22-44 Jackson Avenue Environmental Assessment Statement and Attachments

CEQR No. 13DCP094Q

August 16, 2013

City Environmental Quality Review

ENVIRONMENTAL ASSESSMENT STATEMENT SHORT FORM • FOR UNLISTED ACTIONS ONLY

Please fill out, print and submit to the appropriate agency (see instructions)

PART I: GENERAL INFORMATION

1. ***Does Action Exceed Any Type I Threshold in 6 NYCRR Part 617.4 or 43 RCNY §6-15(A) (Executive Order 91 of 1977, as amended?)***

☐ **Yes** ■ **No**

If yes, STOP, and complete the FULL EAS

2. ***Project Name*** **22-44 Jackson Avenue**

3. ***Reference Numbers***

CEQR REFERENCE NUMBER (To Be Assigned by Lead Agency) **13DCP094Q**	BSA REFERENCE NUMBER (If Applicable) **N.A.**
ULURP REFERENCE NUMBER (If Applicable) **130191 ZSQ**	OTHER REFERENCE NUMBER(S) (If Applicable) (e.g., Legislative Intro, CAPA, etc.) **N.A.**

4a. ***Lead Agency Information***

NAME OF LEAD AGENCY
New York City Department of City Planning

NAME OF LEAD AGENCY CONTACT PERSON
Robert Dobruskin, Director, Environmental Assessment and Review Division

ADDRESS **22 Reade St, Room 4E**

CITY **New York** STATE **NY** ZIP **10007**

TELEPHONE **212-720-3423** FAX **212-720-3495**

EMAIL ADDRESS **rdobrus@planning.nyc.gov**

4b. ***Applicant Information***

NAME OF APPLICANT
G&M Realty, L.P.

NAME OF APPLICANT'S REPRESENTATIVE OR CONTACT PERSON
Michael Sillerman, Kramer Levin Naftalis & Frankel LLP

ADDRESS **1177 Avenue of the Americas**

CITY **New York** STATE **NY** ZIP **10036**

TELEPHONE **212-715-7838** FAX **212-715-7832**

EMAIL ADDRESS **msillerman@kramerlevin.com**

5. ***Project Description:***

The applicant seeks a special permit for an increase in floor area to facilitate a mixed-use development of approximately 1,170,299 gross square feet (gsf)[1] with approximately 1,000 dwelling units, 50,302 gsf of retail space, 2,280 gsf of artist work space, 32,099 sf (0.74 acres) of publicly accessible open space, and a 250-space public parking garage. The Special Permit allows an increase in the maximum Floor Area Ratio (FAR) from 5.0 to 8.0, with the provision of at least 20,000 square feet of publicly accessible open space and 250 public parking spaces. Waivers of height and setback requirements are also requested. A detailed description of the proposed project is provided in Attachment A, "Project Description."[2]

6a. ***Project Location: Single Site*** *(for a project at a single site, complete all the information below)*

ADDRESS **22-44 Jackson Avenue**	NEIGHBORHOOD NAME **Hunters Point**	
TAX BLOCK AND LOT **Block 86, Lots 1, 6-8, 22, and Block 72, Lot 80**	BOROUGH **Queens**	COMMUNITY DISTRICT **2**

DESCRIPTION OF PROPERTY BY BOUNDING OR CROSS STREETS
Jackson Avenue, Crane and Davis Streets, and the Sunnyside Yards

EXISTING ZONING DISTRICT, INCLUDING SPECIAL ZONING DISTRICT DESIGNATION, IF ANY **M1-5/R7-3; Area C of the Queens Plaza Subdistrict in the Special LIC Mixed Use District**

ZONING SECTIONAL MAP NO: **9b**

6b. ***Project Location: Multiple Sites*** *(Provide a description of the size of the project area in both City Blocks and Lots. If the project would apply to the entire city or to areas that are so extensive that a site-specific description is not appropriate or practicable, describe the area of the project, including bounding streets, etc.)*

N/A

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

City Planning Commission: YES ■ NO ☐

- ☐ CITY MAP AMENDMENT
- ☐ ZONING MAP AMENDMENT
- ☐ ZONING TEXT AMENDMENT
- ■ UNIFORM LAND USE REVIEW PROCEDURE (ULURP)
- ☐ CONCESSION
- ☐ UDAAP
- ☐ REVOCABLE CONSENT
- ☐ ZONING CERTIFICATION
- ☐ ZONING AUTHORIZATION
- ☐ HOUSING PLAN & PROJECT
- ☐ SITE SELECTION—PUBLIC FACILITY
- ☐ FRANCHISE
- ☐ DISPOSITION—REAL PROPERTY

ZONING SPECIAL PERMIT, SPECIFY TYPE

Board of Standards and Appeals: YES ☐ NO ■

- ☐ SPECIAL PERMIT

EXPIRATION DATE MONTH DAY YEAR

- ☐ VARIANCE (USE)
- ☐ VARIANCE (BULK)

SPECIFY AFFECTED SECTION(S) OF THE ZONING RESOLUTION

- ☐ MODIFICATION OF
- ☐ RENEWAL OF
- ■ OTHER
  Section 117-56 (Special Permit for Bulk Modifications)

[1] The total gsf includes the proposed parking garage.

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[2] Since the EAS and Conditional Negative Declaration were issued in April 2013 a revised ULURP application was submitted to DCP. The project modifications proposed in that ULURP application are based on an agreement between the applicant and Community Board 2 to provide additional community benefits, the effects of which are analyzed in the attached Technical Memorandum.

Department of Environmental Protection: YES ☐ NO ■ IF YES, IDENTIFY:

Other City Approvals: YES ☐ NO ■

☐ LEGISLATION
☐ FUNDING OF CONSTRUCTION; SPECIFY
☐ POLICY OR PLAN; SPECIFY
☐ LANDMARKS PRESERVATION COMMISSION APPROVAL (not subject to CEQR)
☐ 384(b)(4) APPROVAL
☐ PERMITS FROM DOT'S OFFICE OF CONSTRUCTION MITIGATION AND COORDINATION (OCMD) (*not subject to CEQR*)
☐ RULEMAKING
☐ CONSTRUCTION OF PUBLIC FACILITIES
☐ FUNDING OR PROGRAMS; SPECIFY
☐ PERMITS; SPECIFY
☐ OTHER; EXPLAIN

State or Federal Actions/Approvals/Funding: YES ☐ NO ■ IF "YES," IDENTIFY

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

GRAPHICS *The following graphics must be attached and each box must be checked off before the EAS is complete.* ***Each map must clearly depict*** *the boundaries of the directly affected area or areas, and indicate a 400-foot radius drawn from the outer boundaries of the project site. Maps may not exceed 11x17 inches in size and must be folded to 8.5x11 inches for submission.* **(See Figures 1-5)**

■ Site location map ■ Zoning map ■ Photographs of the project site taken within 6 months of EAS submission and keyed to the site location map
■ Sanborn or other land use map ■ Tax map ☐ For large areas or multiple sites, a GIS shape file that defines the project sites

PHYSICAL SETTING *(both developed and undeveloped areas)*

Total directly affected area (sq. ft.):	Type of Waterbody and surface area (sq. ft.):	Roads, building and other paved surfaces (sq. ft.):
127,156 SF	**N/A**	**127,156 SF**

Other, describe (sq. ft.): **N/A**

9. *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: **417,858**[1] (gross sq. ft.)

Does the proposed project involve changes in zoning on one or more sites? YES ☐ NO ■
If 'Yes,' identify the total square feet owned or controlled by the applicant: Total square feet of non-applicant owned development:

Does the proposed project involve in-ground excavation or subsurface disturbance, including but not limited to foundation work, pilings, utility lines, or grading? YES ■ NO ☐
If 'Yes,' indicate the estimated area and volume dimensions of subsurface disturbance (if known):
Area: **127,156 SF** sq. ft. (width x length) Volume: **1,525,872** cubic feet (width x length x depth)

DESCRIPTION OF PROPOSED USES *(please complete the following information as appropriate)*[2]

	Residential	*Commercial*	*Community Facility*	*Industrial/Manufacturing*
Size *(in gross sq. ft.)*	**+416,783 (including amenities); +371,251 (not including amenities)**	**+62 retail, +2,280 artist work space**	**N/A**	**N/A**
Type *(e.g., retail, office, school)*	**372** *units*			

Does the proposed project increase the population of residents and/or on-site workers? YES ■ NO ☐ Number of additional residents? **963** Number of additional workers? **N/A**
Provide a brief explanation of how these numbers were determined:
963 additional residents based on the 2010 average household size for Queens Community District 2 (2.59) x incremental no. of units (372)

Does the project create new open space? YES ■ NO ☐ If Yes: **32,099**[3] (sq. ft)

Using Table 14-1, estimate the project's projected operational solid waste generation, if applicable: **44,907** (pounds per week)

Using energy modeling or Table 15-1, estimate the project's projected energy use: **53,313 Million** (annual BTUs)

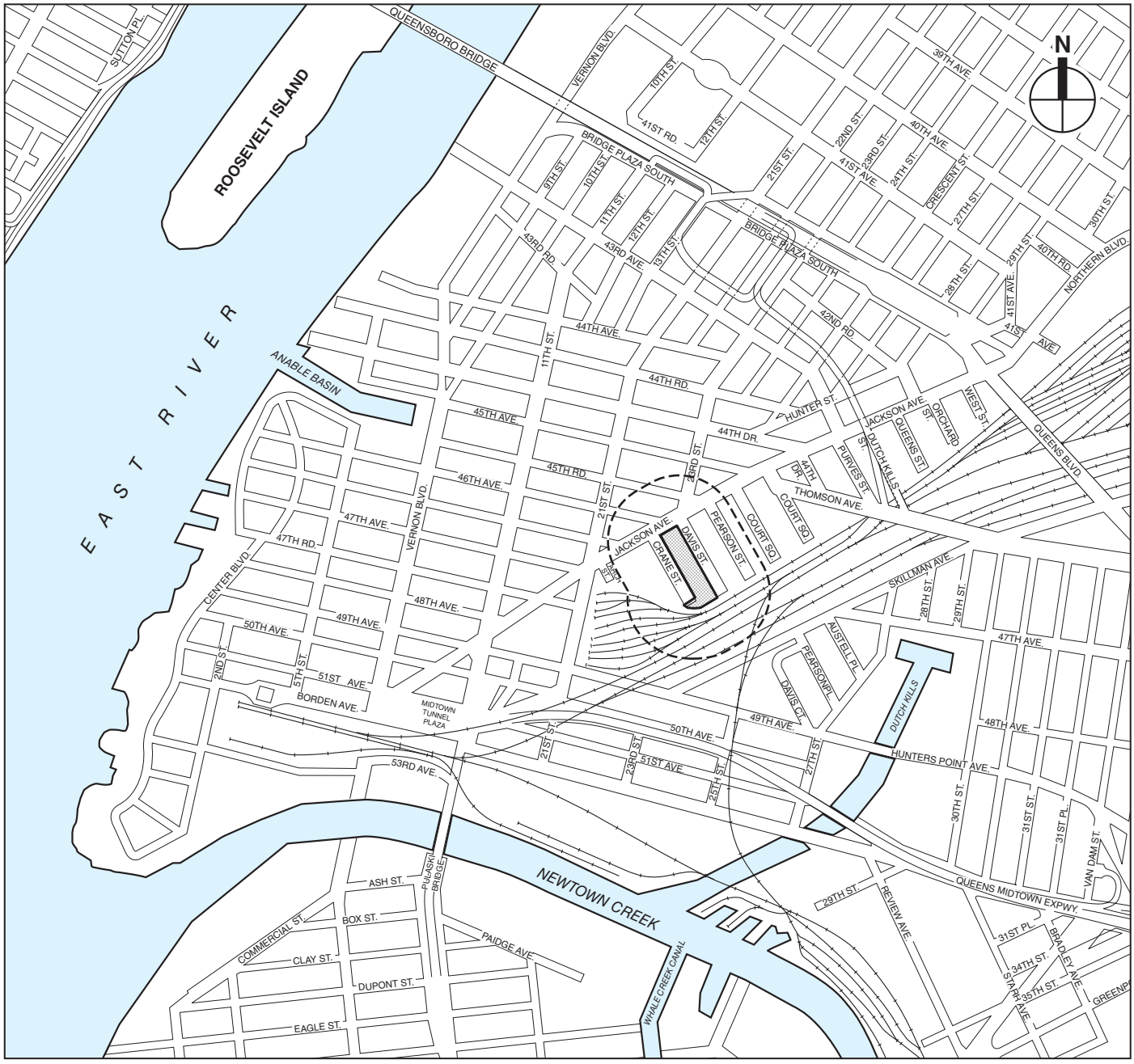
Has a No-Action scenario been defined for this project that differs from the existing condition? YES ■ NO ☐
If 'Yes', see Chapter 2, "Establishing the Analysis Framework" and describe briefly:
The No-Action scenario assumes a 5.0 FAR development with 628 units in addition to 50,240 gsf of retail space and 225 accessory parking spaces.

[1]The size of project is the gross square footage associated with the 3 FAR increase; see Attachment A, "Project Description," for a detailed explanation of the project. The gsf does not include the increase in the garage floor area since there is no zoning floor area attributable to the as-of-right or proposed garage.

[2]The proposed uses above represent the incremental development over the as-of-right condition. The completed project would include 1,170,299 gsf including 1,045,532 gsf of new residential space (including amenities), or 1,000 units, and 50,302 gsf of retail space, 2,280 gsf of artist work space, and a 250-space public parking garage, in addition to approximately 0.74 acres of publicly accessible open space.

[3]The project would create new publicly accessible open area. The total amount of project open space includes 1,887 sf within the project boundary but within the mapped but unimproved portion of Crane St.

2.19.13



Project Site

400-Foot Perimeter

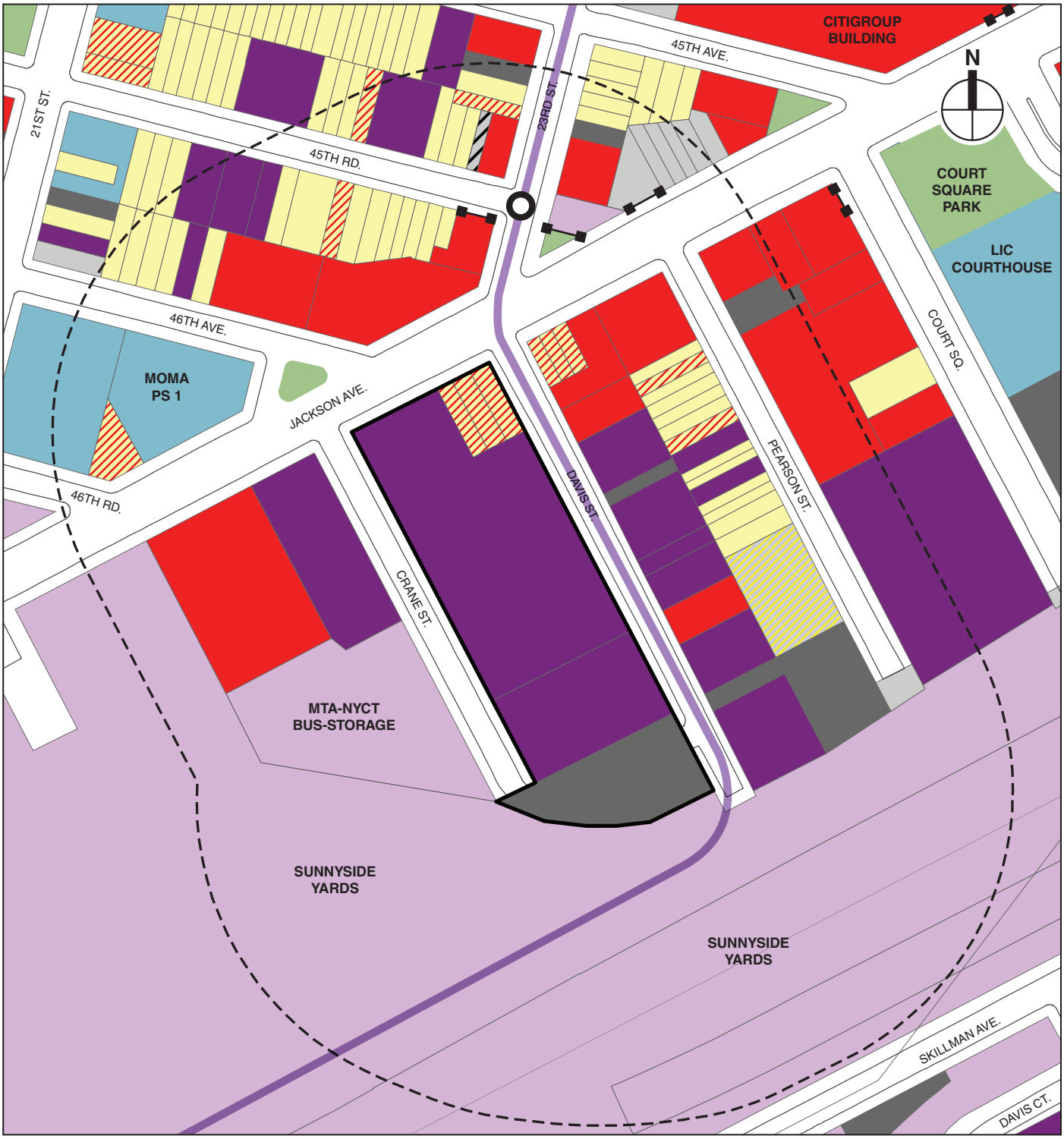
0 1000 2000 FEET

SCALE

Site Location

Figure 1

2.19.13

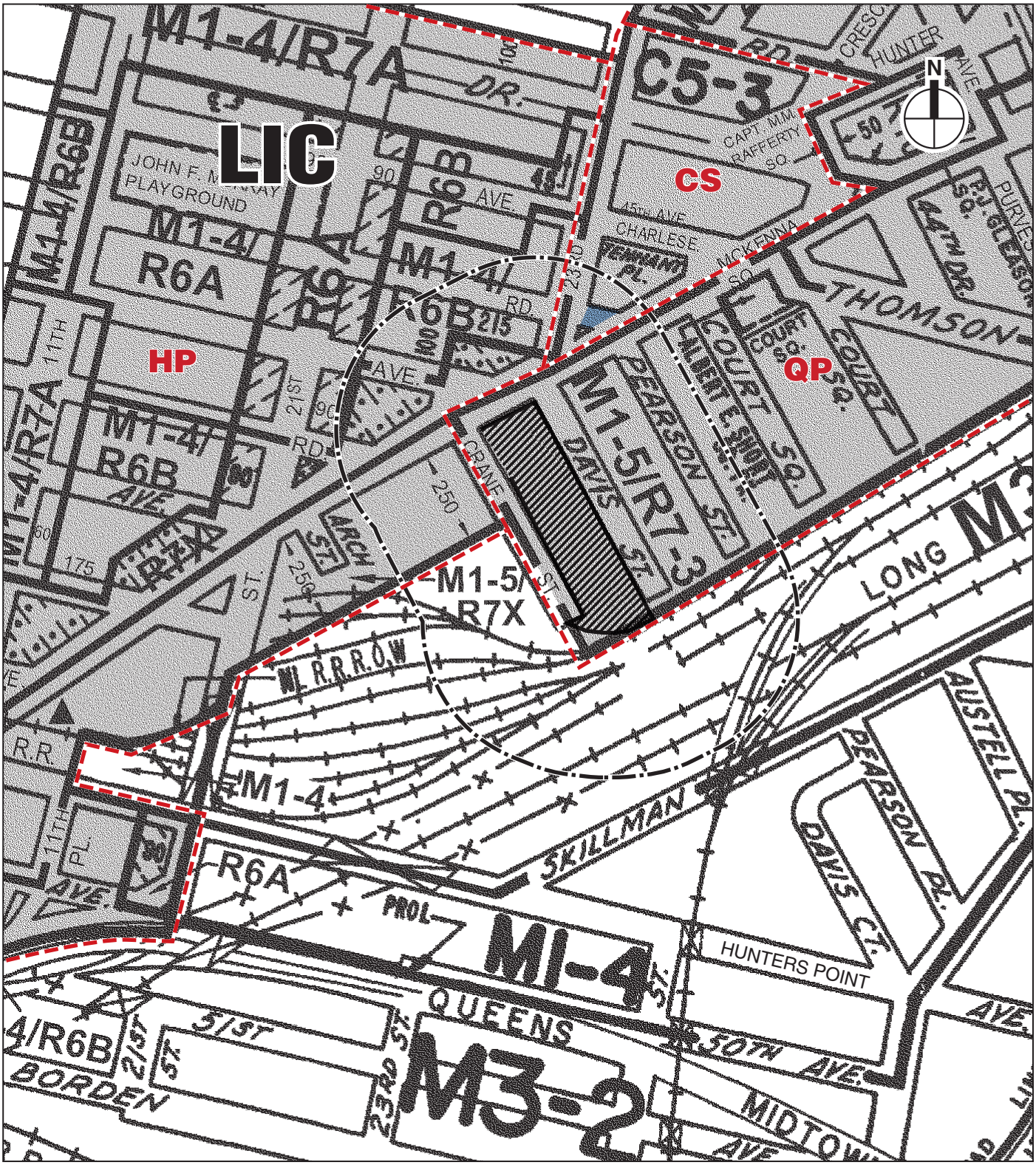


0 100 200 FEET
SCALE

- *Project Site Boundary*
- *Study Area Boundary (400-Foot Perimeter)*
- *Court Square Subway Station* 7 G E M
- *Elevated 7 Subway*
- *Subway Entrance*
- *Residential*
- *Commercial with Residential Above*
- *Commercial Uses and Office Buildings*
- *Industrial, Manufacturing, Storage, and Auto-Related*
- *Public Transportation and Utility*
- *Public Facilities and Institutions*
- *Open Space/Plaza*
- *Parking Facilities*
- *Vacant Land*
- *Vacant Building*
- *Under Construction*

