from a common at-grade building base structure. The Complying Development would be eight stories tall, plus two mechanical levels, with a total height (including elevator and stair bulkheads) of approximately 149 feet and would contain approximately 518,020 (gsf) of floor area, approximately 19,520 gsf more than the Proposed Development. In order to construct the Complying Development, the existing buildings on the Proposed Development Site (excepting the garage on Lots 1001-1002) would be demolished, including the late 19th/early 20th century buildings at 502-512 8th Avenue, 512-520 5th Street, and 505-511 6th Street.

THE FUTURE WITH THE PROPOSED PROJECT

With the proposed BSA variances, NYM would construct a Proposed Development that is similar to the Complying Development in its mix of upgraded and expanded facilities, but in a structure that would provide adjacencies and direct connections to promote efficient, collaborative health care, requiring features that do not conform to underlying zoning regulations. In particular, additional space would be added to the main section of the Proposed Development on the southern side of the Proposed Development Site facing 6th Street (in the Complying Development, this space would be located in a separate tower built above the garage on the northern side of the Proposed Development Site).

The expanded floorplates in the main section of the Proposed Development would encroach on the required rear yard equivalent area, and would also not conform to zoning regulations regarding height and setback, lot coverage, required rear yard setbacks, and distribution of floor

area across zoning district boundaries. The Proposed Development would provide NYM with space for more cohesive, efficient operations by reducing additional support services (such as janitorial and security services) that would have been needed for the Complying Development, consolidating individual NYM departments, such as its surgical center with recovery rooms located immediately above the operating rooms and connected by a dedicated elevator, and locating symbiotic practice groups in close proximity to one another. The Proposed Development would also allow the existing garage on the northern portion of the Proposed Development Site to remain operational during construction, providing NYM with critical parking space for staff and visitors with minimal disruptions; in order to construct the Complying Development, major structural alterations would be made to the garage requiring that the entire garage be closed for a three-year period and resulting in the loss of all of the existing parking space during that time. The design of the Proposed Development would simplify construction phasing and shorten the construction period as compared to the Complying Building, reducing construction disruptions on the surrounding area.

While the Proposed Development would alter the land use composition of the Proposed Development Site, the change would not be considered adverse. The Proposed Development Site currently contains a number of NYM medical treatment facilities and other hospital-related uses, as well as housing for residents not affiliated with NYM who are being relocated to comparable units in the area, and in the No Action condition (the Complying Development) these facilities would also be replaced with expanded and upgraded space. As with the Complying Development, the Proposed Development would be a continuation and expansion of the community facility uses that are currently a major element of the study area's land use character, including the NYM campus and the concentration of schools and religious institutions in the area. Furthermore, as compared to the Complying Development, the Proposed Development would better match the built scale and character of the surrounding area by shifting bulk toward the mid-block area facing 6th Street and extending toward 5th Street and away from 8th Avenue. This would better match the adjacent buildings, which are predominantly 3- or 4-story rowhouses along 8th Avenue and larger (5- to 8-story) hospital buildings to the south of the Proposed Development Site.

The Proposed Development would also feature massing and facade elements that would be sensitive to the surrounding area's predominant architectural character. The Proposed Development would be articulated with setbacks and recesses, and would include a varied façade treatment so that it reads as multiple buildings and streetwall heights that are appropriate in scale and character to the surrounding area, including the immediately adjacent buildings located along 8th Avenue and 5th Street. The pedestrian entrance on 8th Avenue and 6th Street would include aligned bay windows and ground-floor glazing to create an open and welcoming visual presence on the corner and match the corner presence found in other institutional buildings within the study area. New street trees would be planted surrounding the Proposed Development, matching the streetscape of the surrounding blocks. Therefore, the Proposed Development would not result in a significant adverse impact to the study area's character-defining land use and urban design qualities.

As described in Attachment C, "Shadows," the study area contains two sunlight-sensitive resources: the Greenwood Baptist Church and All Saints Episcopal Church. Due to the presence of intervening buildings to the immediate west of the Proposed Development Site, these resources would receive no incremental shadow from the Proposed Development. Therefore, the Proposed Development would not result in a reduction in the use, enjoyment or appreciation of the sunlight-sensitive features of any historic resource as a result of increased shadow, and would not have a shadows-driven effect neighborhood character.

The construction of the Proposed Development would require the demolition of the potential architectural resources identified on the Proposed Development Site; however, because the potential architectural resources will be demolished if NYM constructed the Complying Development, the redevelopment of the Proposed Development Site with the Proposed Development would not constitute a significant adverse impact on architectural resources as compared with the No Action condition. Similarly, as with the Complying Development, while construction of the Proposed Development could have the potential to result in inadvertent construction-related impacts on nearby historic resources, these resources would be included in a Construction Protection Plan (CPP) for historic structures that would include provisions for pre- and post-construction documentation; monitoring including for cracks, settlement and vibration as deemed appropriate; stop work orders; and protection measures for falling objects and party wall exposure.

While the setting of nearby known and potential architectural resources would be altered with the Proposed Development, the Proposed Development would not isolate the historic properties from their setting or significantly alter the resources' visual relationship with the streetscape. The Proposed Development would not introduce incompatible visual, audible, or atmospheric elements to the setting of architectural resources in the study area, as the Proposed Development would match the scale, height, and use of other existing buildings in the study area (the existing NYM facilities located immediately to the south of the Proposed Development Site) that are in proximity to the architectural resources. Therefore, the Proposed Development would not result in any significant adverse impacts to the historic resource element of the study area's character.

The Proposed Development would not significantly affect the relatively low traffic levels within the study area. While the Proposed Development would result in an increase in the population of NYM staff and patients travelling to the Proposed Development site (including staff relocated from facilities on the southern block of the NYM campus), these populations would be equal to the staff and visitors travelling to the Complying Building. Furthermore, the design of the Proposed Development would introduce improvements to vehicular circulation around the Proposed Development Site that would reduce congestion on surrounding streets as compared to the Complying Development: in particular, while the Complying Development would require curbside patient drop-off/pick-up areas in three locations (on 5th Street, 6th Street, and 8th Avenue), the Proposed Development would include an on-site drop-off/pick-up area within the building accessed by 6th Street only with a ramp connecting to the below-grade garage. This drop-off/pick-up area would improve the overall traffic flow around the Proposed Development by removing the significant number of conflicting vehicle movements between hospital traffic and through traffic that would result from the curbside drop-offs/pickups in the Complying Development. Therefore, the Proposed Development would not result in any significant adverse impacts to the transportation element of the study area's character.

The *CEQR Technical Manual* states that even if a project does not have the potential to result in a significant adverse impact to neighborhood character in a certain technical area, the project may result in a combination of moderate effects to several elements that may cumulatively affect an area's neighborhood character. A moderate effect is generally defined as an effect considered reasonably close to a significant adverse impact threshold for a particular technical area. The Proposed Development would alter the Proposed Development Site by replacing the current built form (a parking lot and a number of rowhouse buildings) with a higher-density medical facility, which would result in moderate effects to the study area's urban design and historic resource characteristics. However, as previously discussed, the Proposed Development would be designed to be sensitive to the built form of the study area and to better match the scale and architectural character of the surrounding buildings as compared with the Complying

Development. In particular, shifting the bulk from the 8th Avenue frontage toward the mid-block area along 6th Street would produce a building that is more in keeping with the built nature of the study area than the Complying Building. Furthermore, the articulated building envelope and varied façade treatment of the Proposed Development would produce a building that is consonant with the historic architecture of the study area. Therefore, these moderate effects would not result in a cumulative significant adverse impact to the urban design or historic resource element of the area's neighborhood character. ✷

A. INTRODUCTION

The New York Methodist Hospital (NYM) is requesting waivers of certain provisions of the Zoning Resolution to facilitate development of a 498,500-gross-square-foot (approximately 311,000 square feet of zoning floor area) ambulatory care facility (the Center for Community Health) at 505-541 6th Street (502-522 8th Avenue and 512-520 5th Street) in Brooklyn NY. The Proposed Development Site is on the northern block of the larger NYM campus, which occupies two adjacent blocks bounded by 5th Street and 7th Street, and 7th Avenue and 8th Avenue. The Proposed Development Site is part of a zoning lot that includes existing buildings on the west end of the block, and consists of the parcels designated as Block 1084, Lots 25, 26, 28, 39 through 44, 46, 48, 50 through 59, 164, 1001, and 1002 (the Zoning Lot). There is a series of contiguous parcels that are not part of the Zoning Lot (out-parcels) fronting on 5th Street that give the Proposed Development Site a U-shape. The Proposed Development would be completed in 2017.

The Proposed Development would be seven stories, with two mechanical levels above. It would not require significant construction over the existing parking garage because of construction challenges associated with such development. Instead, a portion of the area would be occupied by loading dock facilities, a boiler plant, and a green roof to provide a visual amenity for NYM visitors. The as-of-right development ("Complying Development") would contain approximately the same amount of floor area as the Proposed Development but would consist of two disconnected building segments rising from a common at-grade building base structure, including one building segment constructed directly over the existing below-grade parking garage at the Medical Pavilion (see Figure A-10). The Proposed Development would take approximately 36 months to construct and would be complete in 2017, while the Complying Development would take approximately 53 months to construct and would be complete near the end of 2018. The construction duration of the Complying Development is considerably longer (17 months longer) than that of the Proposed Development. In addition, construction of the Complying Development would include significant construction above the parking garage and would require the parking garage to be completely closed, resulting in the loss of the 518 off-street parking spaces during the construction period, while construction of the Proposed Development would not require closure of the parking garage. Further, additional sidewalk and curb-lane closures would be required on 5th Street during the construction of the building segment over the existing below-grade parking garage for the Complying Development. Therefore, the construction of the Complying Development would result in considerably more disruption to the neighborhood as compared to the construction of the Proposed Development.