22-44 JACKSON AVENUE

Land Use
Figure 2



Project Site Area

Study Area Boundary (400-Foot Perimeter)

Portion of the Road has been Permanently Closed for a Subway Improvement

Zoning District Boundary

Special Purpose District

QP *Queens Plaza Subdistrict*

HP *Hunters Point Subdistrict*

CS *Court Square Subdistrict*

C1-5 Overlay

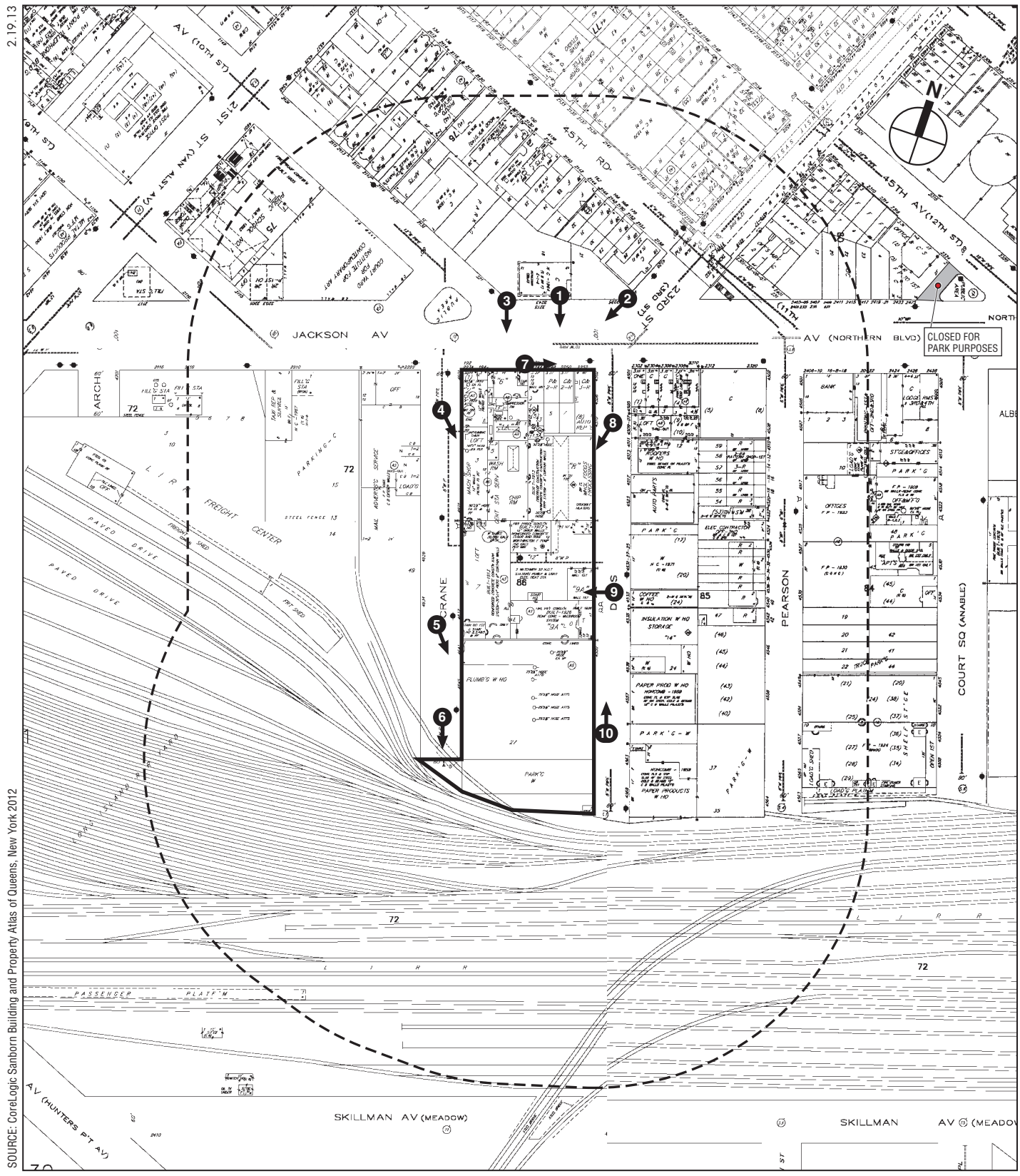
C2-5 Overlay

0 500 FEET

SCALE

22-44 JACKSON AVENUE

Zoning
Figure 3



Sanborn Map and Key to Photographs

22-44 JACKSON AVENUE

Figure 4

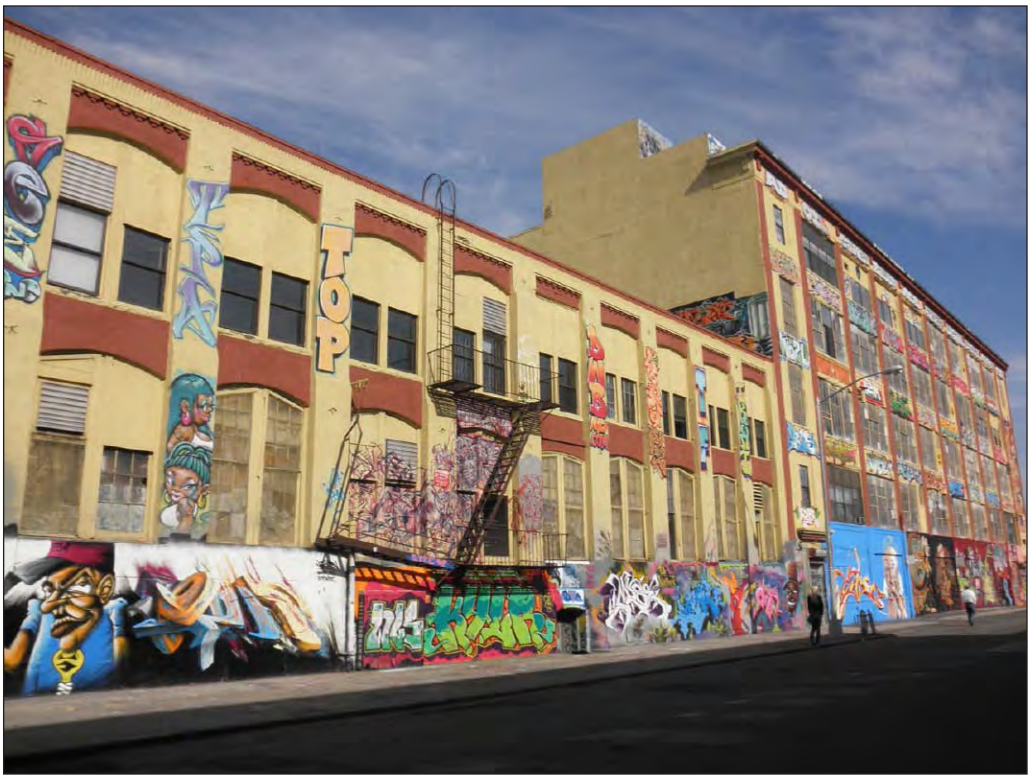
1

2

Photographs

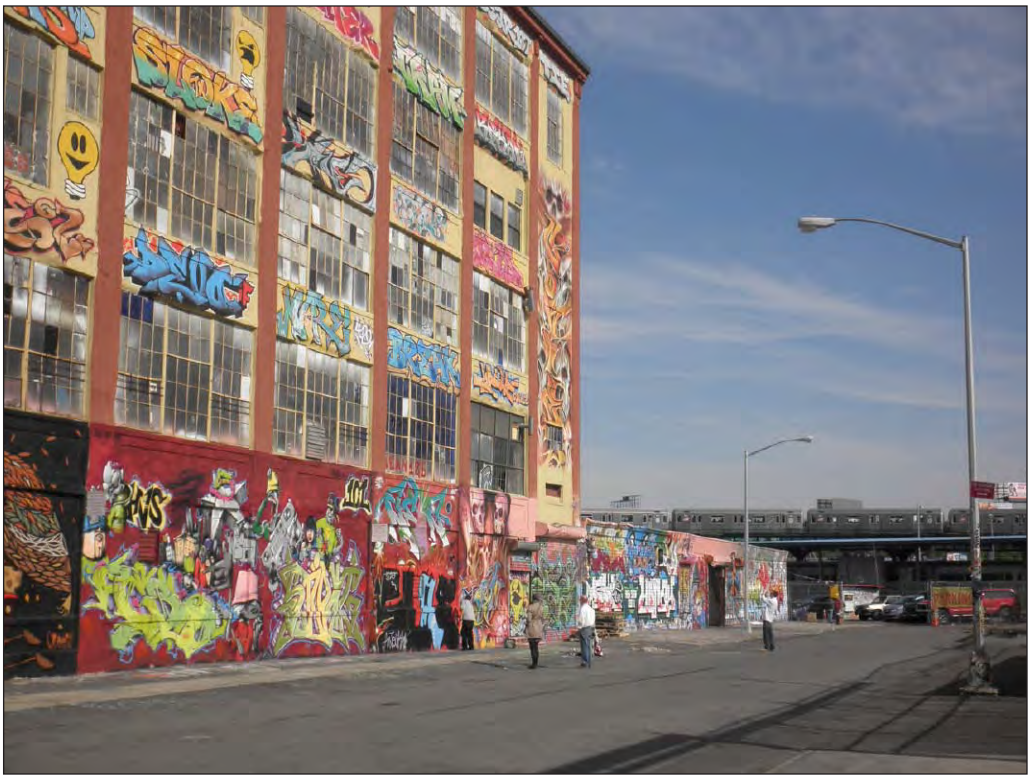
Figure 5a

3



4

Photographs
Figure 5b



5

6

Photographs
Figure 5c

7

8

Photographs
Figure 5d

9

10

Photographs
Figure 5e

10. ***Analysis Year*** *CEQR Technical Manual, Chapter 2*

ANTICIPATED BUILD YEAR (DATE THE PROJECT WOULD BE COMPLETED AND OPERATIONAL):	ANTICIPATED PERIOD OF CONSTRUCTION IN MONTHS:
2017	**43**[1]

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

BRIEFLY DESCRIBE PHASES AND CONSTRUCTION SCHEDULE: **N/A**

11. ***What is the Predominant Land Use in Vicinity of Project?*** *(Check all that apply)*

■ RESIDENTIAL ■ MANUFACTURING ■ COMMERCIAL ☐ PARK/FOREST/OPEN SPACE ■ OTHER, Describe: **Rail Yard, bus depot, community facility**

PART II: TECHNICAL ANALYSES

INSTRUCTIONS: The questions in the following table refer to the thresholds for each analysis area in the respective chapter of the CEQR Technical Manual.

- 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.
- Often, a 'Yes' answer will result in a preliminary analysis to determine whether further analysis is needed. For each 'Yes' response, consult the relevant chapter of the CEQR Technical Manual for guidance on providing additional analyses (and attach supporting information, if needed) to determine whether detailed analysis is needed. Please note that a 'Yes' answer does not mean that EIS must be prepared—it often only means that more information is required for the lead agency to make a determination of significance.
- The lead agency, upon reviewing Part II, may require an applicant to either provide additional information to support this Short EAS Form or complete a Full EAS Form. For example, if a question is answered 'No,' an agency may request a short explanation for this response. In addition, if a large number of the questions are marked 'Yes,' the lead agency may determine that it is appropriate to require completion of the Full EAS Form.

		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 or zoning that is different from surrounding land uses and/or zoning? Is there the potential to affect an applicable public policy? If 'Yes,' complete a preliminary assessment and attach.		✓
(b)	Is the project a large, publicly sponsored project? If 'Yes,' complete a PlaNYC assessment and attach.		✓
(c)	Is any part of the directly affected area within the City's Waterfront Revitalization Program boundaries? If 'Yes,' complete the Consistency Assessment Form.		✓
2.	***SOCIOECONOMIC CONDITIONS:*** *CEQR Technical Manual, Chapter 5* **(see Attachment C, "Socioeconomic Conditions")**		
(a)	Would the proposed project:		
	• Generate a net increase of 200 or more residential units?	✓	
	• Generate a net increase of 200,000 or more square feet of commercial space?		✓
	• Directly displace more than 500 residents?		✓
	• Directly displace more than 100 employees?		✓
	• Affect conditions in a specific industry?		✓
3.	***COMMUNITY FACILITIES:*** *CEQR Technical Manual, Chapter 6* **(see Attachment D, "Community Facilities")**		
(a)	Does the proposed project exceed any of the thresholds outlined in Table 6-1 of Chapter 6?	✓	
4.	***OPEN SPACE:*** *CEQR Technical Manual, Chapter 7* **(see Attachment E, "Open Space")**		
(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? If 'Yes,' would the proposed project generate more than 50 additional residents?		✓
	If 'Yes,' would the proposed project generate 125 or more additional employees?		
(c)	Is the project located within a well-served area in the Bronx, Brooklyn, Manhattan, Queens, or Staten Island? If 'Yes,' would the project generate 300 or more additional residents?		✓
	If 'Yes,' would the project generate 750 or more additional employees?		
(d)	If the project is not located in an underserved or well-served area, would the proposed project generate: 200 or more additional residents?	✓	
	500 additional employees?		✓

[1] This is the construction period not including occupancy.

		YES	NO
5.	***SHADOWS:*** *CEQR Technical Manual, Chapter 8.* **(see Attachment F, "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?	✓	
6.	***HISTORIC AND CULTURAL RESOURCES:*** *CEQR Technical Manual, Chapter 9*		
(a)	Does the proposed project site or an adjacent site contain any architectural and/or archaeological resource that is eligible for, or has been designated (or is calendared for consideration) as a New York City Landmark, Interior Landmark or Scenic Landmark; is listed or eligible for listing on the New York State or National Register of Historic Places; or is within a designated or eligible New York City, New York State, or National Register Historic District? If "Yes," list the resources and attach supporting information on whether the proposed project would affect any of these resources.		✓
7.	***URBAN DESIGN AND VISUAL RESOURCES:*** *CEQR Technical Manual, Chapter 10* **(See Attachment G, "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 that is not currently allowed by existing zoning?		✓
8.	***NATURAL RESOURCES:*** *CEQR Technical Manual, Chapter 11*		
(a)	Is any part of the directly affected area within the Jamaica Bay Watershed? If "Yes," complete the Jamaica Bay Watershed Form.		✓
(b)	Does the proposed project site or a site adjacent to the project contain natural resources as defined in Section 100 of Chapter 11? If "Yes," list the resources and attach supporting information on whether the proposed project would affect any of these resources.		✓
9.	***HAZARDOUS MATERIALS:*** *CEQR Technical Manual, Chapter 12* **(see Attachment H, "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)	Would the proposed project site have existing institutional controls (e.g., (E) designations or a Restrictive Declaration) relating to hazardous materials that preclude the potential for significant adverse impacts?	✓	
(c)	Does the project require soil disturbance in a manufacturing zone or any development on or near a manufacturing zone or existing/historic facilities listed in Appendix 1 (including nonconforming uses)?	✓	
(d)	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 or unknown origin?	✓	
(e)	Would the project result in development where underground and/or aboveground storage tanks (e.g., gas stations) are or were on or near the site?	✓	
(f)	Would the project result in renovation of interior existing space on a site with potential compromised air quality, vapor intrusion from on-site or off-site sources, asbestos, PCBs or lead-based paint?		✓
(g)	Would the project result in development on or near a government-listed voluntary cleanup/brownfield site, current or former power generation/transmission facilities, municipal incinerators, coal gasification or gas storage sites, or railroad tracks and rights-of-way?	✓	
(h)	Has a Phase I Environmental Site Assessment been performed for the site? If 'Yes,' were RECs identified? Briefly identify: **(See Attachment H, "Hazardous Materials")**	✓	
10.	***INFRASTRUCTURE:*** *CEQR Technical Manual, Chapter 13*		
(a)	Would the proposed project result in water demand of more than one million gallons per day?		✓
(b)	Is the proposed project located in a combined sewer area and result in at least 1,000 residential units or 250,000 sq. ft. or more of commercial space in Manhattan or at least 400 residential units or 150,000 sq. ft. or more of commercial space in the Bronx, Brooklyn, Staten Island or Queens?		✓
(c)	Is the proposed project located in a separately sewered area and result in the same or greater development than that listed in Table 13-1 in Chapter 13?		✓
(d)	Would the project involve development on a site five acres or larger where the amount of impervious surface would increase?		✓
(e)	Would the proposed project involve development on a site one acre or larger where the amount of impervious surface would increase and is located within the Jamaica Bay Watershed or in certain specific drainage areas including: Bronx River, Coney Island Creek, Flushing Bay and Creek, Gowanus Canal, Hutchinson River, Newtown Creek, or Westchester Creek?		✓
(f)	Is the project located in an area that is partially sewered or currently unsewered?		✓
(g)	Is the project proposing an industrial facility or activity that would contribute industrial discharges to a WWTP and/or generate contaminated stormwater in a separate storm sewer system?		✓
(h)	Would the project involve construction of a new stormwater outfall that requires federal and/or state permits?		✓
11.	***SOLID WASTE AND SANITATION SERVICES:*** *CEQR Technical Manual, Chapter 14*		
(a)	Would the proposed project have the potential to generate 100,000 pounds (50 tons) or more of solid waste per week?		✓
(b)	Would the proposed project involve a reduction in capacity at a solid waste management facility used for refuse or recyclables generated within the City?		✓

		YES	NO
12.	***ENERGY:*** *CEQR Technical Manual, Chapter 15*		
(a)	Would the proposed project affect the transmission or generation of energy?		✓
13.	***TRANSPORTATION:*** *CEQR Technical Manual, Chapter 16* **(See Attachment K, "Transportation")**		
(a)	Would the proposed project exceed any threshold identified in Table 16-1 in Chapter 16?	✓	
(b)	If "Yes," conduct the screening analyses, attach appropriate back up data as needed for each stage, and answer the following questions:		
	(1) Would the proposed project result in 50 or more Passenger Car Equivalents (PCEs) per project peak hour? If "Yes," would the proposed project result in 50 or more vehicle trips per project peak hour at any given intersection? *****It should be noted that the lead agency may require further analysis of intersections of concern even when a project generates fewer than 50 vehicles in the peak hour. See Subsection 313 in Chapter 16 for more information.***	✓	
	(2) Would the proposed project result in more than 200 subway/rail or bus trips per project peak hour? If "Yes," would the proposed project result, per project peak hour, in 50 or more bus trips on a single line (in one direction) or 200 subway trips per station or line?	✓	
	(3) Would the proposed project result in more than 200 pedestrian trips per project peak hour? If "Yes," would the proposed project result in more than 200 pedestrian trips per project peak hour to any given pedestrian or transit element, crosswalk, subway stair, or bus stop?	✓	
14.	***AIR QUALITY:*** *CEQR Technical Manual, Chapter 17* **(See Attachment I, "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? (attach graph as needed) **(See Attachment I, "Air Quality")**	✓	✓
(c)	Does the proposed project involve multiple buildings on the project site? **(There would be one building with two towers).**		✓
(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?		✓
15.	***GREENHOUSE GAS EMISSIONS:*** *CEQR Technical Manual, Chapter 18*		
(a)	Is the proposed project a city capital project, a power plant, or would fundamentally change the City's solid waste management system?		✓
(b)	If "Yes," would the proposed project require a GHG emissions assessment based on the guidance in Chapter 18?		
16.	***NOISE:*** *CEQR Technical Manual, Chapter 19* **(See Attachment J, "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-designations or a Restrictive Declaration) relating to noise that preclude the potential for significant adverse impacts?	✓	
17.	***PUBLIC HEALTH:*** *CEQR Technical Manual, Chapter 20*		
(a)	Would the proposed project warrant a public health assessment based upon the guidance in Chapter 20?		✓
18.	***NEIGHBORHOOD CHARACTER:*** *CEQR Technical Manual, Chapter 21*		
(a)	Based upon the analyses conducted for the following technical areas, check 'Yes' if any of the following technical areas required a detailed analysis: Land Use, Zoning, and Public Policy; Socioeconomic Conditions; Open Space; Historic and Cultural Resources; Urban Design and Visual Resources; Shadows; Transportation; Noise.	✓	
	If "Yes," explain here why or why not an assessment of neighborhood character is warranted based on the guidance in Chapter 21, "Neighborhood Character." Attach a preliminary analysis, if necessary.		

An assessment of neighborhood character is not warranted because the proposed project does not have the potential to result in significant adverse impacts in any technical area listed above and would not result in a combination of moderate effects that would be expected to result in a significant adverse impact on neighborhood character.

19. *CONSTRUCTION IMPACTS:* *CEQR Technical Manual, Chapter 22* **(See Attachment L, "Construction")**
Would the project's construction activities involve (check all that apply):

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

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

See Attachment L, "Construction," for a detailed description of the proposed construction program and analysis of the proposed construction.

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

of

David Wolkoff, Owner — APPLICANT/SPONSOR

G&M Realty, L.P. — NAME OF THE ENTITY OR OWNER

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

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

David Wolkoff — APPLICANT/SPONSOR NAME:

LEAD AGENCY REPRESENTATIVE NAME:

SIGNATURE:

August 16, 2013 — DATE:

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

Part 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 or 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	Potentially 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 of 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 of 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
Director, Environmental Assessment and Review Division	New York City Department of City Planning (NYCDCP)
NAME	DATE
Robert Dobruskin, AICP	4/18/13

SIGNATURE Robert Dobruskin

Attachment A: Project Description

A. PROJECT IDENTIFICATION [1]

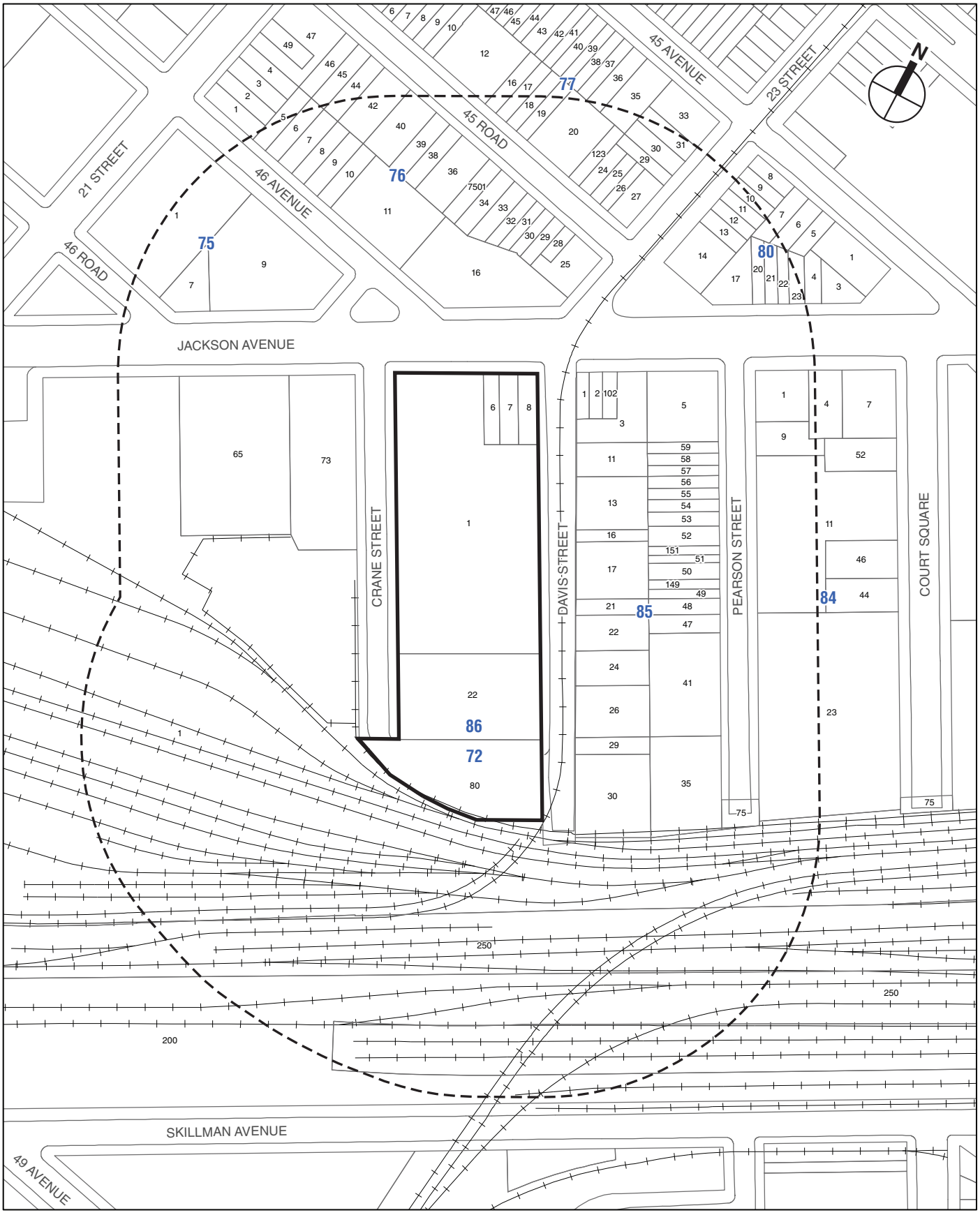
G&M Realty, L.P., (the applicant) is submitting an application to the New York City Department of City Planning (DCP) for a zoning Special Permit (pursuant to the New York City Zoning Resolution [ZR] Section 117-56, "Special Permit for Bulk Modifications on Blocks 86/72 and 403") that would allow an increase in the maximum floor area ratio (FAR) at the project site from 5.0 to 8.0 if the proposed project provides a 250-space public parking garage and at least 20,000 square feet of publicly accessible open space. The project site consists of Block 86, Lots 1, 6, 7, 8, and 22 and Block 72, Lot 80 in the Hunters Point neighborhood of Queens (Community District 2) (see **Figure A-1**). The project site is bounded by Jackson Avenue to the north, Davis Street to the east, the Sunnyside Yards to the south, and Crane Street to the west, and is located in an M1-5/R7-3 zoning district within Area C of the Queens Plaza (QP) Subdistrict of the Special Long Island City Mixed Use District (Special LIC District) (see also Attachment B, "Land Use, Zoning, and Public Policy").

The proposed action would allow the redevelopment of a site that currently contains vacant and underutilized manufacturing/warehouse and commercial/residential buildings with approximately 1,000 housing units (an increment of 372 units over the as-of-right condition), approximately 50,302 gross square feet (gsf) of local retail (an increment of 62 gsf), approximately 2,280 gsf of artist work space, a 250-space public parking garage, and a total of approximately 32,099 square feet (0.74 acres) of at-grade landscaped publicly accessible open area in four areas on the project site: an approximately 20,733-square-foot landscaped area with passive and active recreational opportunities at the southern portion of the block (the South Public Open Area); an approximately 2,785-square-foot landscaped sitting area on Jackson Avenue at Crane Street (the Jackson Avenue Public Open Area); an approximately 6,694-square-foot open area with benches and trees along the sidewalk for the full length of the project site along Davis Street (the Davis Street Public Open Area); and an approximately 1,887-square-foot open area within the project boundary but within the mapped but unimproved portion of Crane Street (the Crane Street Improvement) (see **Figure A-2**).

The QP Subdistrict generally requires street walls at the street line; therefore the proposed action also includes a request to waive the street wall requirements of ZR Section 117-531 (a) and (b) for the following areas: to allow the landscaped seating areas at the corner of Jackson Avenue and Crane Street and along Davis Street, to allow varied building articulation along the Crane Street frontage, to allow two recesses in the building frontage on Jackson Avenue, above the ground floor, and to allow the proposed building to be set back along Davis Street to increase the

[1] Since the EAS and Conditional Negative Declaration were issued in April 2013 a revised ULURP application was submitted to DCP. The project modifications in that ULURP application are based on an agreement between the applicant and Community Board 2 to provide additional community benefits with the proposed project, the effects of which are analyzed in the attached Technical Memorandum.

2.19.13



Project Site Boundary

Study Area Boundary (400-Foot Perimeter)

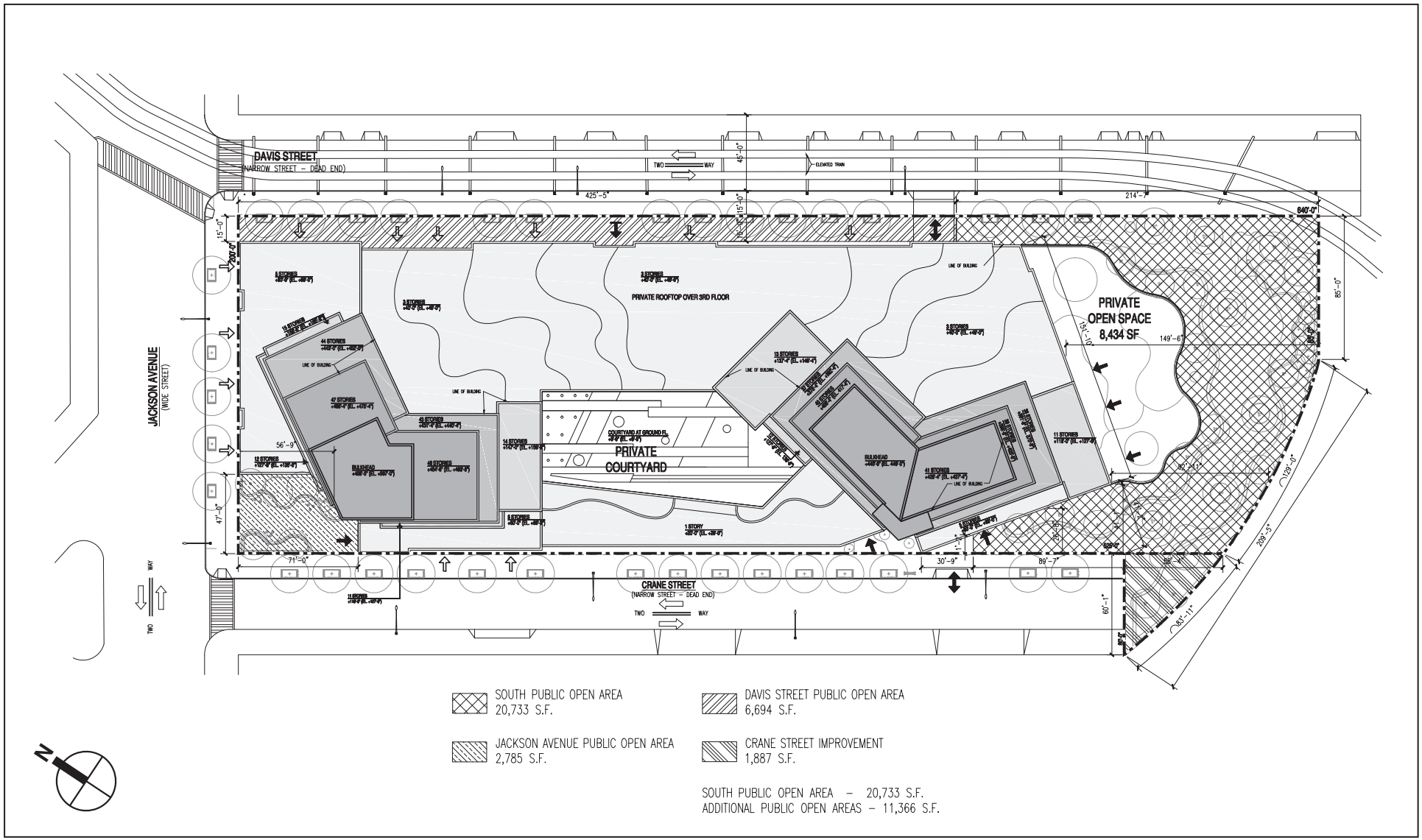
72 *Block Number*

250 *Lot Number*

22-44 JACKSON AVENUE

Tax Map

Figure A-1



Project Site

0 40 100 FEET
SCALE

Site Plan
Figure A-2

distance between the building and the elevated No. 7 subway structure (see **Figure A-3**). The proposed action also includes a request to waive the setback requirements at ZR Section 117-532 (a) to allow the building to rise without required setbacks fronting Jackson Avenue and fronting Crane Street at the tower building entrances to allow architectural expression extending from the ground floor to the tower roofs and related design.

The proposed Special Permit and waiver of street wall requirements are discretionary actions by CPC that are subject to the City's Uniform Land Use Review Procedures (ULURP). This Environmental Assessment Statement (EAS) has been prepared to examine the potential impacts of the discretionary action and the associated development in accordance with the guidelines of the 2012 *City Environmental Quality Review (CEQR) Technical Manual*.

Assuming the requested permit and waivers are granted, it is anticipated that project construction would be begin in 2013 and the buildings would be completed and occupied in 2017. If approved, the proposed action would support the ongoing redevelopment of the Long Island City mixed-use neighborhood and the Jackson Avenue corridor.

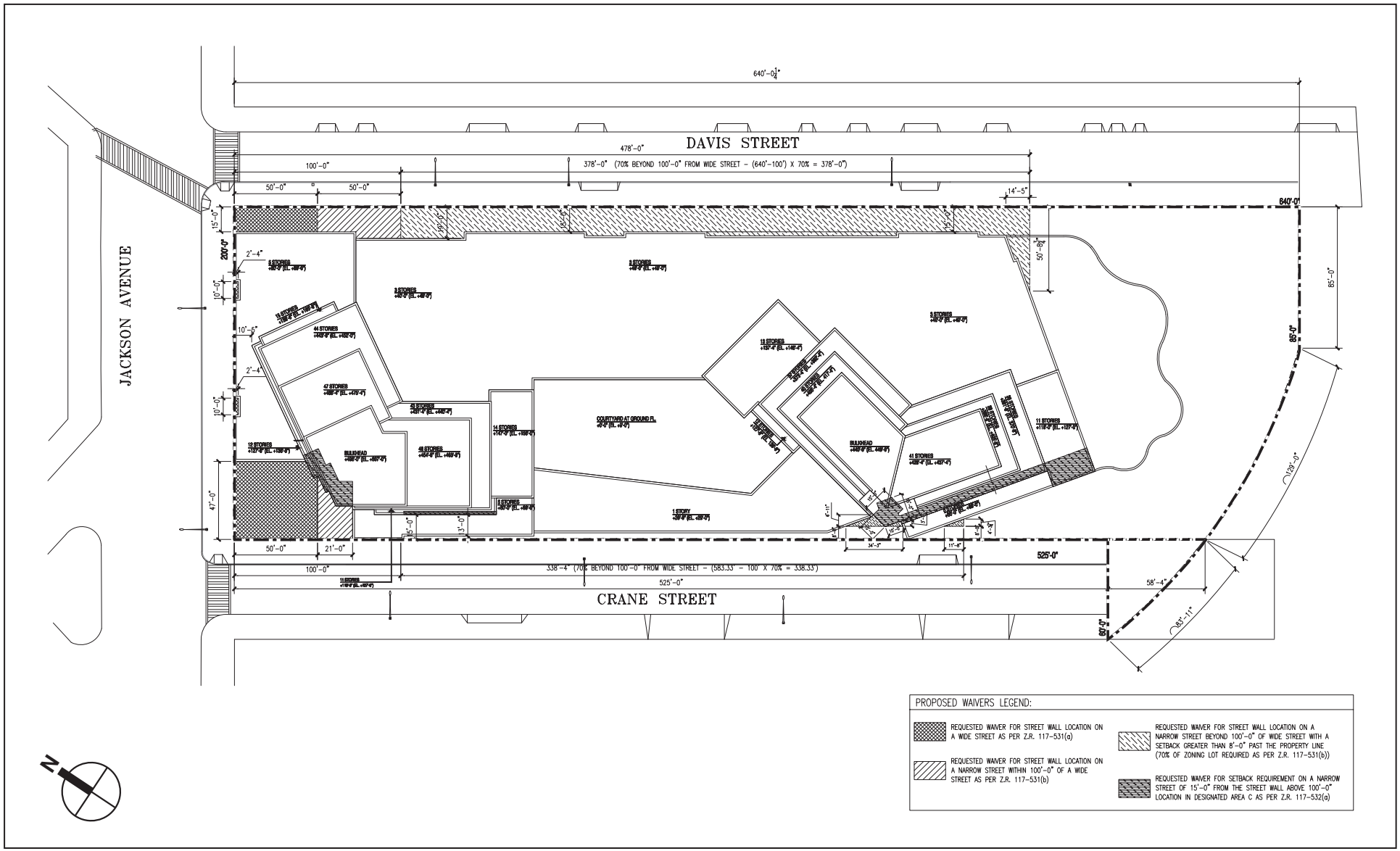
B. PROJECT SITE

The site of the proposed project is generally flat and encompasses an entire City block (Queens Block 86), and one lot of a second block (Block 72, Lot 80), with about 260 linear feet of frontage along Jackson Avenue, over 640 feet along Davis Street, and 525 feet along on Crane Street. Jackson Avenue is a mapped wide street (100 feet wide) that is a major transportation and commercial corridor through Hunters Point. Both Crane and Davis Streets are mapped as narrow (60 feet wide) two-way streets that dead end at the southerly side of the project site. The project site includes Block 86, Lots 1, 6, 7, 8, 22 and Block 72, Lot 80 (see **Figure A-1**).

The elevated structures of the Metropolitan Transportation Authority (MTA)-New York City Transit (NYCT) No. 7 subway train run along Davis Street (immediately east of the project site), before entering the Sunnyside Yards. The elevated train crosses above a small portion of the southeast corner of the property.