This chapter summarizes the preliminary construction program for the Proposed Development and assesses the potential for significant adverse impacts during the construction period. The city, state, and federal regulations and policies that govern construction are described, followed by the conceptual construction schedule and the types of activities likely to occur during

construction. The types of construction equipment are also discussed, along with the number of workers and truck deliveries. Finally, the potential impacts from construction activity are assessed.

B. GOVERNMENTAL COORDINATION AND OVERSIGHT

Construction oversight involves several city, state, and federal agencies. **Table K-1** lists the primary involved agencies and their areas of responsibility. For projects in New York City, primary construction oversight lies with the New York City Department of Buildings (DOB), which ensures that construction projects meet the requirements of the New York City Building Code and that buildings constructed are structurally, electrically, and mechanically safe. In addition, DOB enforces safety regulations to protect workers and the general public during construction. The areas of oversight include installation and operation of equipment such as cranes and lifts, sidewalk sheds, and safety netting and scaffolding. The New York City Department of Environmental Protection (DEP) enforces the New York City Noise Code, reviews and approves any needed Remedial Action Plan (RAP) and Construction Health and Safety Plan (CHASP), and regulates water disposal into the sewer system as well as abatement of hazardous materials. The New York City Department of Sanitation (DSNY) has regulatory and enforcement oversight of the storage, transport, and disposal of asbestos waste. The New York City Fire Department (FDNY) has primary oversight of compliance with the New York City Fire Code and the installation of tanks containing flammable materials. The New York City Department of Transportation's (NYCDOT's) Office of Construction Mitigation and Coordination (OCMC) reviews and approves any traffic lane and sidewalk closures. For projects in New York City involving City actions, the New York City Landmarks Preservation Commission (LPC) reviews historic and cultural resources analyses, including any archaeological testing or monitoring that may be required. LPC also reviews and approves Construction Protection Plans (CPPs) and any monitoring measures necessary to prevent damage to historic structures.

Table K-1
Construction Oversight in New York City

Agency	Areas of Responsibility
New York City	
Department of Buildings	Primary oversight for Building Code and site safety
Department of Environmental Protection	Noise, RAPs/CHASPs, dewatering, hazardous materials abatement
City of New York Department of Sanitation	Storage, transport, and disposal of asbestos waste
Fire Department	Compliance with Fire Code, fuel tank installation
Department of Transportation	Lane and sidewalk closures
Landmarks Preservation Commission	Historic and archaeological resources
New York State	
Department of Labor	Asbestos Workers
Department of Environmental Conservation	Hazardous materials and fuel/chemical storage tanks
United States	
Environmental Protection Agency	Air emissions, noise, hazardous materials, poisons
Occupational Safety and Health Administration	Worker safety

The New York State Department of Labor (DOL) licenses asbestos workers. NYSDEC regulates disposal of hazardous materials, and construction and operation of bulk petroleum and chemical storage tanks. At the federal level, the Environmental Protection Agency (EPA) has wide ranging authority over environmental matters, including air emissions, noise, hazardous materials, and the use of poisons, but much of the responsibility is delegated to the state level. The Occupational Safety and Health Administration (OSHA) sets standards for work site safety and construction equipment.

C. CONSTRUCTION PHASING AND SCHEDULE

Tables K-2 and K-3 present the conceptual schedules of construction for the Proposed Development and the Complying Development, respectively. The Proposed Development would include one main building segment. However, the Complying Development would consist of two disconnected building segments rising from a common at-grade building base structure, including one building segment constructed directly over the existing below-grade parking garage. Construction of the Proposed Development is expected to take approximately 36 months (between July 2014 and June 2017) while construction of the Complying Development is expected to take approximately 53 months (between July 2014 and June 2017 for the main building segment on the eastern portion of the Development Site; with construction continuing between July 2017 and December 2018 for the building segment over the existing parking garage). Construction of the Proposed Development and the Complying Development would include similar construction stages, some of which would overlap: demolition; excavation and foundation; superstructure; exterior façade; interior fit-outs; and site work. These stages are described in greater detail below in "General Construction Tasks".

Table K-2
Conceptual Construction Schedule: Proposed Development

Construction Task	Start Month	Finish Month	Approximate Duration (months)
Demolition	July 2014	December 2014	6
Excavation and Foundation	January 2015	September 2015	9
Superstructure	August 2015	March 2016	8
Exterior Facade	January 2016	June 2016	6
Interior Fit-Outs	April 2016	July 2017	16
Site Work	January 2017	April 2017	4
Source: Lend Lease			

Table K-3
Conceptual Construction Schedule: Complying Development

Construction Task	Start Month	Finish Month	Approximate Duration (months)
Phase I (Main Building Segment)			
Demolition	July 2014	December 2014	6
Excavation and Foundation	January 2015	October 2015	10
Superstructure	October 2015	March 2016	6
Exterior Facade	January 2016	June 2016	6
Interior Fit-Outs	April 2016	June 2017	15
Site Work	January 2017	April 2017	4
Phase II (Building Segment over Existing Parking Garage)			
Demolition	July 2017	August 2017	2
Excavation and Foundation	August 2017	November 2017	4
Superstructure	November 2017	April 2018	6
Exterior Facade	February 2018	July 2018	6
Interior Fit-Outs	March 2018	December 2018	10
Site Work	October 2018	December 2018	3
Source: Lend Lease			

D. CONSTRUCTION DESCRIPTION

GENERAL CONSTRUCTION PRACTICES

A community liaison officer (CLO) for both the Proposed Development and the Complying Development would be available throughout the entire construction period. The CLO would serve as the contact person for the community and local leaders, and would be available to address concerns or problems that may arise during the construction process. A telephone hotline would be set up so that concerns and questions can be registered with the CLO. In addition, a project newsletter, an Internet Web site, and an e-mail notification system would be set up to provide information about the progress of construction.

HOURS OF WORK

Construction activities for both the Proposed Development and the Complying Development would be carried out in accordance with New York City laws and regulations, which allow construction activities between 7 AM and 6 PM on weekdays. Construction work would typically begin at 7 AM on weekdays, with most workers arriving between 6 AM and 7 AM. Normally weekday work would end between 3:30 and 4 PM, but it can be expected that in order to meet the construction schedule or to complete certain critical tasks, the workday may occasionally be extended beyond normal work hours. Any extended workdays would generally last until approximately 6 PM and would not include all construction workers on-site, but only those involved in the specific task requiring additional work time.

Night and weekend work would not be scheduled regularly, but may occur occasionally to make up for weather delays, unforeseen circumstances, or special activities such as erecting/dismantling cranes. In such cases, appropriate work permits from DOB and DOT, would be obtained and advance notice to local residents would be made. Similar to an extended workday, the number of workers and pieces of equipment in operation would be limited to those needed to complete the particular task at hand. If required, the typical weekend workday would be on Saturday from approximately 9 AM to 5 PM.

DELIVERIES AND ACCESS

During construction, access to the construction site for both the Proposed Development and the Complying Development would be controlled. The work areas would be fenced off, and limited access points for workers and trucks would be provided. Security guards and flaggers would be posted as necessary. After work hours, the gates would be closed and locked. Security guards may patrol the construction site after work hours and over the weekends to prevent unauthorized access. Material deliveries to the site would be controlled and scheduled. It is anticipated for both the Proposed Development and the Complying Development that the majority of the truck deliveries would enter the construction site via 6th Street. However, since the Complying Development would also include the construction of a building segment directly over the existing parking garage, it is anticipated that additional truck deliveries would be required on 5th Street during the construction of the Complying Development to provide materials to that portion of the site.

CLOSURES AND STAGING

Similar to many other construction projects in New York City, temporary curb-lane and sidewalk closures would be required adjacent to the Proposed Development Site for both the Proposed Development and the Complying Development. Flag-persons may be present at active driveways, where needed, to manage the access and movement of trucks, and to ensure the safety of pedestrians. The staging and laydown of materials would be done from either within the Proposed Development Site or along the perimeter of the construction site within delineated areas. Maintenance and Protection of Traffic (MPT) plans would be developed for any temporary curb-lane and sidewalk closures. Approval of these plans and implementation of the closures would be coordinated with NYCDOT's OCMC. Since the Complying Development would also include the construction of a building segment directly over the existing below-grade parking garage, additional closures would be required on 5th Street during the construction of the Complying Development.

RODENT CONTROL

Construction contracts for both the Proposed Development and the Complying Development would include provisions for a pest management control program for rodents such as rats and mice. Before the start of construction, the contractor would survey and bait the appropriate areas and provide for proper site sanitation. During construction, the contractor would carry out a maintenance program, as necessary. Signage would be posted, and coordination would be conducted with appropriate public agencies. Only EPA- and NYSDEC-registered rodenticides would be permitted, and the contractor would be required to implement the rodent control program in a manner that is not hazardous to the general public, domestic animals, and non-target wildlife.

CONSTRUCTION TASKS

Under either the Proposed Development or the Complying Development, the Proposed Development Site would first be prepared for construction which would involve the installation of public safety measures such as fencing, netting, signs, sidewalk bridges, and Jersey barriers. Access points to the construction site would be established. The site would be fenced off, typically with solid fencing, to minimize interference with the persons passing by the site. Field office trailers for the construction engineers and managers, portable toilets, and dumpsters for trash would be hauled to the site and installed. During site set-up, permanent utility connections may be made, but utility connections may be made at almost any time during the construction period. Site set-up activities would be completed within a few weeks.