The project zoning lot encompasses approximately 127,156 square feet (or about 3 acres). The property contains mixed-use commercial/residential buildings (residential above ground floor commercial space) and industrial/manufacturing and warehouse buildings. The buildings range in height from 1 to 5 stories and contain approximately 250,000 to 300,000 square feet of floor area. Four buildings along the Jackson Avenue frontage (Block 86 Lots 6, 7, and 8) are residential above ground floor commercial space. These buildings are three and four stories in height and mostly vacant, particularly the upper floors. The ground floors of these buildings contain a bar/restaurant, vacant office space, an art gallery, and a taxi agent/auto insurance broker). A total of three residential tenants are located in the upper floors of these buildings. The industrial/warehouse buildings on the project site (a total of 8 buildings) function as an interconnected complex with frontage along and access from Jackson Avenue, Crane Street, and Davis Street (Block 82, Lots 1 and 22). These buildings are also predominantly vacant. Current uses include food cart and associated food storage, garment manufacture, artist studios, and air conditioner repair. There are a total of approximately 30 employees at the project site. In addition, a 100-car public parking lot is located at the southern end of the block adjacent to the Sunnyside Yards (Block 72, Lot 80).

About 15 years ago, the applicant, as a favor to an artist whose studio was in one of the project site buildings, allowed the artist to decorate walls with graffiti-inspired murals; this expanded to



Project Site

0 40 100 FEET

SCALE

Proposed Waivers

Figure A-3

other artists selected by the applicant. These designs are intended to be temporary in nature and are covered by new paintings on a regular basis. These buildings and their temporary graffiti murals have become informally known as "5 Pointz."

As stated above, the project site is located in an underlying M1-5/R7-3 district within Area C of the QP Subdistrict of the Special LIC District. The Special LIC District and its subdistricts are described in detail in Attachment B, "Land Use, Zoning, and Public Policy." Area C of the QP Subdistrict allows residential, community facility, and a wide range of commercial and light industrial uses as a matter of right. The maximum permitted base FAR for all uses is 5.0 and the maximum permitted lot coverage is 70 percent. There is no maximum building height in Area C of the QP Subdistrict. However, pursuant to ZR Section 117-56, the maximum FAR for Blocks 86 and 72 (the project site) and Block 403 (located at Northern Boulevard north of Queens Plaza North) can be increased to a maximum 8.0 FAR by Special Permit with provision of a 250-space public parking garage and at least 20,000 square feet of public open area.

In general, developments in Area C must provide a minimum base height of 60 feet and a maximum base height of 100 feet); however, the minimum base height requirement is waived for a block adjacent to a narrow street along which there is an elevated structure, such as the project block. Setbacks of 15 feet on narrow streets and 10 feet on wide streets are required above the maximum base height.[1]

Accessory parking is regulated by Article I, Chapter 3 of the Zoning Resolution. No accessory parking is required for a development on the project site.

C. PURPOSE AND NEED FOR THE PROPOSED PROJECT

The applicant is applying to CPC for a discretionary action (a Special Permit and waiver of street wall and setback requirements) that would allow for the redevelopment of the project site—which is currently an underutilized full-block property. The redevelopment would provide an important new mixed-use development in Hunters Point with approximately 1,000 new residences (an increment of 372 units over the as-of-right condition), amenity space, local retail, artist work space, and a 250-space public parking garage that would serve local parking needs. The proposed project would also provide approximately 32,099 square feet (0.74 acres) of publicly accessible landscaped open area that would support not only the project, but the local open space needs of the community. The proposed project would be compatible with the surrounding mix of uses in Hunters Point and would be consistent with and implement the City's plans for the area to encourage higher-density commercial and residential development in Long Island City, as stated in the Department of City Planning's 1993 *Plan for Long Island City: A Framework for Development*. The proposed project would also support the Jackson Avenue commercial corridor with new retail uses and the project site frontage would be landscaped to be consistent with other public and private improvements along the corridor, such as the City's Jackson Avenue Streetscape Project. This major streetscape improvement program was implemented by the City to enhance the pedestrian experience along the Jackson Avenue corridor. The Phase 1 improvements, completed in fall 2010 and extending from Queens Plaza

[1] Because the site is adjacent to an elevated structure, there is no minimum base height. A proposed text amendment to ZR Section 117-56 (N130134ZRQ), currently under public review, would require a minimum base height of 40 feet. However, the new text will exempt any building on Block 86/72 for which an application has been filed prior to the effective date of the amendment.

to 23rd Street, included new lighting, streetscape amenities, and an improved roadway design with a landscaped median, that have transformed Jackson Avenue—the main commercial and transportation corridor of Hunters Point—into an attractive, landscaped boulevard. The project also included the redesign and expansion of the triangular parks along the avenue and in the Court Square vicinity, which were completed and opened to the public in fall 2009.[1] The streetscape improvements proposed with the project have been designed to complement these public improvements and would extend the "greening" of the Jackson Avenue corridor along the southerly frontage between Davis and Crane Streets.

The proposed project would also be directly accessible to the newly improved Court Square Subway Station which provides excellent transit access to Manhattan, other Queens neighborhoods, and the City as a whole. Thus, the proposed project would provide transit-oriented development at an appropriate location.

D. PROJECT DESCRIPTION

FRAMEWORK FOR ANALYSIS

This EAS has been prepared in accordance with the guidelines of the *2012 CEQR Technical Manual.* Environmental review requires a description of existing conditions, a projection of site conditions into the future without the proposed project, and an assessment of future conditions with the proposed project. Project impacts are then based on the incremental change between the future without and with the proposed project.

Existing conditions are the current (2013) conditions at the project site and in the surrounding Hunters Point neighborhood, which serve as a starting point for the projection of future conditions. The projection of future "No Build" conditions is assumed through the project completion year (2017) and is based on a reasonable as-of-right program for the project site, which assumes development under the current zoning with no discretionary approvals (i.e., no Special Permit or waivers of street wall requirements). Accordingly, the EAS assumes no public open spaces or public parking garage in this scenario. The as-of-right building, based on an FAR of 5.0, contemplates fewer residential units and amenities and also includes approximately 50,000 sf of retail space as well as a 225-space accessory parking garage. **Table A-1** presents a comparison of existing, No Build, and Build conditions at the project site. As shown in the table, the incremental development that is that subject of the CEQR analysis (i.e. the proposed project) is 372 dwelling units, 62 square feet of retail space, 2,280 square feet of artist work space, a 250-space public parking garage, and approximately 32,099 square feet of publicly accessibly open area. At this time, the applicant intends to construct market-rate dwelling units; however, there is a possibility that the applicant may apply for the 421a tax exemption program, which requires that 20 percent of the units be affordable. The Reasonable Worst Case Development Scenario analyzed for each technical area assumes market-rate units except for the child care centers analysis, where it was assumed that 20 percent of the proposed dwelling units would be affordable (see Attachment D, "Community Facilities").

Independent of the proposed action, the applicant is participating in the Brownfields Cleanup Program (BCP) administered by the New York State Department of Environmental Conservation (NYSDEC). The applicant was accepted into the BCP on March 15, 2012 and will remediate the

[1] http://www.nycedc.com/project/jackson-avenue-streetscape-project, last accessed on October 16, 2012

project site pursuant to a remediation work plan to be approved by NYSDEC. Remediation activities, which will include demolition, excavation, and any other remedial measures required by NYSDEC, may occur in connection with development of the proposed project, but also may occur earlier, depending on a remediation schedule that is established by NYSDEC and the applicant. The project site is also subject to an (E) designation for hazardous materials that was placed on the site as part of the Long Island City rezoning in 2001. Therefore, it is assumed that the property will be remediated in both the No Build and Build conditions.

Table A-1
Comparison of the Conditions: Existing, Future Without, and With the Proposed Action

Land uses/program	Existing	Future Without the Proposed Action/No Build	Future With the Proposed Action/Build	Increment for Analysis
Manufacturing space	173,250 gsf	0 gsf	0 gsf	0 gsf
Retail	4,350 gsf	50,240 gsf	50,320 gsf	+62 gsf
Residential[(1)]	5,000 gsf	628 DUs	1,000 DUs	+372 DUs
Publicly accessible open space[(2)]	0 gsf	0 gsf	32,099 sf	+32,099 (0.74 acres)
Artist work space	20,000 gsf	0 gsf	2,280 gsf	+2,280 gsf
Parking (gsf)	22,150 gsf	67,500 gsf	72,185 gsf	+4,685
Accessory parking (spaces)	0	200 spaces (residential allocation), 25 spaces (commercial allocation)	0	-225 accessory parking spaces
Public parking (spaces)[(3)]	100 spaces	0	250 spaces	+250 public parking spaces

Notes:
[1]Assumes 1,000 gsf per dwelling unit.
[2]The total amount of project open space also includes 1,887 square feet of open space on the property but within the mapped but unimproved portion of Crane Street.
[3]Public parking is required as per zoning and Special Permit requirements.
Source: G&M Realty, L.P., H. Thomas O'Hara, Architects, April 2013; NYC Dept. of City Planning MapPLUTO March 2011 (11v1).

For each technical analysis in this EAS, the No Build condition also incorporates approved or designated development projects in each study area that are anticipated to be completed by 2017. The identification of potential environmental impacts is based upon the comparison of the No Build conditions to the future with the proposed action (the Build Condition).

PROPOSED PROJECT

BUILDING PROGRAM AND DESIGN

The proposed project is a mixed-use development of approximately 1,170,299 gsf (an incremental 419,202 gsf[1] over the as-of-right condition) including 1,045,609 gsf of new residential space (including approximately 45,609 gsf amenities), or 1,000 units (an increment of 372 units), and 50,302 gsf (an increment of 62 gsf) of retail space, 2,280 gsf of artist work space, 32,099 sf (0.74 acres) of publicly accessible open space, and a 250-space public parking garage.

[1] The incremental total gsf does not include the increase in the garage floor area since there is no zoning floor area attributable to the as-of-right or proposed garage.

The 250-space public parking garage would occupy approximately 72,185 gsf in the cellar, ground, and second floors (below 23 feet above grade). The proposed garage would have two means of egress/ingress, with one curb cut on Crane Street and the other on Davis Street.

The proposed building would have a base of varying heights—60 feet along the Jackson Avenue frontage and the north and south ends of Crane Street, 40 feet along Davis Street, and 20 feet in the central portion of Crane Street—with two residential towers (the North and South Towers). The base structure would include a central private landscaped courtyard (see **Figure A-2**). The base has been designed to provide for varied and active uses on all four sides of the building, with multiple entrances, and a variety of surface treatments. Within the base is the proposed parking garage, local retail, gallery and artist studio uses, and the tenant amenity space. Proposed above the base are the two residential towers, one 47 stories tall and the other 41 stories tall, with the taller tower near Jackson Avenue. The total height of the two towers, including the rooftop mechanical space, would be 428 and 466 feet, respectively, plus the bulkhead (or 440 and 498 feet, respectively, to the top of the bulkhead).

The underlying theme to the project site plan, building massing, and architectural treatments is to create an attractive and inviting pedestrian experience for both the residents of the proposed building and the neighborhood. To this end, activation of the ground floor with local retail/service and artist uses, along with the proposed public spaces, is proposed to create a lively urban streetscape and pedestrian experience. The proposed public open areas, described below, would offer both residents and the community spaces to sit, walk, and play, creating a community amenity for the neighborhood residents, workers, and visitors to MoMA PS1 and other local cultural institutions.

PUBLICLY ACCESSIBLE OPEN AREAS

The proposed project would provide a total of approximately 32,099 square feet of landscaped publicly accessible open area in the southern portion of the project site, along Jackson Avenue, and along Davis Street (see **Figure A-2**). All of the proposed public open areas, which are described in more detail below, would be adjacent to complementary retail uses or active, private residential amenities spaces.

The southern portion of the project site (South Public Open Area) would provide the largest assemblage of landscaped open area—about a half acre (approximately 20,733 square feet)—and would provide passive and active recreational opportunities, as well as facilitate easy movement between Davis and Crane Streets. The South Public Open Area would be a flowing shaded area with plantings, a green wall with pockets of art, an interactive water feature, low climbing features and abundant social seating opportunities. Adjacent private residential terrace and tenant amenity space would provide an active and complementary use to the South Public Open Area. The approximately 1,887-square-foot landscaped Crane Street Improvement would be adjacent to the South Public Open Area, within the bed of the mapped but unimproved portion of Crane Street.

The Jackson Avenue Public Open Area would provide an approximately 2,785-square-foot landscaped sitting area located at the corner of the residential building entrance on Jackson Avenue and Crane Street and adjacent to the Jackson Avenue retail frontage. It would include seat walls with wooden benches and seat pods for social seating opportunities. This open space would be located diagonally across Jackson Avenue from MoMA PS1 and would support the City's commitment to the streetscape improvements along Jackson Avenue. It would also signal

one of the access points to the Public Open Area at the south end of the site and its design would complement that larger open area.

The Davis Street Public Open Area would provide approximately 6,694 square feet of publicly accessible open area in the form of a 15- to 19-foot deep sidewalk widening adjacent to the sidewalk along the entire block length of Davis Street. The Davis Street Public Open Area would be adjacent to the ground floor retail uses and artists' galleries proposed along the Davis Street frontage. It is designed to provide connectivity between Jackson Avenue and the South Public Open Area to the south end of the site, with trees providing shade, public benches and ample sidewalk space for interaction with the retail and artist studios along the street.

The South Public Open Area and Crane Street Improvement would be open to the public as follows: (i) from 7:00 AM to 8:00 PM between November 1 and April 14; and (ii) from 7:00 AM to 10:00 PM between April 15 and October 31. The Jackson Avenue and Davis Street Public Open Areas would be open 24 hours daily. All of the open areas would be maintained by the building owner.

PUBLIC GARAGE

The proposed project includes a 72,185 gsf public parking garage in the cellar, ground, and second floor levels of the building that would provide 250 public parking spaces. The proposed garage would be accessible from both Crane and Davis Streets with curb cuts 25-feet-wide (including splays) to be provided at each driveway access. There would be one two-way curb cut on each street frontage. (These would be the only curb cuts provided with the project). Both driveways would be located away from Jackson Avenue—which is the more heavily used vehicular street—and provided with the appropriate signals to alert pedestrians of exiting automobiles. The Davis Street garage entrance/exit would be located approximately 400 feet away from Jackson Avenue, and the Crane Street garage entrance/exit would be located approximately 410 feet from Jackson Avenue.

The proposed garage design allocates 13 reservoir spaces within the building (12 are required per zoning). It would also provide the required 26 public bicycle parking spaces in addition to approximately 500 accessory bicycle parking spaces required for the building residents and commercial users.

STREETSCAPE IMPROVEMENTS

In addition to the public open area amenities described above, the proposed project would provide over 40 linear feet of "World's Fair" type benches along Jackson Avenue, as a continuation of the City's recent improvements along Jackson Avenue. Five street trees would also be planted (or preserved) on the avenue. Crane Street would be improved with 13 street trees, approximately 500 square feet of additional planting area, and 11 backless benches, which would improve the pedestrian experience for the surrounding community, visitors, workers, and residents. Bicycle racks are also proposed around the project site.

E. PROJECT APPROVALS

The proposed project requires a CPC Special Permit pursuant to ZR Section 117-56 to increase the maximum FAR on the project site from 5.0 to 8.0 by providing a public area no less than 20,000 square feet and a public parking garage containing 250 spaces, and waivers of street wall requirements of ZR Section 117-531 (a) and the setback regulations of ZR Section 117-532 (a).

The requested waivers of the street wall and setback requirements are necessary for the following purposes:

- The requested waivers along Jackson Avenue would allow a publicly accessible landscaped sitting area at the northwest corner of the block (approximately 40 feet by 70 feet) (see the description of the Jackson Avenue Public Open Area above and also **Figures A-2** and **A-3**). The waiver would also allow two recesses (2 feet 4 inches in depth and 10 feet in width) in the building frontage, above the ground floor.
- The requested waiver along the Davis Street frontage would provide for a widened sidewalk (an additional 15-19 feet), enhanced with a planted area with trees and benches between the proposed building and the elevated No. 7 subway structure (see the description of the Davis Street Public Open Area above and also **Figures A-2** and **A-3**). With the proposed waiver, the building would be pulled back from the elevated tracks, thereby minimizing the impact of noise generated by the trains on the proposed project residents and passersby.
- The Crane Street street wall waivers are needed to allow for the (i) 71-foot deep Jackson Avenue Public Open Area and (ii) articulation of the Crane Street frontage with a landscaped building entrance (see **Figures A-2** and **A-3**).
- A waiver is requested from the setback requirements of ZR Section 117-532(a) for two areas. Both areas are located 100 feet above the entrances to the North and South Towers and along Crane Street. The proposed waivers would allow the buildings to rise without the required 10-foot setbacks fronting Jackson Avenue and 15-foot setbacks fronting Crane Street at the tower building entrances in order to provide a "chevron" architectural expression extending from the ground to the tower roofs and related design.

In summary, the requested waivers would provide for a more varied and inviting streetscape experience for enjoyment by both the community and project residents, would provide a better site design with community amenities, and would complement landscaped improvements on the Jackson Avenue corridor.

F. ENVIRONMENTAL REVIEW AND ULURP

ENVIRONMENTAL REVIEW

As stated above, this EAS has been prepared to meet the environmental review requirements of New York City's environmental review process, CEQR. CEQR provides a mechanism for decision makers to consider the environmental effects of a project along with the project planning and design objectives. For the proposed action, the process has been as follows:

- *Establishing a Lead Agency.* Under CEQR, the "Lead Agency" is the public entity responsible for conducting the environmental review. The Lead Agency for this action is CPC.
- *Determination of Significance.* The Lead Agency reviews the EAS and must determine if the proposed project would have a significant impact on the environment. The Lead Agency has reviewed this EAS and determined that the proposed project would not have a significant adverse impact on the environment.

ULURP

The City's ULURP process, mandated by Sections 197-c and 197-d of the New York City Charter, is designed to allow public review of ULURP applications at four levels: Community Board, Borough President, CPC, and City Council. The procedure sets time limits for each level of review to ensure a maximum total review period of approximately seven months.

The process begins with certification by DCP that the ULURP application is complete. The application is then referred to the relevant Community Board (in this case Queens Community Board 2). The Community Board has up to 60 days to review and discuss the proposal, hold a public hearing, and adopt an advisory resolution on the ULURP application. The Borough President then has up to 30 days to review the application. CPC then has up to 60 days, during which time a public hearing is held on the ULURP application. If CPC approves the application it is forwarded to the City Council, which has 20 days to decide to review the Special Permit. If the City Council decides to review the special permit, it must do so within 50 days after the application is forwarded by the CPC. ✷

Attachment B: Land Use, Zoning, and Public Policy

A. INTRODUCTION

The proposed action includes a request for a zoning Special Permit (pursuant to New York City Zoning Resolution [ZR] Section 117-56, "Special Permit for Bulk Modifications on Blocks 86/72 and 403") that would allow an increase in the maximum floor area ratio (FAR) at the project site from 5.0 to 8.0 to facilitate the redevelopment of Block 86, Lots 1, 6, 7, 8, 22 and Block 72, Lot 80 in Community District 2, Queens, with a mixed-use development that would contain approximately 1,000 housing units (an increment of 372 units over the as-of-right condition), 250 public parking spaces, local retail and service uses, and artist work space. As described in Attachment A, "Project Description", the proposed project would provide approximately 32,099 square feet (approximately 0.74 acres) of landscaped publicly accessible open area in the southern portion of the project site at the corner of Jackson Avenue and Crane Street and along Davis Street. The proposed action also includes waivers of the street wall requirements of ZR Section 117-531 (a) and (b) to allow the landscaped seating areas on the corner of Jackson Avenue and Crane Street and along Davis Street, to allow varied building articulation along the Crane Street frontage, to allow two recesses in the building frontage on Jackson Avenue, above the ground floor, and to allow the proposed building to be set back along Davis Street to increase the distance from the building and the elevated No. 7 subway structure. The proposed action also includes a request to waive the setback requirements at ZR Section 117-532 (a) to allow the building to rise without required setbacks fronting Jackson Avenue and fronting Crane Street at the tower building entrances to allow architectural expression extending from the ground floor to the tower roofs and related design.

In the absence of the proposed action, the project site would be developed with a mixed-use building consisting of approximately 628,000 gross square feet (gsf) of residential (or 628 units assuming 1,000 gsf per unit), approximately 50,240 gsf of retail, and a 225-space accessory parking garage. Accordingly, the incremental development over the as-of-right (No Build) condition subject to CEQR review is 372 dwelling units, 62 square feet of retail space, 2,280 square feet of artist work space, a 250-space public parking garage, and approximately 32,099 square feet of publicly accessible open space.

This analysis examines existing land use, zoning, and land use policies in relation to the project site and within a 400-foot study area, and the larger Hunters Point neighborhood. It has been prepared in accordance with the guidelines in the City's 2012 *City Environmental Quality Review (CEQR) Technical Manual*. The *CEQR Technical Manual* recommends that to determine any potential impacts of the proposed project a land use and zoning analysis include a basic description of existing and future land uses and zoning. The analysis below, therefore, provides a land use, zoning, and public policy analysis that in addition to being used for determining any potential land use, zoning or public policy impacts, informs other technical analyses in this EAS (e.g., socioeconomics, open space, transportation). The analysis describes existing and projected conditions to the extent necessary to assess changes or impacts with the proposed action.

As described in greater detail below, this analysis concludes that the proposed action would be consistent with and supportive of existing land uses and development patterns and trends, zoning, and public policy initiatives in Long Island City.

B. EXISTING CONDITIONS

LAND USE

PROJECT SITE

The project site is bounded by Jackson Avenue to the north and the Sunnyside Yards to the south, Davis Street to the east, and Crane Street to the west (see **Figures B-1 and B-2**). The elevated structure for the Metropolitan Transportation Authority (MTA)-New York City Transit (NYCT) No. 7 subway train runs along Davis Street (immediately east of the project site), before it enters the Sunnyside Yards. Jackson Avenue is a major street that connects to the northeast with Queens Boulevard, Northern Boulevard and, via Queens Plaza, the Queensboro (Edward I. Koch) Bridge. To the southwest, Jackson Avenue provides access to the Pulaski Bridge and also to the Long Island Expressway, which connects to the Midtown Tunnel and provides access to Manhattan.

The property contains 12 mixed-use (residential with ground floor commercial space) and industrial/manufacturing and warehouse buildings on Block 86, Lots 1, 6, 7, 8, 22 and Block 72, Lot 80 (see **Figure B-1**). Four buildings along the project site's Jackson Avenue frontage (Block 86, Lots 6, 7, and 8, see **Figure B-1**) are three and four stories in height and mostly vacant, but have active commercial uses on the ground floor (bar and restaurant, art gallery, and taxi agent/auto insurance broker) with mostly vacant residential space above. There are currently a total of three residential tenants on the project site, one each in the upper floor units of 44-46, 44-48, and 44-50 Jackson Avenue. The remaining buildings on the project site (Block 86, Lots 1 and 22, see **Figure B-1**) function as an interconnected complex with frontage on Jackson Avenue, Crane Street, and Davis Street. These buildings range in height from 1 to 5 stories, and contain a total of approximately 250,000 to 300,000 square feet of floor area. These buildings are also predominantly vacant, particularly the upper floors. Current uses include food cart and associated food storage, garment manufacture, offices, artist studios and galleries, and air conditioner repair. There are a total of approximately 30 employees on the project site. In addition, a 100-car public parking lot is located at the southern end of the block adjacent to the Sunnyside Yards (Block 72, Lot 80).

Approximately 15 years ago, the applicant, as a favor to an artist whose studio was in one of the project site buildings, allowed him to decorate walls with graffiti-inspired murals; this expanded to other artists selected by the applicant. These wall murals are intended to be temporary in nature and are covered by new paintings on a regular basis. The project site buildings and their temporary graffiti murals have become informally known as "5 Pointz."

STUDY AREA

The blocks within a 400-foot radius surrounding the project site contain a mix of land uses reflecting the neighborhood's historic mix of low-rise commercial, industrial, and low-density residential uses and the City's long-term efforts to encourage higher-density commercial and residential development in Hunters Point and the larger Long Island City neighborhood (see **Figures B-1** and **B-2**). The block directly north across Jackson Avenue from the project site

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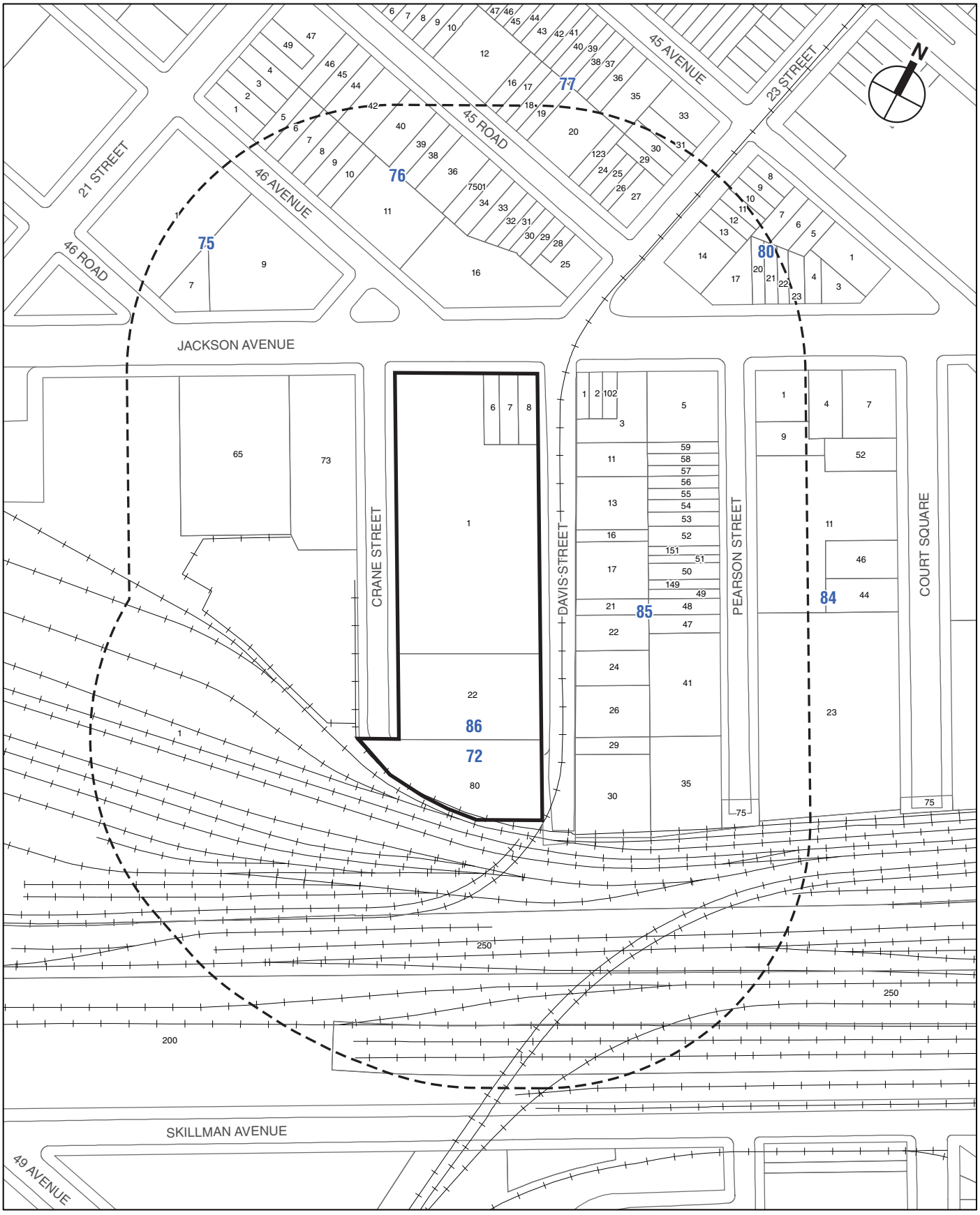

Project Site Boundary

Study Area Boundary (400-Foot Perimeter)

72 *Block Number*

250 *Lot Number*

22-44 JACKSON AVENUE

Tax Map

Figure B-1

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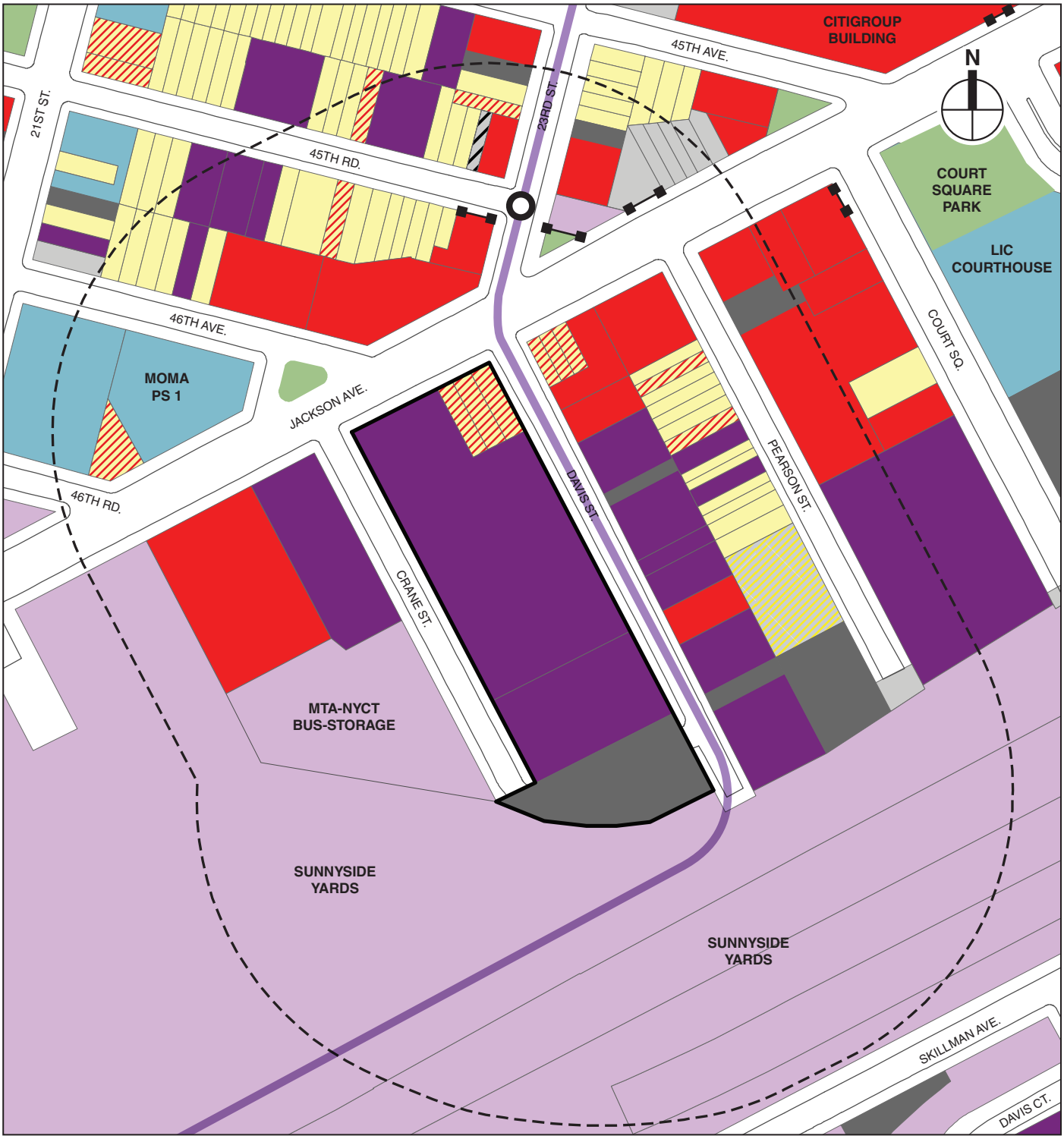

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SCALE

- *Project Site Boundary*
- *Study Area Boundary (400-Foot Perimeter)*
- *Court Square Subway Station* 7 G E M
- *Elevated 7 Subway*
- *Subway Entrance*
- *Residential*
- *Commercial with Residential Above*
- *Commercial Uses and Office Buildings*
- *Industrial, Manufacturing, Storage, and Auto-Related*
- *Public Transportation and Utility*
- *Public Facilities and Institutions*
- *Open Space/Plaza*
- *Parking Facilities*
- *Vacant Land*
- *Vacant Building*
- *Under Construction*

22-44 JACKSON AVENUE

Land Use
Figure B-2

(Block 76) is characterized by neighborhood commercial uses (e.g., banking and dining) along the frontage of both Jackson Avenue and 23rd Street. It also includes smaller two family-homes and a 5-story, 25-unit apartment building, mixed with a few small light-industrial manufacturing and warehouse buildings.

MoMA PS1, the City's premier contemporary art museum, is located across Jackson Avenue to the northwest of the project site (Block 75). This block also includes a building with ground floor commercial and retail uses and residential above.

A mix of uses also characterizes the block to the northeast of the project site (Block 80). This block contains street plazas at the east and west corners (along the Jackson Avenue frontage), small rowhouses along 23rd Street and 45th Avenue, small landscaped public open spaces, a sizable vacant parcel along Jackson Avenue that is slated for hotel development (see also the discussion below under the "Future Without the Proposed Action").

The elevated No.7 train runs along Davis Street immediately to the east of the project site. The No. 7 train elevated structure extends from Sunnyside Yards over Davis Street and turns north at 23rd Street at the elevated Court Square Station, which was recently improved to allow free in-system transfers between four subway lines, the No. 7, E, G, and M. All of these lines are accessible from multiple station entrances along Jackson Avenue (see **Figure B-2**) with a station entrance located northeast of the project site.

The block immediately east of the train tracks (Block 85) is also characterized by a mix of residential, commercial, and light industrial uses. The Davis Street frontage is primarily occupied by smaller light industrial and commercial uses, including automotive, air conditioner, and security systems suppliers. Residential uses (mostly two- to four-unit structures) front on Pearson Street (the east side of the block). A vacant parcel on the southerly side of the block is currently under construction and is being developed with nearly 200 housing units (see "The Future Without the Proposed Action," below). Commercial uses front Jackson Avenue and include restaurants (with residential and office space above), local businesses, and a bank.

Further east, on the block between Pearson Street and Court Square (Block 84), is a large (approximately 127,000–square-foot) office building. Also on this block, within the study area, is a bank at the southwest corner of Jackson Avenue and Pearson Street. City Wide Self Storage facility occupies the southern half of the block on the west side of Pearson Street.

The block immediately west of the project site (Block 72) contains light industrial, transportation, and commercial uses. The light industrial use is a baked goods manufacturer. There is also a taxi depot that is accessed from Jackson Avenue. An MTA-NYCT bus parking facility occupies the southerly portion of this block. A large portion of this block is occupied by the Sunnyside Yards.

The southern portion of the study area is occupied by transportation uses including the Sunnyside Yards which are owned by Amtrak and used by the Long Island Rail Road, Amtrak's Northeast Corridor, and New Jersey Transit train line and also includes the elevated No. 7 train as it turns west toward Manhattan and the Sunnyside Yards.

A major streetscape improvement program was implemented by the City to improve the vehicular and pedestrian experience along Jackson Avenue between 23rd Street and Queens Plaza. Phase 1 of these improvements (completed in fall 2010) includes new lighting, streetscape amenities, an improved roadway design, and a landscaped median, which have transformed Jackson Avenue—the principal corridor in Long Island City's business district—into an

attractive landscaped boulevard. The project also included the redesign and expansion of the triangular parks surrounding Court Square, which were completed and opened to the public in fall 2009.[1]

Outside the 400-foot study area, land uses include the New York State Supreme Court building on Court Square and the large Citigroup Building, a 50-story office tower completed in 1990 at the northeast corner of Jackson Avenue and 45th Avenue. The Citigroup building reaffirmed Hunters Point as a major commercial and business center in Queens. The tower, also known as One Court Square, is the tallest building in New York City outside Manhattan and visually prominent in the evolving Hunters Point skyline. In 2007, Citigroup expanded its presence in Long Island City by completing the 15-story Two Court Square office tower. In May 2012, the CUNY Law School also moved to Hunters Point, purchasing and occupying six floors of Two Court Square. Classes began in fall 2012 at the new location. Across the street from the Citigroup complex is the United Nations Federal Credit Union Corporate Headquarters located at 24-01 44th Road.

New residential development in Long Island City, but outside the 400-foot study area, includes 10-50 Jackson Avenue (48 units), 12-01 Jackson Avenue (ground floor retail with 37 DUs above), and 11-11 50th Avenue (120 units). East of the project site new residential development has been concentrated near Court Square, including the Vere at 26-26 Jackson Avenue, Arris Lofts at 27-28 Thomson Avenue, The Fusion at 42-51 Hunter Street, and The Industry at 21-45 44th Drive. There are also several residential developments currently under construction including a 709-unit development at 24-02 43rd Avenue, a 143-unit tower at 27-03 42nd Road, and a 28-unit development at 42-37 27th Street. In total, these recently completed or under construction projects contain over 1,700 dwelling units. Additional projected development projects are described below in Section C, "Future Without the Proposed Action." Together, both the recently completed and under construction developments are substantially increasing the mix of uses and development density in the Hunters Point neighborhood.

Also to the north of the study area, Queens Plaza was recently reconstructed as part of the City's Queens Plaza Pedestrian and Bicycle Improvement Project, which has transformed this primary entry point into Long Island City and Queens into a dynamic and appealing gateway. With the completed reconstruction, Queens Plaza now provides public space, improved roadway design and streetscapes, a bikeway, and enhanced pedestrian walkways. The project has improved the flow of traffic and enhanced the pedestrian environment with new sidewalks, curbs, plantings, landscaped traffic medians, and improved lighting. The project also includes a 1.5-acre open space with artisan-designed benches and pavers at Dutch Kills Green, which is located on the site of a former commuter parking lot, and now provides an array of benches and plantings to make the space an inviting public place.[2] Queens Plaza connects with Jackson Avenue and complements the completed improvements along that corridor.