Construction at the Proposed Development Site for either the Proposed Development or the Complying Development would generally involve the following main construction tasks, which would overlap at certain times: demolition; excavation and foundation; superstructure; exterior façade; interior fit-outs; and site work. Each of the construction stages is described below. It should be noted that the Proposed Development Site for the Complying Development is different than for the Proposed Development, as described in detail in Attachment A, "Project Description." The Complying Development would encompass the Proposed Development Site but would extend further west on Lot 1001-1002, building over the existing parking garage on the site, to accommodate a new building segment that would be constructed directly over the existing below-grade parking garage.

DEMOLITION

The Proposed Development Site is currently occupied by NYM-owned low-rise buildings and a parking lot, all of which would be demolished in connection with the construction of the Proposed Development or the Complying Development. These areas would be abated of asbestos and any other hazardous materials within the existing buildings and structures, where applicable.

A New York City-certified asbestos investigator would inspect the buildings for asbestos-containing materials (ACM), and those materials must be removed by a NYSDOL-licensed asbestos abatement contractor prior to demolition. Asbestos abatement is strictly regulated by DEP, NYSDOL, EPA, and OSHA to protect the health and safety of construction workers and the general public. Depending on the extent and type of ACMs, these agencies would be notified of the asbestos removal and may inspect the abatement site to ensure that all work is performed in accordance with applicable regulations. Any areas of the building with ACM would be isolated with containment and decontamination systems. Specially trained and certified workers, wearing personal protective equipment, would remove the ACM and place them in bags or containers lined with plastic sheeting, for disposal at an asbestos-permitted landfill. Depending on the extent and type of ACM, an independent third-party air-monitoring firm would collect air samples before, during, and after the asbestos abatement, as needed. These samples would be analyzed in a laboratory to ensure that regulated airborne asbestos fiber levels are not exceeded.

Any activities with the potential to disturb lead-based paint would be performed in accordance with the applicable OSHA regulation (OSHA 29 CFR 1926.62—*Lead Exposure in Construction*). When conducting demolition (unlike lead abatement work), lead-based paint is generally not stripped from surfaces. Structures may be disassembled or broken apart with most paint still intact. Dust control measures (spraying with water) would be used if necessary. The lead content of any resulting dust is therefore expected to be low. Work zone air monitoring for lead may be performed during certain activities with a high potential for releasing airborne lead-containing particulates in the immediate work zone, such as manual demolition of walls with lead paint or cutting of steel with lead-containing coatings. Such monitoring would be performed to ensure that workers performing these activities are properly protected against lead exposure.

Any suspected PCB-containing equipment (such as fluorescent light ballasts) that would be disturbed would be evaluated prior to disturbance. Unless labeling or test data indicate that the suspected PCB-containing equipment does not contain PCBs, it would be assumed to contain PCBs and removed and disposed of at properly licensed facilities in accordance with all applicable regulatory requirements.

All of these procedures related to the handling of ACM, lead-based paint, and potential PCB-containing equipment would be contained in the DEP-approved CHASP.

General demolition is the next step. All of the NYM-owned low-rise buildings and a parking lot on the Proposed Development Site would be demolished. Demolition would occur in accordance with DOB guidelines/requirements. In general, the first step is to remove any economically salvageable materials. Then the buildings are deconstructed using excavators and bobcats with hoe ram attachments. Demolition activities would require fencing around the building to prevent accidental dispersal of building materials into areas accessible to the general public. The demolition debris would be sorted prior to being disposed at landfills to maximize recycling opportunities. Other equipment that would be used during demolition would include compressors, jack hammers, and portable generators.

EXCAVATION AND FOUNDATION

For both the Proposed Development and the Complying Development, excavation would start with the installation of temporary and permanent sheeting and shoring materials such as sheet piles or lagging to support the perimeter. Then excavation would follow with the loading of the soil onto dump trucks for transport to a licensed disposal facility or for reuse on a construction site that needs fill. In addition, secant walls may be erected on the sides of the Proposed Development Site where existing buildings are in close proximity. Secant wall construction is a specialized technique for building foundations when the new construction is close to adjacent buildings that could be damaged by vibrations from the installation of soldiers and lagging or sheet piling. Secant wall construction would first involve drilling or auguring an opening with the use of a drill rig for the installation of a concrete pile that is filled with a cage of steel reinforcing bars. The hole would then be filled with concrete. After the first hole is drilled and filled with concrete, the process would be repeated. After the second secant pile is constructed, the third secant pile would be drilled and constructed between the first two. This interlocking technique forms a strong, waterproof wall that would also serve as part of the foundation wall for the development building.

Blasting and solid rock removal is not expected to be needed but loose rock or boulders may be encountered. Next, the concrete footings would be erected and subsequently the basement floors would be installed. A spread footing foundations system would likely be used for the Proposed Development. In this type of foundation system, concrete column footings would be used to accommodate the concentrated load placed on them and support the structure above. These concrete footings would be reinforced with rebar as is traditionally done.

Equipment that would be used during excavation and foundation would also include excavators, line drills, rubber tire cranes, rebar benders, welding equipment, concrete vibrators, concrete pumps, concrete trucks, and troweling machines.

Below-Grade Hazardous Materials

For the Proposed Development, all construction subsurface soil disturbances would be performed in accordance with a DEP-approved RAP and CHASP. The RAP would provide for the appropriate handling, stockpiling, testing, transportation, and disposal of excavated materials, as well as any unexpectedly encountered tanks, in accordance with all applicable federal, state, and local regulatory requirements. The CHASP would ensure that all subsurface disturbances are done in a manner protective of workers, the community, and the environment.

Since the Complying Development would not be subject to City Environmental Quality Review (CEQR), the controls on the soil disturbance would potentially be less stringent than those associated with the Proposed Development, i.e. conducting a Subsurface (Phase II) Investigation, and conducting construction in accordance with a RAP and CHASP if warranted by Phase II findings.

SUPERSTRUCTURE

The building superstructure for either the Proposed Development or the Complying Development would include the building's framework (beams and columns) and floor decks. Construction of the interior structure, or core, of the proposed building would include elevator shafts; vertical risers for mechanical, electrical, and plumbing systems; electrical and mechanical equipment rooms; core stairs; and restroom areas. Superstructure construction would begin after the foundation is completed.

Superstructure activities would require the use of tower cranes, impact wrenches, compressors, sprayers, rebar benders, welding equipment, troweling machines, concrete vibrators, and a variety of trucks. Temporary construction hoists would also be constructed for the delivery of materials and vertical movement of workers during this stage of construction.

EXTERIOR FAÇADE

As the superstructure advances upward above ground for both the Proposed Development and the Complying Development, installation of the vertical mechanical systems would commence. After the superstructure is multiple floors above street grade, the exterior façade would be installed on the lower floors. The exterior façade would arrive on trucks and be lifted into place for attachment by cranes.

INTERIOR FIT-OUTS

This stage would include the construction of interior partitions, installation of lighting fixtures, and interior finishes (flooring, painting, etc.), and mechanical and electrical work for both the Proposed Development and the Complying Development. This activity would employ the greatest number of construction workers. Equipment used during interior construction would include hoists, scissor lifts, forklifts, delivery trucks, and a variety of small hand-held tools. Cranes may be used to lift mechanical equipment onto the roof of the building. While the greatest number of construction workers would be on-site during this stage of construction, this stage would be the quietest because most of the construction activities would occur within the buildings with the façades substantially complete.

SITE WORK

Concrete sidewalks and landscaping work would take place during this task for both the Proposed Development and the Complying Development. For the Proposed Development, a public vehicular entrance on the south side of the building (access from 6th Street) via a covered driveway for patient drop-off and pick-up, including ambulance and taxi access, would be installed. The vehicular entrance would also include a pedestrian entrance that would run through the building and would also have a pedestrian only outlet on 6th Street. Equipment used during site work would include backhoes, asphalt saws, asphalt pavers, mini excavators as well as concrete and asphalt trucks and associated equipment. In contrast, the Complying Development would not have off-street drop-off and pick-up.

COMPLYING DEVELOPMENT BUILDING SEGMENT OVER EXISTING BELOW-GRADE PARKING GARAGE

As discussed above, the Complying Development would also include a new building segment constructed directly over the existing below-grade parking garage. Construction of the building segment over the existing below-grade parking garage would involve the following main construction tasks, which would overlap at certain times: demolition; foundation; superstructure; exterior façade; interior fit-outs; and site work. Before demolition could begin, the existing parking garage would first be emptied, and the 518 existing parking spaces in the garage would be lost. Next, the floors and the columns of the existing garage would be demolished because the necessary seismic retrofitting is not possible and the existing columns and foundations are not adequate to support the new 10-story structure that would be constructed on this portion of the site for the Complying Development. Minimal additional excavation would be required since the

depth of the existing below-grade garage is already near the required depth of the proposed building. Next, new concrete footings would be erected and subsequently the basement floors would be installed. When the below-grade construction is completed, construction of the core and shell of the new buildings would begin. The core is the central part of the building and is the main part of the structural system while the shell is the outside of the building. As the core and floor decks of the building are being erected, installation of the mechanical and electrical internal networks would start. As the building progresses upward, the exterior cladding would be placed, and interior fit-outs would commence. Finally, site work, including landscaping, would be undertaken.