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[1] http://www.nycedc.com/project/jackson-avenue-streetscape-project, last accessed on October 16, 2012

[2] http://www.nycedc.com/project/queens-plaza-bicycle-and-pedestrian-improvements, last accessed on October 16, 2012

ZONING AND PUBLIC POLICY

PROJECT SITE

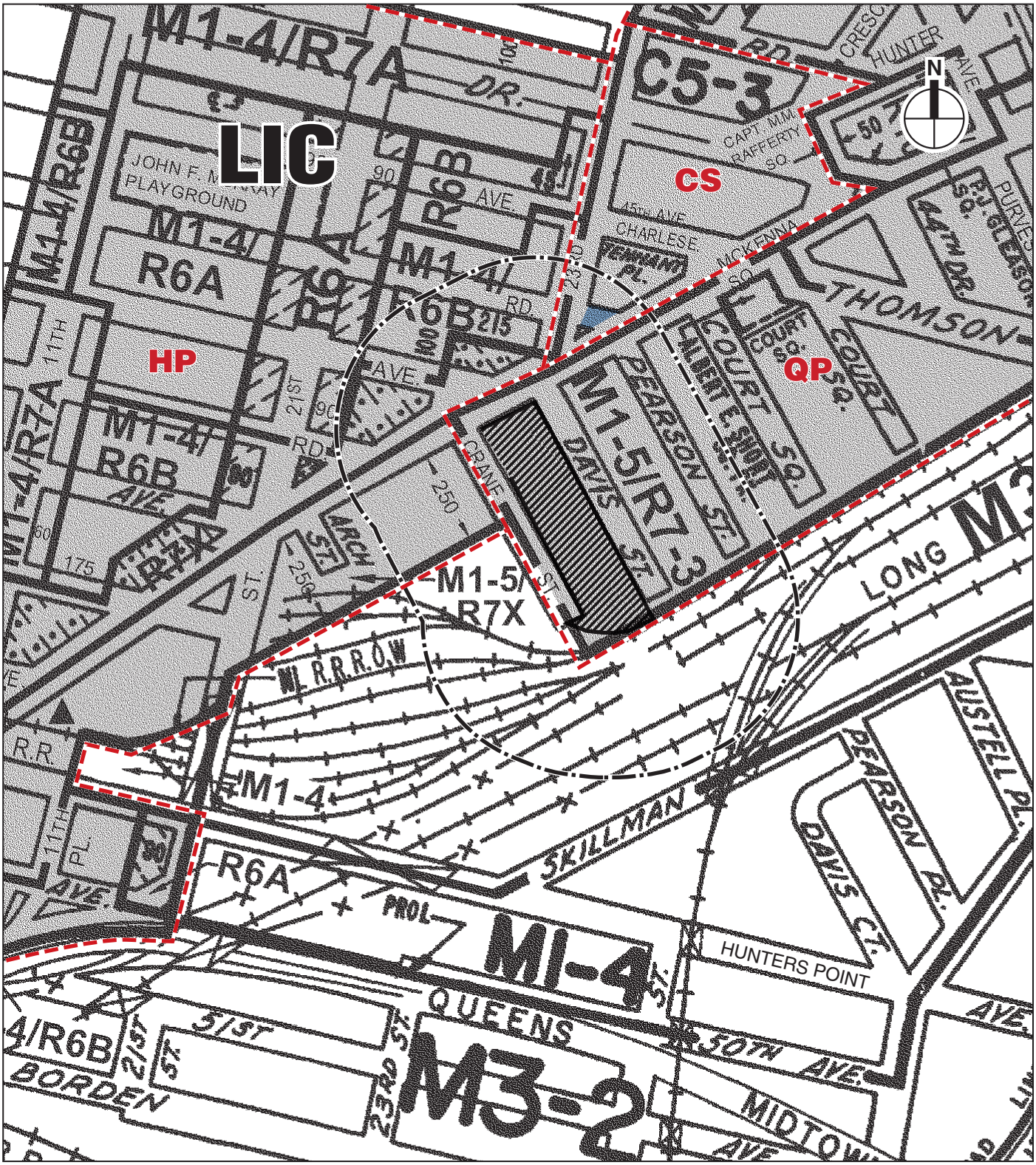
The project site is zoned M1-5/R7-3 within Area C of the Queens Plaza Subdistrict (QP Subdistrict) of the Special Long Island City Mixed Use District (Special LIC District, see **Figure B-3**). The Special LIC District and its subdistricts are described in more detail below. Area C of the QP Subdistrict allows most residential, community facility, and a wide range of commercial uses and light industrial uses as-of-right. The following retail uses may be developed as a matter of right: carpet or floor covering stores; clothing and clothing accessory stores; department stores; dry goods or fabric stores; food stores; furniture stores; electronic appliance stores; and variety stores (ZR Section 117-511).

The maximum permitted base FAR for all uses in Area C is 5.0, and the maximum permitted lot coverage for a residential building is 70 percent. There is no maximum building height in Area C of the QP Subdistrict. However, pursuant to ZR Section 117-56, Blocks 86/72 (the project site) and Block 403 (located at Northern Boulevard, north of Queens Plaza North, outside the study area) can be increased to a maximum 8.0 by Special Permit with provision (i) a public open area of at least 20,000 square feet and (ii) a 250-space public parking garage. In general, developments in Area C must provide a minimum base height of 60 feet and a maximum base height of 100 feet (ZR Section 117-52); however, this minimum base height requirement is waived for a block adjacent to a narrow street along which there is an elevated structure, such as the block on which the project site is located.[1]

Within the QP Subdistrict, special street wall requirements apply to wide streets (such as Jackson Avenue) and narrow streets (such as Crane and Davis Streets). On a wide street, and on a narrow street within 50 feet of its intersection with a wide street, a building's street wall must be located on the street line and extend along the entire street frontage of the zoning lot up to at least the applicable minimum base height or the height of the building, whichever is less. Lobby recesses, not to exceed three feet in depth from the street line, are permitted on the ground floor. On a narrow street within 100 feet of its intersection with a wide street, street walls must extend along the entire width of such narrow street frontage of the zoning lot and rise without setback up to at least the applicable minimum base height or the height of the building, whichever is less. Beyond 100 feet of the intersection of the narrow street with a wide street, street walls are required to extend along at least 70 percent of the narrow street frontage of the zoning lot and rise without setback up to at least the applicable minimum base height, or the height of the building, whichever is less. Beyond 50 feet of the intersection of a wide street, all required street walls must be located within eight feet of the street line.

No accessory parking is required for development on the project site. The maximum permitted number of accessory spaces for a residential building is the equivalent of 100 percent of the number of units; for commercial or manufacturing developments, the maximum permitted number of accessory parking spaces is the lesser of either 1 space per 4,000 square feet of floor area or 100 spaces. The maximum number of spaces permitted for a mixed-use development is 225 spaces. Public parking garages are not permitted as a matter of right.

[1] Because the site is adjacent to an elevated structure, there is no minimum base height. A proposed text amendment to ZR Section 117-56 (N130134ZRQ), currently under public review, would require a minimum base height of 40 feet. However, the new text will exempt any building on Block 86/72 for which an application has been filed prior to the effective date of the amendment.



SOURCE: New York City Planning Commission, Zoning Map 9b, web version. <http://www.nyc.gov/html/dcp/pdf/zone/map9b.pdf>

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Project Site Area

Study Area Boundary (400-Foot Perimeter)

Portion of the Road has been Permanently Closed for a Subway Improvement

Zoning District Boundary

Special Purpose District

QP *Queens Plaza Subdistrict*

HP *Hunters Point Subdistrict*

CS *Court Square Subdistrict*

C1-5 Overlay

C2-5 Overlay

22-44 JACKSON AVENUE

Zoning
Figure B-3

In 1995, special parking regulations were adopted for the most congested area of the larger Long Island City neighborhood, including the project site and all of the other blocks of the QP, CS, and HP Subdistricts. The provisions are found in Article I, Chapter 3 of the Zoning Resolution.

STUDY AREA

Zoning districts within the study area are listed and summarized in **Table B-1**. The majority of the study area is within the Special LIC District. This district, adopted in 2001, is comprised of s four subdistricts: the QP Subdistrict (described above); the Court Square Subdistrict (CS Subdistrict); the Hunters Point Subdistrict (HP Subdistrict); and the Dutch Kills Subdistrict (DK Subdistrict). Portions of the QP, CS, and HP Subdistricts are within the study area; the DK Subdistrict is not within the study area (it is generally north of Northern Boulevard).

Table B-1
Study Area Zoning Districts

Zoning District	Maximum FAR[1, 2]	Zoning Characteristics
M3-1	M: 2.0; C: 2.0	Heavy manufacturing and limited commercial uses, minimum manufacturing performance standards (outside of overlying district)
Queens Plaza Subdistrict Area C (includes project site)	Special FAR regulations apply (see below)	The QP Subdistrict allows a mix of residential, commercial, and light manufacturing, uses as-of-right
M1-5/R7-3	R: 5.0; M: 5.0; C: 5.0; CF: 5.0, except pursuant to ZR 117-56, which provides that Blocks 86/72 and Block 403 can be increased to a maximum 8.0 by Special Permit with provision of parking and open space	Residential, community facility, commercial and light manufacturing permitted as of right; special bulk and height and setback provisions
Court Square Subdistrict	Special FAR regulations apply (see below)	The CS Subdistrict allows high-density commercial, residential, and community facility development as-of-right
C5-3	Zoning lots of at least 10,000 square feet with buildings containing at least 70,000 square feet of floor area are subject to the provisions of the underlying C5-3 District (15.0 FAR). All other developments are subject to the use provisions of the underlying C5-3 District and the bulk provisions of an M1-4/R6B designated district (2.0 FAR).	Central business district high-density commercial district allowing residential uses, large retail and office buildings, mixed-use buildings, hotels, retail shops and business services, and custom manufacturing ; special bulk and height and setback provisions
Hunters Point Subdistrict	FAR is governed by underlying zoning districts	The HP Subdistrict allows most residential, commercial, and light manufacturing uses generally as-of-right
M1-4/R6B	R: 2.0; M: 2.0; C: 2.0; CF: 2.0	Special MX provisions apply
M1-5/R7X	R: 5.0; M: 5.0; C: 5.0; CF: 5.0	Special MX provisions apply
R7X/C2-5	R: 5.0; CF: 5.0; C: 2 Commercial overlay follows residential and community facility bulk regulations of underlying district	Residential, community facility, and commercial uses as-of-right Commercial overlay-- local shopping and services including repair shops and funeral homes

Notes: All subdistricts are within the Long Island City Special District.
1. Floor area ratio (FAR) is a measure of density establishing the amount of development allowed in proportion to the base lot area. For example, a lot of 10,000 square feet with a 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. R-Residential; C-Commercial; CF-Community Facility; M-Manufacturing
3. Commercial overlay districts are often mapped with residential districts (R5 and above) along major corridors.

Source: New York City Zoning Resolution.

When the Special LIC District was adopted, it incorporated the boundaries of the pre-existing Special Hunters Point Mixed Use District (HP District) and 34 additional blocks between Court

Square and Queens Plaza. The HP District was established in 1981 on all or portions of approximately 35 blocks comprising the mixed-use (residential and industrial) core of the Hunter's Point neighborhood. The HP District was designated to allow a mix of uses and allowed light manufacturing uses as a matter of right; other uses were allowed either as-of-right or by CPC authorization or Special Permit, depending on their location.

In 1986, the three-block CS Subdistrict was added to the HP District to facilitate high-density commercial development in Hunters Point. The underlying district was mapped as a C5-3 district. To achieve the maximum permitted FAR of 15.0, developments were required to meet minimum lot and floor area size thresholds and to construct subway improvements and pedestrian circulation space. The HP District was amended again in 1995 to allow for increased residential development opportunities on key streets as part of a series of Department of City Planning actions undertaken implementing recommendations from its 1993 *Plan for Long Island City: A Framework for Development* ("Framework").

In 2001, the QP Subdistrict was established over an additional 34 blocks in Long Island City. It was established to facilitate light industrial, commercial, residential, and community facility developments on blocks well served by transit. The Special Mixed Use District (MX) use provisions were applied to the QP Subdistrict, and special height and setback and other urban design provisions were also established to ensure a consistency between the new building forms and the existing high-lot coverage loft buildings that characterize the area. In addition, the existing HP District was renamed the Special LIC District, and the other blocks previously within the HP District boundaries became part of the HP Subdistrict, joining the CS and QP Subdistricts. The HP Subdistrict was amended in 2004 when the MX use and bulk provisions were applied to the subdistrict, and the underlying M1-4 District was rezoned to R6B, M1-4/R6B, M1-4/R7A, M1-4/R7X, and M1-5/R8A districts. In 2008, the Special LIC District was amended to include the DK Subdistrict, thereby establishing in Dutch Kills zoning districts and provisions similar to those in Hunters Point.

Most recently, in 2009, the City established street wall and base height provisions in the CS Subdistrict and amended the street wall location regulations contained in ZR Section 117-531 to allow the street wall of a building along Jackson Avenue between Queens Plaza South and 42nd Road to be set back five feet from the street line if planting beds are provided.

There is one underlying zoning district in the study area that is outside the Special LIC District. It is an M3-1 heavy industrial district mapped to the south of the project site, and reflecting the presence of the Sunnyside Yards and the MTA-NYCT bus parking facility.

The portion of the study area not in the Special LIC District is zoned M3-1, a heavy Manufacturing District. Land uses within the M3-1 District include the Sunnyside Yards, a portion of a team-freight facility, and an MTA-NYCT bus parking facility.

C. THE FUTURE WITHOUT THE PROPOSED ACTION

LAND USE

PROJECT SITE

In the future without the proposed action, it is expected that the project site would be developed as-of-right under the current zoning with a 5.0 FAR mixed-use building. At full build-out, this as-of-right development would include up to approximately 628,749 gsf of residential uses (or 628 units,

assuming approximately 1,000 gsf per unit), approximately 50,240 gsf of retail space, and a 225-space accessory parking garage. The assumed as-of-right building is based on recent development trends in the neighborhood, which, as described above and below, reflect significant residential growth.

STUDY AREA

In the future without the proposed action and through the 2017 No Build year, there are a number of development projects proposed within the 400-foot study area, in the general Long Island City area, and along the East River waterfront. These proposed projects are listed in **Table B-2** and are shown in **Figure B-4.**

Within the study area, Toyoko Inn Co. is planning to construct a 708-room, 35-story hotel tower on Jackson Avenue at 45th Road (Block 80, Lots 4, 17, and 20-23) on lots that are currently vacant. Approximately 200 residential units are also currently under construction along the west side of Pearson Street and are expected to be completed and occupied by 2017.

Outside of the 400-foot land use study area, but within the approximately ½-mile socioeconomic and open space study areas (see Attachments C, "Socioeconomics" and E, "Open Space"), there are a number of additional No Build projects proposed or planned and assumed to be completed and occupied by the 2017 Build year. There are also a number of new higher-density residential and mixed-use developments anticipated in and around the study area. For example, Rockrose Development is nearing completion of 709 units and approximately 16,000 square feet of retail on 43rd Avenue and has plans to construct another 974 units on an adjacent block. Criterion Group is also proposing 150 units on Purves Street and a 143-unit, 27-story residential tower is under construction at 27-03 42nd Road.

Along the East River waterfront, and also within the socioeconomic and open space study areas, the full build-out of Queens West is expected to add over 2,100 new units along with additional retail uses and publicly accessible open space. Immediately to the south, the initial 900 units in the Hunter's Point South project are assumed to be completed by 2017—this is a multi-phase, mixed-use development situated on approximately 30 acres of waterfront property that in total is proposed to provide up to 5,000 housing units along with 20,000 square feet of retail, waterfront parkland, and a new school. To the north, the Silvercup West development is assumed to add another 1,000 units, along with retail, movie and television studios, office, and community facility uses and waterfront open space by 2017.

Taking all of these projects into account, over 7,100 units are anticipated to be added within ½-mile of the project site by the 2017 Build year.

ZONING AND PUBLIC POLICY

There are two zoning amendments proposed by DCP for the study area that are currently in ULURP review. One would amend the Special Long Island City Mixed Use to allow sidewalk cafes on certain streets and the other would establish a minimum base height on two blocks of Area C in the Queens Plaza Subdistrict. (Since the applicant has filed a special permit application for the project site prior to the effective date of the base height amendment, the project site is exempt from these minimum base height requirements.) These proposed zoning amendments are currently in ULURP review which will be completed in spring 2013.

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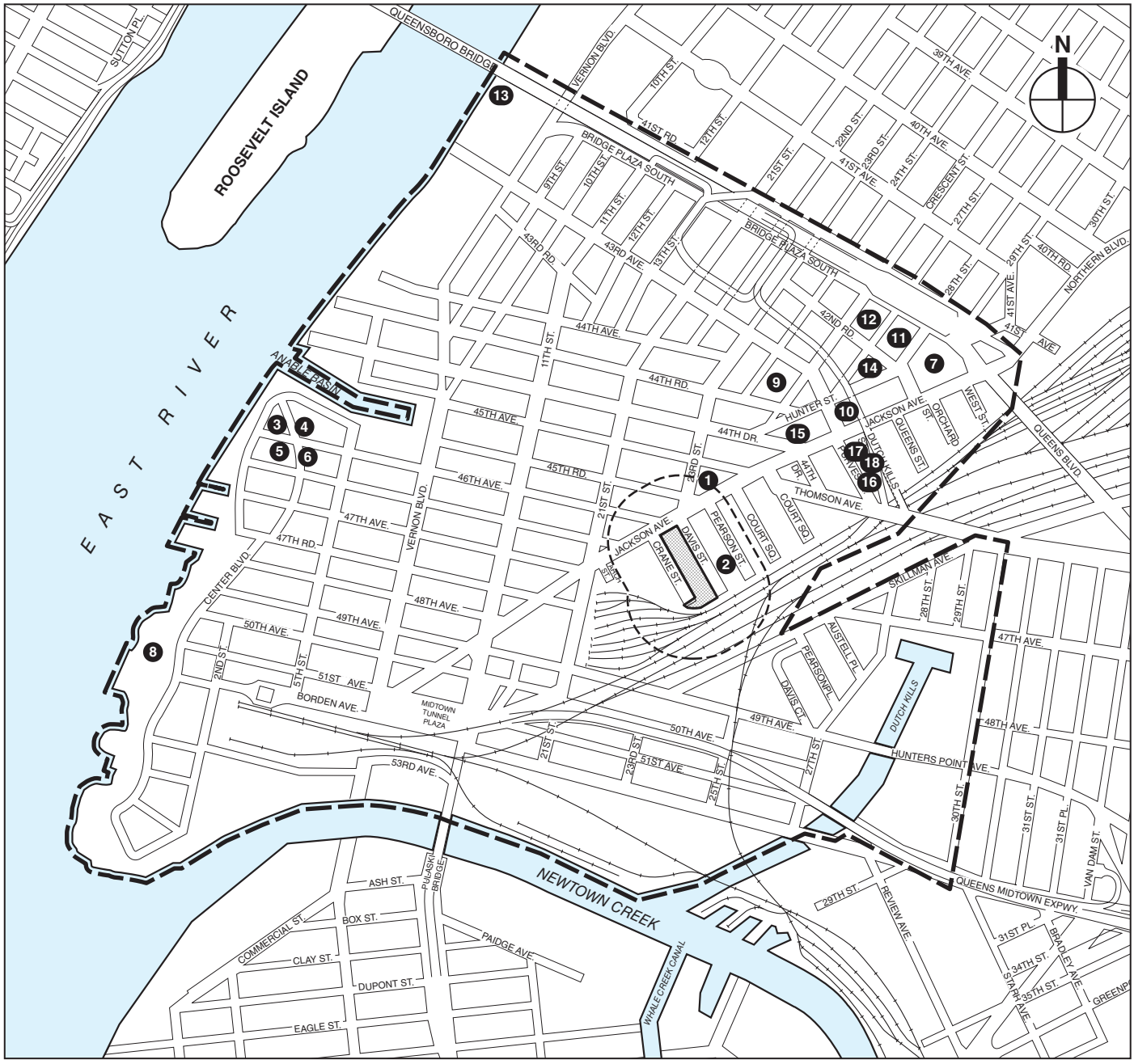

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SCALE

Project Site Area

400-Foot Land Use Study Area Boundary

Open Space and Socioeconomic Study Area Boundary

❶ *No Build Project*

22-44 JACKSON AVENUE

No Build Projects
Figure B-4

Table B-2
2017 No Build Projects

Map ID No.**	Project Name/Address	Residential Units	Retail SF	Office SF	Hotel Rooms	Community Facility SF	Industrial	Parking	Residents*	Notes/Build Year
LAND USE (400-Foot) STUDY AREA										
1	Hotel on Jackson Ave (Block 80, Lots 4, 17, 20-23)				708					35 stories; by 2016
2	45-56 Pearson St (Block 85, Lot 41)	197						26 accessory (enclosed)	510	Under construction, by 2017
OPEN SPACE and SOCIOECONOMIC (1/2-MILE) STUDY AREA (includes Census Tracts 1, 7, and 19)										
3	Queens West 1 (NW corner of Center Blvd. and 46th Ave.)	345	4,181						894	2012***
4	Queens West 2 (NE corner of Center Blvd. and 46th Ave.)	820	13,053					1,000 accessory	2,124	By the end of 2013
5	Queens West 3 (SW corner of Center Blvd. and 46th Ave.)	585	7,550						1,515	2014
6	Queens West 4 (SE corner of Center Blvd. and 46th Ave.)	367	1,557						951	2012***
7	Gotham Center Phase II (Block 420, Lot 1)		28,658	974,957				388 public		By 2014
8	Hunter's Point South (waterfront parcels between 50th Ave. on the north, Newtown Creek on the south, 2nd Street on the east, and the East River on the west)	900	20,000			1,071-seat middle/high school			2,331	By 2014
9	Rockrose (24-02 43rd Ave; Block 435, Lot 13)	709	16,339					204 accessory	1,836	Under construction; by mid 2013
10	Gene Kaufman project (27-07 43rd Ave, Block 432, Lots 25 & 26)	14							36	By 2016
11	Star Tower (27-17 42nd Rd; Block 422, Lot 31)				400					25 stories; by 2016
12	Rental tower (27-03 42nd Rd; Block 422, Lots 1, 5, and 6)	143						38 accessory	370	27 stories; under construction; by 2016
13	Silvercup West (Block 477, Lots 7, 13, 15, 20, 24)	1,000	161,490	1,001,622		126,401		1400 accessory	2,590	By 2016
14	42-37 27th St (Block 431, Lot 14)	28						7 accessory	73	Under construction; by 2016
15	Rockrose - Second Phase (25-25 44th Dr; Block 433, Lot 12)	974						100 accessory	2,523	By 2015
16	Purves I (44-41 Purves St; Block 267, Lot 9)	150						N/A	389	By 2017****
17	Gene Kaufman project (44-11 Purves St or 44-15 Purves St; Block 267, Lot 17)	47							122	By 2017****
18	NYPD School Safety Division Off-street accessory parking (43-30 Dutch Kills St; Block 267, Lot 25)							60 accessory (enclosed)		By 2017
	Total in ½-Mile Study Area	**7,189**							**18,620**	

Notes:
*Based on the 2010 average HH size for Queens Community District 2 (2.59 persons per household) from New York City Department of City Planning, Queens Community District 2 Profile, http://www.nyc.gov/html/dcp/pdf/lucds/qn2profile.pdf#profile, last accessed on August 28, 2012
See **Figure B-3 for corresponding Map ID numbers.
***It is noted that these buildings are completed and occupied; however, since they were completed after the baseline land use and population data was collected in 2010, they are included in the No Build list.
**** Since the build year for these projects is unknown, they are assumed to be completed by the proposed project's build year.
Sources: NYC Dept. of Buildings, Building Information System (BIS), 9/25/12; communications with TF Cornerstone, 8/15/11; Queens West Development Corporation website at http://www.queenswest.org/, last accessed on 1/30/13; Gotham Center EAS, 12/17/10; communications with HPD on 8/2/12; communications with Rockrose Development, 8/27/12; Roe Corporation website at http://www.roecorp.com/, last accessed on 9/25/12; Silvercup West FEIS, 6/30/06.

D. PROBABLE IMPACTS OF THE PROPOSED ACTION

LAND USE

PROJECT SITE

The requested Special Permit would allow the development of the proposed project, with an incremental development over the as-of-right development (i.e., the No Build condition) of approximately 372 units, 62 gsf of retail space, 2,280 gsf of artist work space, and a 250-space public parking garage (instead of 225 accessory spaces in the future without the proposed action). In addition, the proposed project would provide approximately 32,099 square feet of new publicly accessible open space (see the detailed description of the proposed open space in Attachment A, "Project Description"). The housing component provides approximately 1,000 market-rate rental units, composed of studio, 1-, 2-, and 3-bedroom units, in total.

The proposed project is not expected to result in adverse land use effects on adjoining uses or be incompatible with uses in the study area (see the discussion below). It would also be consistent with the trend toward new residential development in Long Island City that has been facilitated by a series of rezoning actions over several decades. The proposed project would also take advantage of the nearby Court Square transportation center and its recent improvements. It would also improve the Jackson Avenue frontage with an enhanced streetscape and new sidewalks, and the proposed publicly accessible open spaces and amenities would complement active retail, residential, and cultural uses along Jackson Avenue and in Long Island City as a whole. The proposed public parking garage would also serve to meet off-street parking demands as the Long Island City area continues to grow. The proposed artist loft space would complement the cultural aspects of Long Island City and the MoMA PS1 museum directly northwest of the project site. In addition, the proposed retail uses would be complementary to the project residential units and would support the growing residential community of Long Island City.

For these reasons, it is concluded that the proposed action would not result in significant adverse land use impacts.

STUDY AREA

The proposed action would be consistent with trends in the rapidly growing Long Island City mixed-use district. It would have no direct adverse impact on land use, but would reflect and be compatible with the evolving land patterns and the mix of higher density office and residential uses in the area that are supported by hotels, cultural amenities, and the urban public spaces of Long Island City. In addition, as stated above, the proposed streetscape improvements have been designed to enhance and support the City's recent efforts to extend the "greening" and operational improvements of the Jackson Avenue Corridor westward across the study area. In sum, the proposed action would not adversely affect the land use character of the study area and would not result in significant adverse land use impacts.

ZONING AND PUBLIC POLICY

The proposed project does not require any zoning changes. The proposed action does include a request for a Special Permit pursuant to ZR Section 117-56 that increases the maximum FAR on the project site from 5.0 to 8.0. For this Special Permit to be issued, the project must provide at least

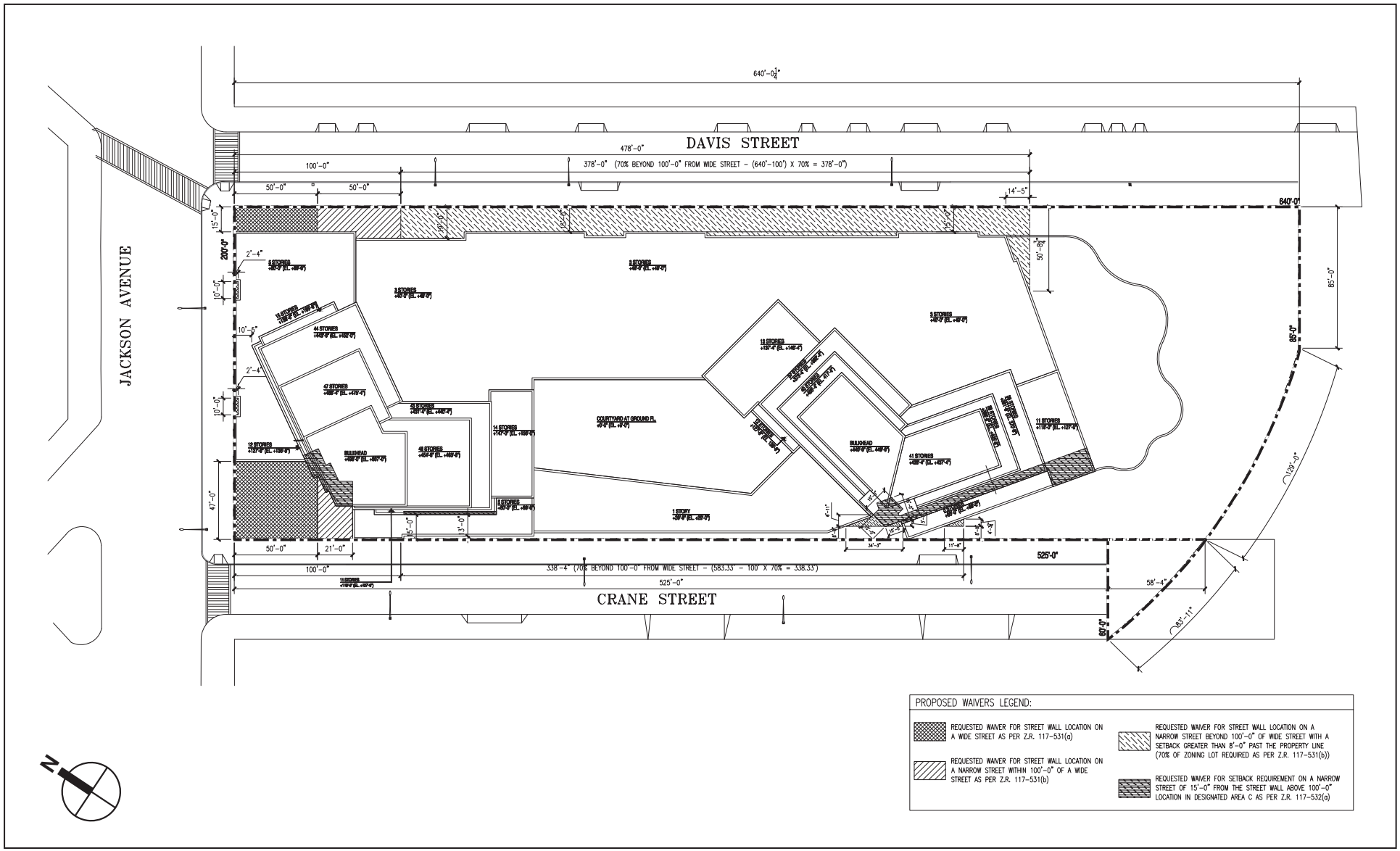
20,000 square feet of publicly accessible open space and 250 public parking spaces. As described above, the proposed project includes these amenities. The proposed action also includes waivers of the street wall requirements of ZR Section 117-531 and a waiver of the setback regulations of ZR Section 117-532 (a), which are illustrated on **Figure B-5** and summarized as follows:

- On Jackson Avenue, requested waivers would permit (i) the provision of a publicly accessible landscaped sitting area at the northwest corner of the block (approximately 40 feet by 70 feet in dimension) and (ii) two 10 x 2.4 foot recesses in the building frontage, above the ground floor.
- On Davis Street, the street wall waiver requested would provide for a widened sidewalk (an additional 15-19 feet) of approximately 6,694 square feet, enhanced with a planted area with trees and benches between the proposed building and the elevated No. 7 subway structure. The proposed building would be pulled back from the tracks, thereby minimizing the impact of noise generated by the trains on the proposed project residents and passersby.
- The Crane Street street wall waivers are needed to allow for the (i) 71-foot deep Jackson Avenue Public Open Area and (ii) articulation of the Crane Street frontage with a landscaped building entrance.
- The areas for which a waiver is requested are both located 100 feet above the entrances to the North and South Towers and along Crane Street. The proposed waivers would allow the buildings to rise without the required 10-foot setbacks fronting Jackson Avenue and 15-foot setbacks fronting Crane Street at the tower building entrances.

The proposed development would be consistent with the objectives of the 2001 Long Island City rezoning and the 2004 Hunters Point rezoning, which were implemented to encourage mixed-use development that foster reinvestment, take advantage of Long Island City's excellent mass transit access, and redevelop underutilized properties. At the project site, that rezoning replaced low-density, light manufacturing zones with a zoning district that supports higher-density, mixed commercial and residential development with the opportunity to increase FAR from 5.0 to 8.0 under a Special Permit that requires certain public amenities. The proposed action implements these zoning initiatives and provides the publicly accessible open space and public parking garage as required by the Special Permit.

The waivers of street wall requirements that allow publicly-accessible open areas along Jackson Avenue and Crane and Davis Streets support the open area provided in accordance with the Special Permit and are also consistent with the City's initiative to develop attractive streetscapes in Long Island City and enhance a distinct sense of place. The proposed project would therefore be pedestrian- and transit-oriented, both of which are planning objectives consistent with the goals of the Long Island City rezoning.

It is therefore concluded that the proposed action would not result in any significant adverse impacts with respect to zoning or public policy. ✷



Proposed Waivers

Figure B-5

A. INTRODUCTION

This chapter assesses whether the proposed action would result in significant adverse impacts to the socioeconomic character of the area surrounding the project site. As described in the 2012 *City Environmental Quality Review (CEQR) Technical Manual*, the socioeconomic character of an area includes its population, housing, and economic activities, and socioeconomic changes may occur when a project directly or indirectly changes any of these elements. Although socioeconomic changes may not result in impacts under CEQR, they are disclosed if they would affect land use patterns, low-income populations, the availability of goods and services, or economic investment in a way that changes the socioeconomic character of the area.

In accordance with C*EQR Technical Manual* guidelines, this socioeconomic assessment considers five specific factors that can create significant adverse socioeconomic impacts: (1) direct displacement of residential population on a project site; (2) direct displacement of existing businesses or institutions on a project site; (3) indirect displacement of residential population in a study area; (4) indirect displacement of businesses or institutions in a study area; and (5) adverse effects on specific industries.

PRINCIPAL CONCLUSIONS

The proposed action would not result in any significant adverse impacts as measured by the five socioeconomic areas of concern (numbered above). The following summarizes the conclusions drawn from the analysis.

DIRECT RESIDENTIAL DISPLACEMENT

The proposed action would not directly displace any residents from the project site. The limited number of existing residences on the project site would be displaced in the as-of-right condition (i.e. future without the proposed project). Therefore, there would be no significant adverse impacts from the proposed action due to direct residential displacement.

DIRECT BUSINESS AND INSTITUTIONAL DISPLACEMENT

The proposed action would not result in significant adverse impacts due to direct business and institutional displacement, since the existing businesses on the project site (including artist studios) would be displaced in the as-of-right condition (i.e. future without the proposed project). Therefore, the proposed action would not result in direct business and institutional displacement.

INDIRECT RESIDENTIAL DISPLACEMENT

The proposed action would not result in significant adverse impacts due to indirect residential displacement. It is not expected that the proposed action would add new population with higher

average incomes compared to average incomes of existing populations and any new population expected to reside in the study area without the project. Based on *CEQR Technical Manual* guidelines, if the expected average incomes of the new population would be similar to the average incomes of the study area populations, no further analysis is necessary. Therefore, the proposed action would not result in significant adverse impacts due to indirect residential displacement.

INDIRECT BUSINESS AND INSTITUTIONAL DISPLACEMENT

The proposed action would not result in significant adverse impacts due to indirect business and institutional displacement. In most cases, the issue for indirect business and institutional displacement is whether an action would increase property values and thus rents throughout the area, making it difficult for some categories of businesses to remain. According to the *CEQR Technical Manual*, commercial development of less than 200,000 square feet would typically not result in significant socioeconomic impacts. For projects exceeding this threshold, an assessment of indirect business displacement is appropriate. The proposed action would not introduce commercial development exceeding this threshold. The proposed action would introduce approximately 50,302 square feet of commercial development, compared with 50,240 square feet of commercial development that would be introduced on the project site in the future without the proposed action. Therefore, the proposed action would result in a nominal increase in commercial development on the project site and an assessment of indirect business displacement is not warranted.

ADVERSE EFFECTS ON SPECIFIC INDUSTRIES

The proposed action would not have the potential to have a significant adverse impact on specific industries within the study area. The proposed action would not directly displace any business, nor would it have significant adverse indirect effects on businesses in the study area. Therefore, there would be no significant adverse impacts on specific industries with the proposed action.

B. METHODOLOGY

Under CEQR, the socioeconomic character of an area is defined by its population, housing, and economic activities. The assessment of socioeconomic conditions usually distinguishes between the socioeconomic conditions of an area's residents and businesses. However, proposed actions affect either or both of these segments in the same ways: they may directly displace businesses or residents, or they may alter one or more of the underlying forces that shape socioeconomic conditions in an area and thus may cause indirect displacement of businesses or residents.

Direct displacement is defined as the involuntary displacement of residents, businesses, or institutions from the actual site of (or sites directly affected by) a proposed action. Examples include proposed redevelopment of a currently occupied site for new uses or structures, or a proposed easement or right-of-way that would take a portion of a parcel and thus render it unfit for its current use. Since the occupants of a particular site are usually known, the disclosure of direct displacement focuses on specific businesses and employment, and an identifiable number of residents and workers.

Indirect or secondary displacement is defined as the involuntary displacement of residents, businesses, or employees in an area adjacent or close to a project site that results from changes

in socioeconomic conditions created by a proposed action. Examples include rising rents in an area that result from a new concentration of higher-income housing introduced by a project, which ultimately could make existing housing unaffordable to lower income residents; a similar turnover of industrial to higher-rent commercial tenancies induced by the introduction of a successful office project in an area; or the flight from a neighborhood that can occur if a proposed action creates conditions that break down the community (such as a highway dividing the area).

Even if projects do not directly or indirectly displace businesses, they may affect the operation of a major industry or commercial operation in the city. In these cases, CEQR review may assess the economic impacts of the project on the industry in question.

DETERMINING WHETHER A SOCIOECONOMIC ASSESSMENT IS APPROPRIATE

Under CEQR, a socioeconomic assessment should be conducted if a project may be reasonably expected to create substantial socioeconomic changes within the area affected by the project that would not be expected to occur without the project. According to the *CEQR Technical Manual*, the following circumstances would typically require a socioeconomic assessment:

- If the project would directly displace residential populations so that the socioeconomic profile of the neighborhood would be substantially altered.
- If the project would directly displace more than 100 employees, or if it would directly displace a business or institution that is unusually important as follows:
  - Its products or services are uniquely dependent on its location;
  - 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; or
  - It serves a population uniquely dependent on its services in its present location.

  If any of these possibilities cannot be ruled out, an assessment should be undertaken.
- If the project would result in substantial new development that is markedly different from existing uses, development, or activities within the neighborhood. Such a project could lead to indirect displacement. Typically, projects that are small to moderate in size would not have significant socioeconomic effects unless they are likely to generate socioeconomic conditions that are very different from existing conditions in the area. Residential development of 200 units or less or commercial development of 200,000 square feet or less would typically not result in significant socioeconomic impacts.
- The project would add to, or create, a retail concentration that may draw a substantial amount of sales from existing businesses within the study area to the extent that certain categories of business close and vacancies in the area increase, thus resulting in a potential for disinvestment on local retail streets. Projects resulting in less than 200,000 square feet of regional-serving retail in the study area or less than 200,000 square feet of local-serving or regional-serving retail on a single development site would not typically result in socioeconomic impacts. Retail that is regional-serving draws primarily from a customer base located the immediate neighborhood. For projects exceeding these thresholds, an assessment of the indirect business displacement due to market saturation is appropriate.
- Notwithstanding the above, if the project may affect conditions in the real estate market not only on the site anticipated to be developed, but in a larger area, and this possibility cannot be

ruled out, an assessment may need to be undertaken to address indirect displacement. These actions can include those that would raise or lower property values in the surrounding area.

- If the project may adversely affect economic conditions in a specific industry.

If a project would exceed any of these initial thresholds, an assessment of socioeconomic conditions is generally appropriate. The proposed action exceeds the 200-residential unit threshold (the project would introduce an additional 372 units over the as-of-right condition), warranting a socioeconomic analysis of indirect residential displacement.

ANALYSIS FORMAT

Following *CEQR Technical Manual* guidelines, the socioeconomic analysis begins with a preliminary assessment. The purpose of the preliminary assessment is to learn enough about the effects of the proposed action to either rule out the possibility of significant adverse impacts, or determine that a more detailed analysis is required to resolve the issue. A detailed analysis, when required, is framed in the context of existing conditions and evaluations of the future without the proposed action and the future with the proposed action by the project build year. In conjunction with the land use task, specific development projects that occur in the area in the future without the proposed action are identified, and the possible changes in socioeconomic conditions that would result, such as potential increases in population, changes in the income characteristics of the study area, new residential developments, possible changes in rents or sales prices of residential units, new commercial or industrial uses, or changes in employment or retail sales. Those conditions are then compared with the future with the proposed action to determine the potential for significant adverse impacts.

For all five areas of socioeconomic concern—direct residential displacement, direct business displacement, indirect residential displacement, indirect business and institutional displacement, and adverse effects on specific industries—a preliminary assessment was sufficient to conclude that the proposed action would not result in any significant adverse socioeconomic impacts.