UTILITY CONDUIT

As a potential alternative, the Proposed Development would be connected to the existing boiler plant and Oxygen Tank Facility at the NYM facility across 6th Street. This connection could be made using a combination of the existing below grade conduit and a new conduit under 6th Street. The installation of a new utility line such as the oxygen line to the existing conduit could be complete in a few weeks. Other utility lines such as the steam line would likely require the installation of a new conduit via the "cut and cover" method. In the "cut and cover" technique, a trench would be excavated in the street, a bedding layer of gravel laid in the bottom of the trench, the utility lines placed in the trench, the trench backfilled, and the pavement patched. The trench would not be left unprotected during non-working hours, but would either be filled and patched, covered with steel plates, or safely barricaded. This connection would take one to two months to complete and would not cause long-term disruptions. Traffic control measures would be coordinated with DOT and implemented while work is ongoing to protect the workers and to maintain traffic flow.

E. NUMBER OF CONSTRUCTION WORKERS AND MATERIAL DELIVERIES

Table K-4 shows the estimated average daily numbers of workers and deliveries to the Proposed Development Site by calendar quarter for the duration of the Proposed Development construction period. The average number of workers throughout the entire construction period would be approximately 112 per day. The peak number of workers would be 318 per day, and would occur in the third quarter of 2016. For truck trips, the average number of trucks throughout the entire construction period would be approximately 7 per day, and the peak would occur in the third quarter of 2015, with 23 trucks per day.

Table K-4
Average Number of Daily Workers and Trucks by Quarter
Proposed Development

Year	2014				2015				2016			
Quarter	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
Workers	--	--	61	61	127	127	176	103	148	300	318	264
Trucks	--	--	7	7	20	20	23	8	10	9	9	9
Year	2017				2018							
Quarter	1st	2nd	3rd	4th	1st	2nd	3rd	4th	Average		Peak	
Workers	283	271	11	--	--	--	--	--	112		318	
Trucks	10	9	9	--	--	--	--	--	7		23	

Source: Lend Lease

To prevent construction workers from utilizing parking spaces near the Proposed Development Site and to divert worker vehicle trips from using neighborhood roadway networks, NYM and their construction manager (Lend Lease) would take a proactive approach by requiring that, subcontractor contracts include a provision to prohibit construction workers from parking on streets in the immediate neighborhood of the Proposed Development Site during construction of either the Proposed Development or the Complying Development. Off-site parking facilities and shuttle services would be provided.

Table K-5 shows the estimated average daily numbers of workers and deliveries to the Proposed Development Site by calendar quarter for the duration of the Complying Development construction period. The average number of workers throughout the entire construction period would be approximately 145 per day. The peak number of workers would be 305 per day, and would occur in the third quarter of 2016. For truck trips, the average number of trucks throughout the entire construction period would be approximately 11 per day, and the peak would occur in the third and fourth quarters of 2017, with 24 trucks per day.

Table K-5
Average Number of Daily Workers and Trucks by Quarter
Complying Development

Year	2014				2016				2018			
Quarter	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
Workers	--	--	38	38	99	99	99	143	164	288	305	282
Trucks	--	--	4	4	16	16	16	13	10	8	9	9
Year	2017				2018							
Quarter	1st	2nd	3rd	4th	1st	2nd	3rd	4th	Average		Peak	
Workers	297	288	79	82	72	195	174	166	145		305	
Trucks	10	9	24	24	7	11	9	10	11		24	

Source: Lend Lease

F. THE FUTURE WITHOUT THE PROPOSED PROJECT

The Proposed Development Site is located on the eastern portion of the campus, with frontages on 6th Street, 5th Street, and 8th Avenue. There are a series of contiguous out-parcels fronting on 5th Street, not owned by the hospital, which give the Proposed Development Site a U-shape. The remainder of the block to the west is occupied by three hospital buildings to remain: the Medical Pavilion with a below-grade accessory parking garage and surface parking; a five-story building fronting on 7th Avenue, containing hospital-related facilities and ground-floor retail; and the Wesley House, a 12-story building containing hospital-related facilities and staff dwellings.

The Complying Development would contain approximately the same amount of floor area as the Proposed Development, but would consist of two disconnected building segments rising from a common at-grade building base structure, including one main building segment and one building segment constructed directly over the existing below-grade parking garage. The Complying Development would take approximately 53 months to construct and would be complete near the end of 2018. The construction duration of the Complying Development is considerably longer (17 months longer) than that of the Proposed Development. In addition, construction of the Complying Development would include significant construction above the parking garage and would require the parking garage to be completely closed, resulting in the loss of the 518 off-street parking spaces during the construction period, while construction of the Proposed Development would not require closure of the parking garage. Further, additional truck

deliveries, as well as additional sidewalk and curb-lane closures would be required on 5th Street during the construction of the building segment over the existing below-grade parking garage for the Complying Development. Therefore, the construction of the Complying Development would result in considerably more disruption the neighborhood as compared to the construction of the Proposed Development.

G. ENVIRONMENTAL EFFECTS OF PROJECT CONSTRUCTION ACTIVITIES

Similar to many large development projects in New York City, construction can be disruptive to the surrounding area for periods of time. The following analyses describe potential construction impacts associated with the Proposed Development with respect to transportation, air quality, noise and vibration, land use and neighborhood character, socioeconomic conditions, community facilities, open space, historic and cultural resources, and hazardous materials.

TRANSPORTATION

The construction transportation analysis is based on a study of peak worker and truck trips, taking into account several factors, including: worker modal splits, vehicle occupancy and trip distribution; and truck passenger car equivalents (PCEs) and arrival patterns. The effects of the construction activities from the Proposed Development were compared to the construction activities from the Complying Development to assess the potential transportation impacts during construction. Since the potential transportation impacts during construction are based on peak construction related activities, the quarter with the highest level of construction trip generation was assessed.

As discussed above in "Number of Construction Workers and Material Deliveries," to prevent construction workers from utilizing parking spaces near the Proposed Development Site and to divert worker vehicle trips from using neighborhood roadway networks, NYM and their construction manager (Lend Lease) would take a proactive approach by requiring that, subcontractor contracts include a provision to prohibit construction workers from parking on streets in the immediate neighborhood of the Proposed Development Site during construction of either the Proposed Development or the Complying Development. Off-site parking facilities and shuttle services would be provided.

TRAFFIC

An evaluation of construction sequencing and worker/truck projections was undertaken to assess potential traffic impacts.

Construction Trip Generation Projections

As mentioned above, the quarterly average worker and truck trip projections shown in **Tables K-4 and K-5** were further refined to account for worker modal splits and vehicle occupancy, arrival and departure distribution, and truck PCEs.

Daily Workforce and Truck Deliveries

For a reasonable worst-case analysis of potential transportation-related impacts during construction, the daily workforce and truck trip projections in the peak quarter were used as the basis for estimating peak hour construction trips. For the Proposed Development, it is expected that construction activities would generate the highest amount of incremental daily traffic in the 3rd quarter of 2016, with an estimated incremental average of 318 workers and 9 truck deliveries per day (see **Table K-4**). For the Complying

Development, it is expected that construction activities would also generate the highest amount of incremental daily traffic in the 3rd quarter of 2016, with an estimated incremental average of 305 workers and 9 truck deliveries per day (see **Table K-4**). These estimates of construction activities are discussed further below.

Construction Worker Modal Splits and Vehicle Occupancy

Based on the latest available U.S. Census data (2000 Census) for workers in the construction and excavation industry it is anticipated that 51 percent of construction workers would commute by private autos at an average occupancy of approximately 1.03 persons per vehicle.

Peak Hour Construction Worker Vehicle and Truck Trips

Similar to other construction projects in New York City, most of the construction activities at the Proposed Development Site are expected to take place during the construction shift of 7 AM to 4 PM. While construction truck trips would occur throughout the day (with more trips made during the early morning), and most trucks would remain in the area for short durations, construction workers would commute during the hours before and after the work shift. For analysis purposes, each truck delivery was assumed to result in two truck trips during the same hour (one "in" and one "out"), whereas each worker vehicle was assumed to arrive near the work shift start hour and depart near the work shift end hour. Further, in accordance with the *CEQR Technical Manual*, the traffic analysis assumed that each truck has a PCE of 2.

The estimated daily vehicle trips were distributed throughout the workday based on projected work shift allocations and conventional arrival/departure patterns for construction workers and trucks. All For construction workers, the majority (80 percent) of the arrival and departure trips would take place during the hour before and after each work shift. However, as discussed above, to prevent construction workers from utilizing parking spaces near the Proposed Development Site and to divert worker vehicle trips from using neighborhood roadway networks, NYM and their construction manager (Lend Lease) would take a proactive approach by providing off-site parking facilities to all construction workers during construction of either the Proposed Development or the Complying Development. Shuttle services would be provided. Construction truck deliveries typically peak during the hour before each shift (25 percent), overlapping with construction worker arrival traffic. Peak construction hourly trip projections for the Proposed Development during the 3rd quarter of 2016 are summarized in **Table K-6**. As shown, the maximum construction-related traffic increments for the Proposed Development would be approximately 134 PCEs between 6 AM and 7 AM and 126 PCEs between 4 PM and 5PM.

Using the same methodology, construction vehicle trip projections were also developed for the Complying Development (see **Table K-7**). As shown, the maximum construction-related traffic increments for the Proposed Development would be approximately 129 PCEs between 6 AM and 7 AM and 121 PCEs between 4 PM and 5 PM. The construction vehicle activities associated with the Complying Development represent the baseline to which projected construction activities for the Proposed Development would be compared to determine potential construction traffic impacts. The incremental 6 AM to 7 AM peak hour construction vehicle trips in PCEs are presented in **Table K-8**.

Table K-6
2016 Peak Construction Vehicle Trip Projections—Proposed Development

Hour	Auto Trips			Truck Trips			Total					
							Vehicle Trips			PCE Trips		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
3rd Quarter of 2016												
6 AM - 7 AM	126	0	126	2	2	4	128	2	130	130	4	134
7 AM - 8 AM	31	0	31	1	1	2	32	1	33	33	2	35
8 AM - 9 AM	0	0	0	1	1	2	1	1	2	2	2	4
9 AM -10 AM	0	0	0	1	1	2	1	1	2	2	2	4
10 AM -11 AM	0	0	0	1	1	2	1	1	2	2	2	4
11 AM - 12 PM	0	0	0	1	1	2	1	1	2	2	2	4
12 PM - 1 PM	0	0	0	1	1	2	1	1	2	2	2	4
1 PM - 2 PM	0	0	0	1	1	2	1	1	2	2	2	4
2 PM - 3 PM	0	0	0	0	0	0	0	0	0	0	0	0
3 PM - 4 PM	0	31	31	0	0	0	0	31	31	0	31	31
4 PM - 5 PM	0	126	126	0	0	0	0	126	126	0	126	126
Daily Total	**157**	**157**	**314**	**9**	**9**	**18**	**166**	**166**	**332**	**176**	**176**	**360**

Note: Hourly construction worker and truck trips were derived from an estimated quarterly average number of construction workers and truck deliveries per day, with each truck delivery resulting in two daily trips (arrival and departure).

Table K-7
2016 Peak Construction Vehicle Trip Projections—Complying Development

Hour	Auto Trips			Truck Trips			Total					
							Vehicle Trips			PCE Trips		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
3rd Quarter of 2016												
6 AM - 7 AM	121	0	121	2	2	4	123	2	125	125	4	129
7 AM - 8 AM	30	0	30	1	1	2	31	1	32	32	2	34
8 AM - 9 AM	0	0	0	1	1	2	1	1	2	2	2	4
9 AM -10 AM	0	0	0	1	1	2	1	1	2	2	2	4
10 AM -11 AM	0	0	0	1	1	2	1	1	2	2	2	4
11 AM - 12 PM	0	0	0	1	1	2	1	1	2	2	2	4
12 PM - 1 PM	0	0	0	1	1	2	1	1	2	2	2	4
1 PM - 2 PM	0	0	0	1	1	2	1	1	2	2	2	4
2 PM - 3 PM	0	0	0	0	0	0	0	0	0	0	0	0
3 PM - 4 PM	0	30	30	0	0	0	0	30	30	0	30	30
4 PM - 5 PM	0	121	121	0	0	0	0	121	121	0	121	121
Daily Total	**151**	**151**	**302**	**9**	**9**	**18**	**160**	**160**	**320**	**168**	**168**	**338**

Note: Hourly construction worker and truck trips were derived from an estimated quarterly average number of construction workers and truck deliveries per day, with each truck delivery resulting in two daily trips (arrival and departure).

Table K-8
Incremental Peak Hour (6 to 7AM) Construction Vehicle Trips in PCEs

Scenario	Auto Trips			Truck Trips			Total Vehicle Trips			Total PCE Trips		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
Proposed Development	126	0	126	2	2	4	128	2	130	130	4	134
Complying Development	121	0	121	2	2	4	123	2	125	125	4	129
Incremental	5	0	5	0	0	0	5	0	5	5	0	5

Notes: Peak construction worker and truck trips were derived from an estimated quarterly average number of construction workers and truck deliveries per day, with each truck delivery resulting in two daily trips (arrival and departure).

Compared with the Complying Development, whose peak quarter construction activities are expected to yield 129 peak hour (6 to 7 AM) PCEs, the Proposed Development would generate 134 PCEs. The incremental construction PCE trips generated by the Proposed Development would not exceed the 50 vehicle-trip 2012 *CEQR Technical Manual* analysis threshold;

therefore, the Proposed Development would not result in any significant adverse construction traffic impacts.

PARKING

The anticipated construction activities for the Proposed Development are projected to generate a maximum parking demand of 157 spaces during the 3rd quarter of 2016. This peak parking demand would be similar to the peak parking demand for the Complying Development, which is projected to generate a maximum demand of 151 spaces during the 3rd quarter of 2016. The incremental construction parking demand generated by the Proposed Development as compared with the Complying Development would be 6 spaces. However, as discussed above, to prevent construction workers from utilizing parking spaces near the Proposed Development Site, NYM and the construction manager (Lend Lease) would take a proactive approach by providing off-site parking location(s) to all construction workers during construction. Shuttle services would be provided. In addition, subcontractor contracts would include a provision to prohibit construction workers from parking on streets in the immediate neighborhood of the Proposed Development Site during the construction of either the Proposed Development or the Complying Development. Therefore, the Proposed Development would not result in any significant adverse parking impacts during construction.

It is notable that construction of the Proposed Development would result in the loss of approximately 34 of the 518 off-street parking spaces in the existing parking garage during activities related to installation of the new loading dock facilities, boiler plant, access ramps, and green roof. However, construction of the Proposed Development would not require closure of the parking garage at the Medical Pavilion, while construction of the Complying Development would include significant construction above the parking garage and would require the parking garage to be completely closed, resulting in the loss of the 518 off-street parking spaces during the construction period for the Complying Development.

TRANSIT

Based on 2000 U.S. Census data for workers in the construction and excavation industry, it is anticipated that approximately 49 percent of construction workers would commute to the Proposed Development Site via transit. During the peak construction worker shift (maximum of 318 average daily construction workers during the third quarter of 2016) for the Proposed Development, this would correspond to approximately 156 workers traveling by transit. With 80 percent of these workers arriving or departing during the construction peak hours, the estimated number of peak hour transit trips would be 125. During the peak construction worker shift (maximum of 305 average daily construction workers during the third quarter of 2016) for the Complying Development, this would correspond to approximately 150 workers traveling by transit. With 80 percent of these workers arriving or departing during the construction peak hours, the estimated number of peak hour transit trips would be 120. The incremental transit trips generated by the construction of the Proposed Development would be 5 trips and consequently would not exceed the 200 transit-trip 2012 *CEQR Technical Manual* analysis threshold; therefore, the Proposed Development would not result in any significant adverse transit impacts during construction.

PEDESTRIANS

As summarized above, up to 318 average daily construction workers were projected during peak construction for the Proposed Development. With 80 percent of these workers arriving or departing during the construction peak hours (6 to 7 AM and 4 to 5 PM); the corresponding numbers of peak hour pedestrian trips traversing the area's sidewalks, corners, and crosswalks would be approximately 254. Similarly, up to 305 average daily construction workers were projected during peak construction for the Complying Development. With 80 percent of these workers arriving or departing during the construction peak hours (6 to 7 AM and 4 to 5 PM); the corresponding numbers of peak hour pedestrian trips traversing the area's sidewalks, corners, and crosswalks would be approximately 244. The incremental pedestrian trips generated by the construction of the Proposed Development would be 10 trips and consequently would not exceed the 200 pedestrian-trip 2012 *CEQR Technical Manual* analysis threshold; therefore, the Proposed Development would not result in any significant adverse pedestrian impacts during construction.

AIR QUALITY

Emissions from on-site construction equipment and on-road construction-related vehicles, as well as dust generating construction activities, have the potential to affect air quality. In general, much of the heavy equipment used in construction has diesel-powered engines and produces relatively high levels of nitrogen oxides (NO_x) and particulate matter (PM). Fugitive dust generated by construction activities also contains particulate matter. Finally, gasoline engines produce relatively high levels of carbon monoxide (CO). As a result, the primary air pollutants of concern for construction activities include nitrogen dioxide (NO_2), CO, and particulate matter with an aerodynamic diameter less than or equal to 10 micrometers (PM_{10}) and 2.5 micrometers ($PM_{2.5}$).

CEQR IMPACT CRITERIA

The *CEQR Technical Manual* lists several factors for consideration in determining whether a quantified on-site and/or off-site construction impact assessment for air quality is appropriate. For on-site assessment, these factors include the duration and intensity of construction activities, the location of nearby sensitive receptors, and the use of emission control measures. For off-site assessment, if a quantified transportation analysis is required, a corresponding air quality analysis for mobile sources is generally also conducted.

ON-SITE SOURCES

Duration

In terms of air pollutant emissions, the most intense construction activities would be demolition, excavation, and foundation work, where a number of large non-road diesel engines would be employed. While the overall construction duration for the Proposed Development is anticipated to be approximately 36 months, the demolition, excavation, and foundation activities for the Proposed Development would last for only a portion of this duration, taking approximately 15 months to complete. Although superstructure, exterior facade, interior fit-outs, site work, and commissioning would continue after excavation and foundation work is complete, those efforts would result in much less emissions since most of the heavy duty diesel equipment such as excavators and drill rigs associated with demolition, excavation, and foundation work would no

longer be needed on-site. The equipment required for these tasks would generally have small engines and would be dispersed vertically throughout the building, resulting in low concentration increments in adjacent areas. The overall construction duration for the Complying Development is anticipated to be approximately 17 months longer than that for the Proposed Development since the Complying development would also include a new building segment constructed directly over the existing below-grade parking garage.

Intensity

During the construction of the Proposed Development and the Complying Development, several large non-road diesel engines would operate throughout the Proposed Development Site. The only engines expected to remain stationary for long periods of time are the tower cranes. However, as discussed below in "Emission Control Measures," NYM would implement a robust emissions reduction program for all construction activities. Other engines would generally move throughout the Proposed Development Site, although a concrete pump would be located in one location during concrete pours. Based on the nature of the construction work involved, construction activities under the Proposed Development would not be considered out of the ordinary in terms of intensity, and in fact, emissions would be lower due to the emission control measures that would be implemented during construction at the Proposed Development Site (see "Emission Control Measures," below).

Location of Nearby Sensitive Receptors

The Proposed Development Site is located on the eastern portion of the campus, with frontages on 6th Street, 5th Street, and 8th Avenue. The nearest sensitive receptor locations are a series of contiguous out-parcels fronting on 5th Street not owned by the hospital located immediately north of the Proposed Development Site on the same block and the Wesley House (containing hospital-related facilities and staff dwellings) located immediately west of the Proposed Development Site. As discussed below in "Emission Control Measures," to ensure that the construction at the Proposed Development Site would result in the lowest practicable diesel particulate matter (DPM) emissions and to minimize air quality concentrations at these sensitive receptor locations, NYM would implement an emissions reduction program for all construction activities at the Proposed Development Site.

There are also residential locations and the John Jay Educational Campus along the south side of 6th Street approximately 55 feet north of the Proposed Development Site, residential locations along the west side of 8th Avenue approximately 75 feet east of the Proposed Development Site, the existing New York Methodist Hospital approximately 55 feet south of the Proposed Development Site, and a five-story hospital-related facility and ground-floor retail located approximately 95 feet north of the Proposed Development Site. Based on the distances to these receptors, air emissions generated by construction activities would be dispersed before reaching the receptors and, therefore, potential concentration increments from on-site sources at such locations would be reduced.

Emission Control Measures

The main component of diesel exhaust that has been identified as having an adverse effect on human health is fine PM. To ensure that construction at the Proposed Development Site would result in the lowest practicable DPM emissions, NYM would implement an emissions reduction program for all construction activities for both the Complying Development and the Proposed Development, consisting of the following components:

- *Diesel Equipment Reduction.* NYM would apply for a grid power connection early on so as to ensure the availability of grid power, reducing the need for on-site generators. Electrically powered equipment would be preferred over diesel-powered versions of equipment to the extent practicable.
- *Clean Fuel.* Ultra-low sulfur diesel (ULSD) would be used exclusively for all diesel engines throughout the construction site.
- *Best Available Tailpipe Reduction Technologies.* Nonroad diesel engines with a power rating of 50 horsepower (hp) or greater would utilize the best available tailpipe (BAT) technology for reducing DPM emissions. Diesel particle filters (DPFs) have been identified as being the tailpipe technology currently proven to have the highest reduction capability. Construction contract would specify that all diesel nonroad engines rated at 50 hp or greater would utilize DPFs, either installed on the engine by the original equipment manufacturer (OEM) or retrofit with a DPF verified by EPA or the California Air Resources Board, and may include active DPFs if necessary; or other technology proven to achieve an equivalent emissions reduction.
- *Utilization of Newer Equipment.* EPA's Tier 1 through 4 standards for nonroad engines regulate the emission of criteria pollutants from new engines, including PM, CO, NO_x, and hydrocarbons (HC). All nonroad construction equipment with a power rating of 50 hp or greater would meet at least the Tier 3 emissions standard to the extent practicable. Tier 3 NO_x emissions range from 40 to 60 percent lower than Tier 1 emissions and considerably lower than uncontrolled engines. All nonroad engines in the project rated less than 50 hp would meet at least the Tier 2 emissions standard.
- *Dust Control.* Fugitive dust control plans would be required as part of contract specifications. For example, chutes would be used for material drops during demolition; dust netting would be installed on scaffolding during demolition; stabilized truck exit areas would be established for washing off the wheels of all trucks that exit the construction sites; truck routes within the Proposed Development Site would be either watered as needed or, in cases where such route would remain in the same place for an extended duration, the routes would be stabilized, covered with gravel, or temporarily paved to avoid the re-suspension of dust; all trucks hauling loose material would be equipped with tight-fitting tailgates and their loads securely covered prior to leaving the Proposed Development Site; water sprays would be used for all demolition, excavation, and transfer of soils to ensure that materials would be dampened as necessary to avoid the suspension of dust into the air. Loose materials would be watered, stabilized with chemical suppressing agent, or covered. In addition, all necessary measures would be implemented to ensure that the New York City Air Pollution Control Code regulating construction-related dust emissions is followed.
- *Idle Restriction.* In addition to adhering to the local law restricting unnecessary idling on roadways, on-site vehicle idle time would also be restricted to three minutes for all equipment and vehicles that are not using their engines to operate a loading, unloading, or processing device (e.g., concrete mixing trucks) or otherwise required for the proper operation of the engine.

Overall, the proposed emission reduction program is expected to significantly reduce DPM emissions by more than the goals of the currently best available control technologies under New York City Local Law 77, which are required only for publicly funded City projects. Accordingly, a detailed qualitative rather than quantitative air quality analysis was provided to assess the potential impacts of on-site construction activities.

OFF-SITE SOURCES

As mentioned above, a quantified construction air quality analysis for off-site mobile sources is generally conducted if a corresponding transportation analysis is required, which as demonstrated above under "Transportation," is not necessary for the Proposed Development since the incremental construction PCE trips generated by the Proposed Development would not exceed the 50 vehicle-trip 2012 *CEQR Technical Manual* traffic analysis threshold. Therefore, construction of the Proposed Development would not result in significant adverse air quality impacts related to vehicular traffic, and further mobile-source analysis is not required.

Conclusion

Based on this information presented above, the Proposed Development would not result in any significant adverse construction air quality impacts, and no further analysis is required.

NOISE AND VIBRATION

NOISE

Impacts on community noise levels during construction would include noise from the operation of construction equipment and noise from construction and delivery vehicles traveling to and from the site. Noise and vibration levels at a given location are dependent on the type and quantity of construction equipment being operated, the acoustical utilization factor of the equipment (i.e., the percentage of time a piece of equipment is operating), the distance from the construction site, and any shielding effects (from structures such as buildings, walls, or barriers). Noise levels caused by construction activities would vary widely, depending on the phase of construction (i.e., structure rehabilitation, interior fit-outs, etc.) and the location of the construction activities relative to noise-sensitive receptor locations. The most significant construction noise sources are expected to be the operation of excavators with hoe rams and concrete pumps, as well as movements of trucks to and from the Proposed Development Site.

Construction noise is regulated by the requirements of the New York City Noise Control Code (also known as Chapter 24 of the Administrative Code of the City of New York, or Local Law 113), the DEP Notice of Adoption of Rules for Citywide Construction Noise Mitigation (also known as Chapter 28), and the USEPA's noise emission standards. These local and federal requirements mandate that specific construction equipment and motor vehicles meet specified noise emission standards; that construction activities be limited to weekdays between the hours of 7 AM and 6 PM; and that construction materials be handled and transported in such a manner as not to create unnecessary noise. As described above, for weekend and after hour work, permits would be required to be obtained, as specified in the New York City Noise Control Code. As part of the New York City Noise Control Code, a site-specific noise mitigation plan would be developed and implemented that may include source controls, path controls, and receiver controls.

Construction Noise Impact Criteria

The *CEQR Technical Manual* states that significant noise impacts due to construction would occur "only at sensitive receptors that would be subjected to high construction noise levels for an extensive period of time." This has been interpreted to mean that such impacts would occur only at sensitive receptors where the activity with the potential to create high noise levels (the "intensity") would occur continuously for approximately two years or longer (the "duration").

The *CEQR Technical Manual* states that the impact criteria for vehicular sources, using the No Action noise level as the baseline, should be used for assessing construction impacts. As recommended in the *CEQR Technical Manual*, this study uses the following criteria to define a significant adverse noise impact from mobile and on-site construction activities:

- If the No Action noise level is less than 60 dBA $L_{eq(1)}$, a 5 dBA $L_{eq(1)}$ or greater increase would be considered significant.
- If the No Action noise level is between 60 dBA $L_{eq(1)}$ and 62 dBA $L_{eq(1)}$, a resultant $L_{eq(1)}$ of 65 dBA or greater would be considered a significant increase.
- If the No Action noise level is equal to or greater than 62 dBA $L_{eq(1)}$, or if the analysis period is a nighttime period (defined in the CEQR criteria as being between 10:00 p.m. and 7:00 a.m.), the incremental significant impact threshold would be 3 dBA $L_{eq(1)}$.

Noise Analysis Fundamentals

Construction activities for the Proposed Development would be expected to result in increased noise levels as a result of: (1) the operation of construction equipment on-site; and (2) the movement of construction-related vehicles (i.e., worker trips, and material and equipment trips) on the roadways to and from the Proposed Development Site.

Noise from the operation of construction equipment on-site at a specific receptor location near a construction site is generally calculated by computing the sum of the noise produced by all pieces of equipment operating at the construction site. For each piece of equipment, the noise level at a receptor site is a function of the following:

- The noise emission level of the equipment;
- A usage factor, which accounts for the percentage of time the equipment is operating at full power;
- The distance between the piece of equipment and the receptor;
- Topography and ground effects; and
- Shielding.

Similarly, noise levels due to construction-related traffic are a function of the following:

- The noise emission levels of the type of vehicle (e.g., auto, light-duty truck, heavy-duty truck, bus, etc.);
- Volume of vehicular traffic on each roadway segment;
- Vehicular speed;
- The distance between the roadway and the receptor;
- Topography and ground effects; and
- Shielding.

Location of Nearby Sensitive Receptors

As discussed above in "Air Quality," the Proposed Development Site is located on the eastern portion of the campus, with frontages on 6th Street, 5th Street, and 8th Avenue. The nearest sensitive receptor locations are a series of contiguous out-parcels fronting on 5th Street not owned by the hospital located immediately north of the Proposed Development Site on the same block and the Wesley House located immediately west of the Proposed Development Site.

There are also residential locations and the John Jay Educational Campus along the south side of 6th Street approximately 55 feet north of the Proposed Development Site, residential locations along the west side of 8th Avenue approximately 75 feet east of the Proposed Development Site, the existing New York Methodist Hospital approximately 55 feet south of the Proposed Development Site, and a five-story hospital-related facilities and ground-floor retail located approximately 95 feet north of the Proposed Development Site.

Noise Reduction Measures

Construction of the Complying Development and the Proposed Development would be required to follow the requirements of the New York City Noise Control Code for construction noise control measures. Specific noise control measures would be described in a noise mitigation plan required under the New York City Noise Control Code. These measures would include a variety of source and path controls. In addition, a proactive noise monitoring program would be implemented during construction.

In terms of source controls (i.e., reducing noise levels at the source or during the most sensitive time periods), the following measures would be implemented in accordance with the New York City Noise Control Code:

- Equipment that meets the sound level standards specified in Subchapter 5 of the New York City Noise Control Code (as shown in **Table K-9**) would be used from the start of construction.
- As early in the construction period as logistics will allow, diesel- or gas-powered equipment would be replaced with electrical-powered equipment such as welders, water pumps, bench saws, and table saws (i.e., early electrification) to the extent feasible and practicable.
- Where feasible and practical, the construction site would be configured to minimize back-up alarm noise. In addition, all trucks would not be allowed to idle more than three minutes at the construction site based upon New York City Local Law.
- Contractors and subcontractors would be required to properly maintain their equipment and mufflers.

In terms of path controls (e.g., placement of equipment, implementation of barriers or enclosures between equipment and sensitive receptors), the following measures for construction would be implemented to the extent feasible and practical:

- Where logistics allow, noisy equipment, such as cranes, concrete pumps, concrete trucks, and delivery trucks, would be located away from sensitive receptor locations.
- Noise barriers would be utilized to provide shielding (e.g., the construction sites would have a minimum 10-foot cantilevered barrier and, where logistics allow, truck deliveries would take place behind these barriers once building foundations are completed); and
- Path noise control measures (i.e., portable noise barriers, sound attenuation curtains, panels, enclosures, and acoustical tents, where feasible) would be used for certain dominant noise equipment to the extent feasible and practical (i.e., asphalt pavers, drill rigs, and hoists). These barriers are conservatively assumed to offer only a 10 dBA reduction in noise levels for each piece of equipment to which they are applied. The details for construction of portable noise barriers, enclosures, tents, etc. are based on DEP's rules for Citywide Construction Noise Mitigation.

Table K-9.
Typical Construction Equipment Noise Emission Levels (dBA)

Equipment List	DEP & FTA Typical Noise Level at 50 feet[1]	Noise Level with Path Controls at 50 feet[2]
Backhoe/Loader	80	
Compressors	58	
Concrete Pump	82	
Concrete Trowel	85	75
Concrete Vibrator	80	
Concrete Trucks	85	
Cranes (Tower Cranes)	85	75
Delivery Trucks	84	
Drill Rigs	84	
Dump Trucks	84	
Excavator	85	
Hydraulic Break Ram	90	
Generators	82	72
Hand Tool	59	
Hoist	85	
Impact Wrenches	85	
Pumps	77	
Rebar Bender	80	
Welding Machines	73	

Notes:
[1] Sources: Citywide Construction Noise Mitigation, Chapter 28, Department of Environmental Protection of New York City, 2007. Transit Noise and Vibration Impact Assessment, FTA, May 2006.
[2] Path controls include portable noise barriers, enclosures, acoustical panels, and curtains, whichever feasible and practical.

Construction Noise Analysis

The construction noise analysis considers the noise generated by construction-related traffic, including delivery trucks and worker vehicles, traveling to and from the Proposed Development Site as well as by on-site construction equipment and activity. However, as described above in "Construction Phasing and Schedule," the Complying Development would contain approximately the same amount of floor area as the Proposed Development and would include an additional building segment constructed directly over the existing below-grade parking garage. The Proposed Development would take approximately 36 months to construct and would be complete in 2017, while the Ambulatory Care Facility for the Complying Development would also take approximately 36 months to complete with an additional 17 months for the building segment over the existing parking garage. The construction activities associated with the Proposed Development and the Ambulatory Care Facility for the Complying Development would be nearly identical. Consequently, the Proposed Development would result in no increase in construction noise compared with the Complying Development. Therefore, no significant adverse noise impacts would be expected as a result of construction of the Proposed Development.

While the overall construction duration for the Proposed Development is anticipated to be approximately 36 months, the noisiest construction activities (demolition, excavation, and foundation) for the Proposed Development would last for only a portion of this duration, taking approximately 15 months to complete. During these peak construction activities there would be some noise disruption to the nearby sensitive receptor locations, including a series of contiguous out-parcels fronting on 5th Street not owned by the hospital located immediately north of the Proposed Development Site on the same block, the Wesley House located immediately west of

the Proposed Development Site, residential locations and the John Jay Educational Campus along the south side of 6th Street north of the Proposed Development Site, residential locations along the west side of 8th Avenue east of the Proposed Development Site, the existing New York Methodist Hospital south of the Proposed Development Site, and a five-story hospital-related facilities and ground-floor retail located north of the Proposed Development Site. However, these disruptions would be temporary and as described above, the Proposed Development would result in no increase in construction noise compared to the Complying Development. Further, construction of the Proposed Development would follow the requirements of the New York City Noise Control Code for construction noise control measures and would include a proactive noise monitoring program. Therefore, no significant adverse noise impacts would be expected due to construction of the Proposed Development.

VIBRATION

Construction activities have the potential to result in vibration levels that may in turn result in structural or architectural damage, and/or annoyance or interference with vibration-sensitive activities. In general, vibratory levels at a receiver are a function of the source strength (which in turn is dependent upon the construction equipment and methods utilized), the distance between the equipment and the receiver, the characteristics of the transmitting medium, and the receiver building construction. Construction equipment operation causes ground vibrations which spread through the ground and decrease in strength with distance. Vehicular traffic, even in locations close to major roadways, typically does not result in perceptible vibration levels unless there are discontinuities in the roadway surface. With the exception of the case of fragile and possibly historically significant structures or buildings, generally construction activities do not reach the levels that can cause architectural or structural damage, but can achieve levels that may be perceptible and annoying in buildings very close to a construction site. An assessment has been prepared to quantify potential vibration impacts of construction activities on structures and residences near the Proposed Development Site.

Construction Vibration Criteria

For purposes of assessing potential structural or architectural damage, the determination of a significant impact was based on the vibration impact criterion used by LPC of a peak particle velocity ("PPV") of 0.50 inches/second. For non-fragile buildings, vibration levels below 0.60 inches/second would not be expected to result in any structural or architectural damage.

For purposes of evaluating potential annoyance or interference with vibration-sensitive activities, vibration levels greater than 65 vibration decibels ("VdB") would have the potential to result in significant adverse impacts if they were to occur for a prolonged period of time.

Analysis Methodology

For purposes of assessing potential structural or architectural damage, the following formula was used:

$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

where:

PPV_{equip} is the peak particle velocity in in/sec of the equipment at the receiver location;

PPV_{ref} is the reference vibration level in in/sec at 25 feet; and

D is the distance from the equipment to the received location in feet.

For purposes of assessing potential annoyance or interference with vibration sensitive activities, the following formula was used:

$$L_v(D) = L_v(ref) - 30\log(D/25)$$

where: $L_v(D)$ is the vibration level in VdB of the equipment at the receiver location;
$L_v(ref)$ is the reference vibration level in VdB at 25 feet; and
D is the distance from the equipment to the receiver location in feet.

Table K-10 shows vibration source levels for typical construction equipment.

Table K-10
Vibration Source Levels for Construction Equipment

Equipment	PPV_{ref} (in/sec)	Approximate L_v (ref) (VdB)
Pile Driver (Impact)	0.644-1.518	104-112
Pile Driver (Sonic)	0.170-0.734	93-105
Clam Shovel drop (slurry wall)	0.202	94
Hydromill (slurry wall in rock)	0.017	75
Vibratory Roller	0.210	94
Hydraulic Break Ram	0.089	87
Large bulldozer	0.089	87
Caisson drilling	0.089	87
Loaded trucks	0.076	86
Small bulldozer	0.003	58

Source: *Transit Noise and Vibration Impact Assessment*, FTA-VA-90-1003-06, May 2006.

Construction Vibration Analysis Result

As described in Attachment D, "Historic and Cultural Resources," a CPP would be developed to protect the known architectural resources (10 rowhouses at 510-519 8th Avenue and John Jay Educational Campus) and potential architectural resources (five 4-story buildings at 522-532 5th Street, five 4-story buildings at 515-529 5th Street, and one 4-story building at 420 8th Avenue) within a lateral distance of 90 feet from the construction activities associated with the Proposed Development. The CPP would include a monitoring component to ensure that if vibration levels approach the 0.5 inches per second peak particle velocity (PPV) criterion, corrective action would be taken to reduce vibration levels, thereby avoiding architectural damage and significant vibration impacts.

The buildings and structures of most concern with regard to the potential for structural or architectural damage due to vibration are five 4-story buildings at 522-532 5th Street, which are immediately adjacent to the Proposed Development Site. The construction equipment with the greatest potential to result in elevated vibration levels would be hydraulic break rams and secant pile drilling rigs. These pieces of equipment would not be permitted to work within a lateral distance of 10 feet from a historic structure. At a distance of greater than 10 feet, these pieces of equipment would not result in vibration approaching the 0.5 inches per second PPV criterion. At other nearby buildings, PPV values would also not approach the threshold for potential architectural or structural damage.

In terms of potential vibration levels that would be perceptible and annoying, the equipment that would have the most potential for producing levels which exceed the 65 VdB limit would be hydraulic break rams and secant pile drilling rigs. These pieces of equipment would have the potential to produce perceptible vibration levels (i.e., vibration levels exceeding 65 VdB) at receptor locations within a distance of approximately 135 feet depending on soil conditions.

However, the operation would only occur for limited periods of time at a particular location and therefore would not result in any significant adverse impacts. In no case are significant adverse impacts from vibrations expected to occur.

OTHER TECHNICAL AREAS

LAND USE AND NEIGHBORHOOD CHARACTER

Construction activities would affect land use on the Proposed Development Site but would not alter surrounding land uses. As is typical with construction projects, during periods of peak construction activity there would be some disruption, predominantly noise, to the nearby area. There would be construction trucks and construction workers coming to the Proposed Development Site. These disruptions would be temporary in nature and would have limited effects on land uses within the study area, particularly as most construction activities would take place within the Proposed Development Site or within portions of sidewalks, curbs, and travel lanes of public streets immediately adjacent to the construction sites. Overall, while construction activities at the Proposed Development Site would be evident to the local community, the limited duration of construction would not result in any significant or long-term adverse impacts on local land use patterns or the character of the nearby area.

SOCIOECONOMIC CONDITIONS

Construction activities associated with the Proposed Development would not result in any significant adverse impacts on socioeconomic conditions. Construction activities would not block or restrict access to any facilities in the area, affect the operations of any nearby businesses, or obstruct major thoroughfares used by customers or businesses. Construction would create direct benefits resulting from expenditures on labor, materials, and services, and indirect benefits created by expenditures by material suppliers, construction workers, and other employees involved in the construction activity. Construction also would contribute to increased tax revenues for the city and state, including those from personal income taxes.

COMMUNITY FACILITIES

While construction at the Proposed Development Site would result in temporary increases in traffic during the construction period, access to and from the adjacent New York Methodist facilities located near the Proposed Development Site would not be blocked during the construction period. Construction workers would not place any burden on public schools and would have minimal, if any, demands on libraries, child-care facilities, and health care. Construction activities would not materially affect the New York City Police Department (NYPD), FDNY, or other emergency services or response times.

OPEN SPACE

There are no existing publicly-accessible open spaces within the Proposed Development Site, and no open space resources would be used for staging or other construction activities. The nearest resource is Prospect Park, which is located approximately 780 feet east of the Proposed Development Site. Construction activities would not limit access to any open space resources in the vicinity of the Proposed Development Site. Therefore, the Proposed Development would not result in significant adverse impacts on open space during construction.

HISTORIC AND CULTURAL RESOURCES

Historic and cultural resources include both archaeological and architectural resources. A detailed assessment of potential impacts on archaeological and architectural resources is described in Attachment D, "Historic and Cultural Resources." The section below summarizes the potential for the Proposed Development to result in adverse construction-period impacts on archaeological and/or architectural resources.

The Proposed Development Site has been determined not sensitive for archaeological resources. Therefore, no significant adverse impacts on archaeological resources would occur during the construction of the Proposed Development.

As described in Attachment D, "Historic and Cultural Resources," a number of known and potential architectural resources are located within 90 feet of the Proposed Development Site. These include the following properties, which are the same as those described above that could be affected by the Complying Development:

Known Architectural Resources

- 10 rowhouses within the Park Slope Historic District at 501-519 8th Avenue
- John Jay Educational Campus at 237 7th Avenue (aka 475-505 5th Street)

Potential Architectural Resources

- Five 4-story early 20th century residential buildings at 522-532 5th Street
- Five 4-story early 20th century buildings at 515-529 5th Street
- One 4-story early 20th century building at 420 8th Avenue (aka 533-543 5th Street)

Demolition of the structures on the Proposed Development Site, followed by excavation and foundation activities, would include the use of heavy machinery and could potentially result in inadvertent damage to the known and potential resources described above if adequate precautions are not taken. Therefore, to avoid inadvertent demolition and/or construction-related damage to these resources from ground-borne construction-period vibrations, falling debris, collapse, etc., these buildings would be included in a CPP for historic structures that would be prepared in coordination with LPC and implemented in consultation with a licensed professional engineer. This CPP would be prepared as set forth in Section 523 of the *CEQR Technical Manual* and in compliance with the procedures included in the DOB's TPPN #10/88 and LPC's *Guidelines for Construction Adjacent to a Historic Landmark* and *Protection Programs for Landmark Buildings*. It would include provisions for pre- and post-construction documentation; monitoring including for cracks, settlement and vibration as deemed appropriate; stop work orders; and protection measures for falling objects and party wall exposure. The CPP would be prepared and implemented prior to demolition and construction activities and project-related demolition and construction activities would be monitored as specified in the CPP. The Proposed Development would not be anticipated to have any significant adverse impacts on historic and cultural resources with the preparation and implementation of a CPP for the known and potential architectural resources located within 90 feet of the Proposed Development Site.

HAZARDOUS MATERIALS

The Proposed Development would entail demolition of all NYM-owned low-rise buildings and a parking lot on the Proposed Development Site, followed by excavation for the foundations and construction of the sublevels of a new ambulatory care facility. As described in Attachment F,

"Hazardous Materials," *Phase I Environmental Site Assessment (ESA)*, identified potential sources of contamination including a historical on-site laboratory and petroleum storage, and past and/or present off-site cleaning and dyeing, hospital use, petroleum storage, spills and hazardous waste generation. Suspect ACM, PCB-containing materials and/or lead-based paint may be present in the existing buildings. Although the demolition and excavation activities associated with the proposed construction could increase pathways for human exposure, impacts would be avoided by performing these activities in accordance with the following:

- Prior to subsurface disturbance, a Phase II subsurface investigation involving the collection of subsurface samples for laboratory analysis would be conducted in accordance with a DEP-approved Work Plan and Health and Safety Plan (HASP).
- If warranted by the findings of the Phase II, a RAP and associated CHASP would be prepared, submitted to DEP for review and approval, and implemented during the proposed construction. The RAP would address requirements for items such as: soil stockpiling, soil disposal and transportation; dust control; quality assurance; petroleum storage tank removal procedures; and contingency measures should contamination be encountered. The CHASP would include measures for worker and community protection, including personal protective equipment, dust control and emergency response procedures.
- Dewatering is not anticipated to be necessary for the proposed construction. However, if dewatering is necessary, it would be conducted in accordance with DEP requirements.
- The buildings to be demolished would be surveyed for asbestos by a NYC-certified asbestos investigator. All ACM would be removed and disposed prior to demolition in accordance with local, state and federal requirements.
- All disturbance of suspect lead-based paint would be performed in accordance with applicable requirements for disturbing lead-based paint (including federal Occupational Safety and Health Administration regulation 29 CFR 1926.62—*Lead Exposure in Construction*).
- Unless there is labeling or test data indicating that any suspect PCB-containing electrical and hydraulic equipment and fluorescent lighting fixtures do not contain PCBs, and that fluorescent lighting bulbs do not contain mercury, if disposal is required, it would be conducted in accordance with applicable federal, state and local requirements.

With these measures, the Proposed Development would not result in any significant adverse impacts related to hazardous materials during construction. ✷

Appendix A
Historic Resources Correspondence

NYC Landmarks Preservation Commission

1 Centre Street
9th Floor North
New York, NY 10007

Voice (212)-669-7700
Fax (212)-669-7960
http://nyc.gov/landmarks

ENVIRONMENTAL REVIEW

Project number: BOARD OF STANDARDS AND APPEALS / LA-CEQR-K
Project: NYM HOSPITAL CENTER FOR COMMUNITY HEALTH
Date received: 7/24/2013

Properties with no Archaeological significance:

1) ADDRESS: 512 5 STREET, BBL: 3010840025
2) ADDRESS: 514 5 STREET, BBL: 3010840026
3) ADDRESS: 520 5 STREET, BBL: 3010840028
4) ADDRESS: 502 8 AVENUE, BBL: 3010840039
5) ADDRESS: 516 8 AVENUE, BBL: 3010840044
6) ADDRESS: 520 8 AVENUE, BBL: 3010840046
7) ADDRESS: 524 8 AVENUE, BBL: 3010840048
8) ADDRESS: 531 6 STREET, BBL: 3010840050
9) ADDRESS: 6 STREET, BBL: 3010840051
10) ADDRESS: 6 STREET, BBL: 3010840052
11) ADDRESS: 6 STREET, BBL: 3010840053
12) ADDRESS: 523 6 STREET, BBL: 3010840054
13) ADDRESS: 521 6 STREET, BBL: 3010840055
14) ADDRESS: 519 6 STREET, BBL: 3010840056
15) ADDRESS: 517 6 STREET, BBL: 3010840057
16) ADDRESS: 515 6 STREET, BBL: 3010840058
17) ADDRESS: 511 6 STREET, BBL: 3010840059
18) ADDRESS: 501 6 STREET, BBL: 3010840164
19) ADDRESS: 26 7 AVENUE, BBL: 3010847501

Gina Santucci

7/31/2013

SIGNATURE DATE

Gina Santucci, Environmental Review Coordinator

File Name: 28694_FSO_DNP_07312013.doc