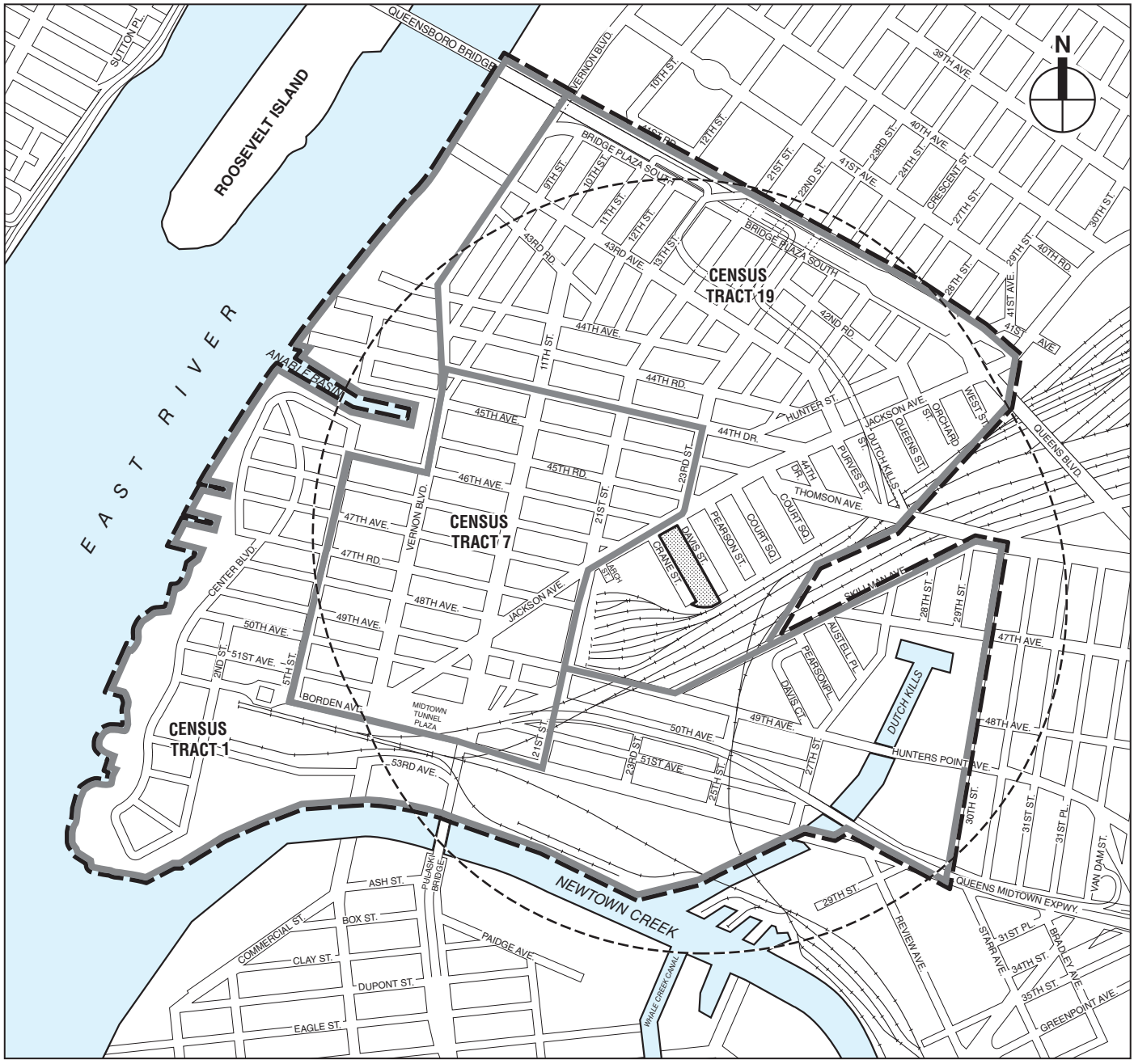
STUDY AREA DELINEATION

Residential displacement impacts are considered to be significant if changes are large enough to adversely affect the character of the neighborhood. Therefore, this chapter's analysis compares the rents and incomes that would be generated by the proposed action to those of a broader study area to determine whether potential indirect residential displacement could result in substantial changes to the overall socioeconomic conditions within the study area.

According to the *CEQR Technical Manual*, a ½-mile study area is appropriate for projects that would result in a relatively large increase in population (5 percent or more) compared with the expected No-Action population within a ¼ mile of the project site. The incremental population introduced by the proposed action (963 residents) would exceed 5 percent of the ¼-mile population. Therefore, following *CEQR Technical Manual* guidelines, the socioeconomic study area for this analysis includes the area within approximately ½ mile surrounding the project site. The socioeconomic study area includes the census tracts that most closely describe (i.e. are at least 50 percent within) the ½-mile perimeter around the project site: Census Tracts 1, 7, and 19 (see **Figure C-1**).

Table C-1 shows the existing (2010), No Build (2017), and Build (2017) population for the study area as a whole. As shown in the table, in 2010 the study area had a population of 10,815 residents.

2.19.13



Project Site Area

1/2-Mile Perimeter

Study Area Boundary

Census Tract Boundary

Socioeconomic Study Area

Figure C-1

Table C-1
Study Area Population

	Existing (2010)	No Build (2017)	Build (2017)	Percent Increase (No Build to Build)
Total Population	10,815	31,062	32,025	3.1

Sources: U.S. Census Bureau, 2010 Census; AKRF, March 2013.

In the future without the proposed action, it is assumed that an as-of-right project would be developed on the project site by 2017. This project would include approximately 628 new dwelling units, resulting in approximately 1,627 new residents (based on the 2010 average household size of 2.59 persons for Queens Community District 2, using 2010 Census data). Including other known developments anticipated in the socioeconomic study area by 2017 (see Attachment B, "Land Use, Zoning and Public Policy"), approximately 20,247 new residents would be added to the study area population in the future without the proposed action. Therefore, in the future without the proposed action, the study area population would be 31,062 residents.

When added to the future No Build population, the 963 new residents from the proposed project would represent an approximately 3.1 percent increase.

DATA SOURCES

Information used in the socioeconomic analysis includes data from the U.S. Census Bureau's 2010 Census; 2000 Census; 2006-2010 American Community Survey; real estate data sources; and field visits to the study area by AKRF staff in April and May 2011 and July 2012. To estimate the population of residential projects expected to be completed in the study area by the project's 2017 build year and as a result of the proposed action, the average household size for Queens Community District 2 (2.59 people per household, based on 2010 Census data),[1] was applied to the projected number of new housing units in the study area in the future without the proposed action.

C. PRELIMINARY ASSESSMENT

This section examines the five areas of socioeconomic concern in relation to the proposed action. For all five issue areas—direct residential displacement; direct business and institutional displacement; indirect residential displacement; indirect business and institutional displacement; and adverse effects on specific industries—the preliminary assessment rules out the possibility that the proposed action would have a significant adverse impact as defined in the *CEQR Technical Manual*.

DIRECT RESIDENTIAL DISPLACEMENT

The proposed action would not directly displace any residents from the project site. The existing residences and businesses on the project site would be displaced in the as-of-right condition (i.e. future without the proposed project). Therefore, there would be no significant adverse impacts from the proposed action due to direct residential displacement, and no further analysis of this issue is required.

[1] New York City Department of City Planning, Queens Community District 2 Profile, http://www.nyc.gov/html/dcp/pdf/lucds/qn2profile.pdf#profile, last accessed on August 28, 2012

DIRECT BUSINESS AND INSTITUTIONAL DISPLACEMENT

The proposed action would not result in significant adverse impacts due to direct business and institutional displacement, since the existing businesses on the project site (including artist studios) would be displaced in the as-of-right condition (i.e. future without the proposed action). Therefore, the proposed action would not result in direct business and institutional displacement.

INDIRECT RESIDENTIAL DISPLACEMENT

In most cases, indirect residential displacement is caused by increased property values generated by a project, which then results in higher rents in an area, making it difficult for some existing residents to continue to afford their homes. This preliminary assessment follows the step-by-step methodology described in Chapter 5 of the *CEQR Technical Manual* and listed in bold italics, below.

Step 1: Determine if the proposed action would add new population with higher average incomes compared to the average incomes of the existing populations and any new population expected to reside in the study area without the project.

The proposed action, under the Reasonable Worst Case Development Scenario (RWCDS), would introduce approximately 372 market-rate housing units[1] to the study area over the as-of-right condition, increasing the population by an estimated 963 people, based on the 2010 average household size for Queens Community District 2 (2.59 persons per household). To be competitive with the market-rate housing in the study area, it is expected that the proposed units would be offered at rents similar to the other modern, newly constructed market-rate units in the surrounding area. In Long Island City, the median listing price per square foot for rental units is $43.[2] With a median size of 738 sf per rental unit, the median annual cost for renting in Long Island City is approximately $32,000 per year. Assuming that approximately one-third of income is spent on rent, the proposed action would be expected to add population with average household incomes around $100,000, slightly lower than the average household income for the study area based on recent ACS data (see **Table C-2**).

As shown in **Table C-2**, according to 2006-2010 ACS data, the average household income for the study area was $117,160. This was significantly higher than the average household income in Queens as a whole ($72,075) and New York City ($79,969). Moreover, as indicated in the table, the study area has seen a dramatic increase in median household income over the last 10 years or so (32 percent compared with approximately a 4 percent decrease in Queens and a 2 percent—decrease in New York City). This trend is consistent with and reflects the trend toward new market-rate, residential development in the Long Island City neighborhood.

[1] Market-rate units are not subject to rent or sale price regulations. The proposed action would introduce 372 dwelling units on the project site as compared with conditions in the future without the proposed action. In the future with the proposed project, a total of 1,000 units would be constructed on the project site, compared with approximately 628 units in the as-of-right condition.

[2] http://streeteasy.com/nyc/rentals/long-island-city-queens/, last accessed on February 5, 2013.

Table C-2
Average Household Income (1999, 2006-2010)

	1999	2006-2010	% Change
Study Area[1]	$88,471	$117,160	32.4%
Queens	$75,378	$72,075	-4.4%
New York City	$81,474	$79,969	-1.8%

Notes: [1]Average household income for the study area was estimated based on a weighted average of average household incomes for the census tracts in the study area.
[2]According to the U.S. Census Bureau, generally, American Community Survey (ACS) 5-year estimates may be compared with Census 2000 data. The ACS collects data throughout the period on an ongoing, monthly basis and asks for a respondent's income over the "past 12 months." The 2006-2010 ACS data reflects average incomes over the period 2005 through 2010. Census 2000, however, reflects income data for the prior calendar year (1999). The average household income is presented in 2011 dollars using an average of the U.S. Department of Labor's December 2011 Consumer Price Indexes for the "New York-Northern New Jersey-Long Island Area."
Sources: U.S. Census Bureau, 2000 Census, Summary File 3; 2006-2010 American Community Survey; AKRF, Inc.

The housing to be developed under the proposed action represents a continuation of the existing trend in the study area toward new, market-rate residential development largely resulting from the Queens West waterfront development, the Long Island City Rezoning action, and the 2004 Hunters Point rezoning (see Attachment B, "Land Use, Zoning, and Public Policy"). As shown in **Table C-3**, the study area has seen a dramatic increase in rents over the period from 2000 to 2009, with rents increasing by about 54 percent, compared with approximately 13 to 14 percent in Queens and New York City as a whole. The U.S. Census data on median contract rent are of limited use, however, because they fail to distinguish between units subject to market rents and those under some form of regulation. Therefore, to understand current trends, particularly trends affecting unregulated rental housing, this information was supplemented by an examination of current apartment listings.

Table C-3
Median Contract Rents (2000, 2006-2010)

	2000	2006-2010	% Change
Study Area[1]	$966	$1,492	54.45%
Queens	$974	$1,115	14.48%
New York City	$873	$986	12.94%

Notes:
[1] Median contract rent for the study area was estimated based on a weighted average of median contract rents for the census tracts in the study area.
[2] According to the U.S. Census Bureau, generally, American Community Survey (ACS) 5-year estimates may be compared with Census 2000 data. The ACS collects data throughout the period on an ongoing, monthly basis. The 2006-2010 ACS data reflects median contract rents over the period 2006 through 2010. Census 2000, however, reflects income data for the given calendar year (2000). The median contract rent is presented in 2011 dollars using an average of the U.S. Department of Labor's December 2011 Consumer Price Indexes for the "New York-Northern New Jersey-Long Island Area."
Sources: U.S. Census Bureau, 2000 Census, Summary File 3; 2006-2010 American Community Survey; AKRF, Inc.

As shown in the table above, and as discussed in Attachment B, "Land Use, Zoning, and Public Policy," Hunters Point, including the study area, has been experiencing a trend toward new, market-rate residential development. Some of the new residential buildings have included 10-50 Jackson Avenue (mid-rise condo building), 12-01 Jackson Avenue (includes retail on the ground floor with six floors of residential space above), and The Hunter's View at 48-15 11th Street (see

Table C-4). East of the project site new market-rate residential development is clustered near Court Square, including Vere at 26-26 Jackson Avenue, Arris Lofts at 27-28 Thomson Avenue, and The Fusion at 42-51 Hunter Street. The study area also boasts new, luxury condominium buildings including The Industry at 21-45 44th Drive, The L Haus at 11-15 50th Avenue, and One Hunters Point at 5-49 Borden Avenue. As shown in **Table C-4**, average rents for the newer residential rental buildings range in the inland portion of the study area from $33 to $44 per square foot. For example, a recently developed residential building at 44-27 Purves Street rents for an average of $34 per square foot. Some of the higher rents may be attributed to the area's proximity to the East River waterfront. Directly on the waterfront, average rents are generally toward the higher end of or above the range of rents for the inland developments. For example, a luxury rental development on the East River at 47-20 Center Boulevard has an average rent of $43 per square foot; The View at East Coast at 46-30 Center Boulevard has an average rent of $40 per square foot; and another luxury rental development at 46-15 Center Boulevard rents for an average of $46 per square foot.[1] The proposed action is expected to attract residents in the same income brackets as those occupying Hunters Point's new market-rate residential development.

Table C-4
Recent Rental Listings in Study Area

Name/Address	Avg. Rental Listings per SF
12-01 Jackson Ave.	$33
The Fusion/42-51 Hunter St.	$34
44-27 Purves St.	$34
10-50 Jackson Ave.	$40
Arris Lofts/27-28 Thomson Ave.	$35
Vere/26-26 Jackson Ave.	$43
The Hunter's View/48-15 11th St.	$42
10-59 50th Ave.	$44

Notes: Includes a random selection of known, relatively new residential rental developments in the inland portion of the study area. Average rental listings are for previous listings; active listings are higher.
Source: Streeteasy.com, last accessed February 5, 2013.

The new residents from the proposed development would also be expected to have the same average incomes as the new residents expected on the project site is in the as-of-right condition (approximately 628 market-rate units would be built on the project site in the future without the proposed action).

The trend toward increasing rents in the study area is expected in the future with or without the proposed action. Future market-rate residential developments in the study area will include a 709-unit Rockrose development nearing completion at 24-02 43rd Avenue, a 27-story residential tower under construction at 27-03 42nd Road, and market-rate units proposed at Queens West, Silvercup West, and Hunter's Point South (60 percent of the units at Hunter's Point South will be affordable to middle income families). These projects will continue the trend towards rising residential rents and sales prices, as well as incomes, in the study area. Therefore, it is

[1] http://streeteasy.com/nyc/rentals/long-island-city-queens/, last accessed on February 1, 2013. Average rental listings are for previous listings; active listings are higher.

reasonably expected that average incomes of the new population as a result of the proposed action would be similar to the average incomes of the existing and future study area population, and no further analysis is necessary.

CONCLUSION

The above-described Step 1 of the preliminary assessment finds that the proposed action would not be expected to add new population with higher average incomes compared to average incomes of existing and projected populations within the ½-mile study area in the future without the project. Based on *CEQR Technical Manual* guidelines, if the expected average incomes of the new population would be similar to the average incomes of the study area populations, then the proposed action would not result in significant adverse impacts due to indirect residential displacement. Therefore, no further analysis of potential indirect residential displacement is necessary.

INDIRECT BUSINESS AND INSTITUTIONAL DISPLACEMENT

The proposed action would not result in significant adverse impacts due to indirect business and institutional displacement. In most cases, the issue for indirect business and institutional displacement is whether an action would increase property values and thus rents throughout the area, making it difficult for some categories of businesses to remain. According to the *CEQR Technical Manual*, commercial development of less than 200,000 square feet would typically not result in significant socioeconomic impacts. For projects exceeding this threshold, an assessment of indirect business displacement is appropriate. The proposed action would not introduce commercial development exceeding this threshold. The proposed action would introduce approximately 50,302 square feet of commercial development, compared with 50,240 square feet of commercial development that would be introduced on the project site in the future without the proposed action. Therefore, the proposed action would result in a nominal increase in commercial development on the project site and an assessment of indirect business displacement is not warranted.

ADVERSE EFFECTS ON SPECIFIC INDUSTRIES

The proposed action would not have the potential to have a significant adverse impact on specific industries within the study area. The proposed action would not directly displace any business, since the existing businesses on the project site would be displaced in the future without the proposed action, nor would it have significant adverse indirect effects on businesses in the study area. Therefore, there would be no significant adverse impacts on specific industries with the proposed action. ✷

A. INTRODUCTION

This section examines the potential effect of the proposed action on services provided by public or publicly funded community facilities. Private facilities and services, such as private schools, are not assessed. A preliminary analysis was initially conducted to determine if the proposed action would exceed the established thresholds in the 2012 *City Environmental Quality Review (CEQR) Technical Manual* for community facilities and if more detailed analyses would therefore be necessary. Where detailed analyses are required, this section describes existing conditions and examines and compares conditions in the future without the proposed action with conditions in the future with the proposed action to determine potential impacts on community facilities and services.

The proposed action would allow for the development of approximately 1,170,299 million gross square feet (gsf) of residential space (an increment of 416,860 gsf), 50,302 gsf of retail space (an increment of 62 gsf), and 2,280 gsf of artist work space, in addition to approximately 32,099 sf of publicly accessible open space and 250 public parking spaces, as required under the Special Permit. The proposed action would result in 1,000 market-rate dwelling units, or an increment of 372 units over the as-of-right (i.e. No Build) condition.

SCREENING LEVEL ASSESSMENT

As stated in the *CEQR Technical Manual*, a community facilities analysis is needed if there would be potential direct or indirect effects on a facility. Detailed community facilities analyses are most commonly associated with residential projects because demand for community services generally results from the introduction of new residents to an area. If a project would physically alter a community facility, whether by displacement of the facility or other physical change, this "direct" effect triggers the need to assess the service delivery of the facility and the potential effect that the physical change may have on that service delivery. New population added to an area as a result of the project would use existing services, which may result in potential "indirect" effects on service delivery. Depending on the size, income characteristics, and age distribution of the new population, there may be effects on public schools, libraries, or child care centers.

In accordance with the *CEQR Technical Manual*, the thresholds shown in **Table D-1** may be used to make an initial determination of whether detailed studies are necessary to determine potential indirect impacts.

Table D-1
Community Facility Thresholds for Detailed Analyses

Thresholds for Detailed Analyses			
Public Schools	**Group Child Care and Head Start Centers (publicly funded)**	**Libraries**	**Police/Fire Services and Health Care Facilities**
50 or more elementary/middle school students (total of elementary and intermediate) or 150 or more high school students based on # of residential units (based on Table 6-1a) OR Direct Effect	20 or more eligible children under age 6 based on # of low or low/moderate income residential units (based on Table 6-1b) OR Direct Effect	More than 5% increase in ratio of residential units to library branches (see below) OR Direct Effect	Introduction of Sizeable New Neighborhood (e.g., Hunters' Point South) OR Direct Effect

Minimum Number of Residential Units that Trigger Detailed Analyses							
	Public Schools						
	Elementary/ Intermediate	High School	Child Care (publicly funded)	Libraries (5% increase in Units/Branch)	Police	Fire	Health Care Facilities
Bronx	90	787	141	682	N/A	N/A	N/A
Brooklyn	121	1,068	110	734	N/A	N/A	N/A
Manhattan	310	2,492	170	901	N/A	N/A	N/A
Queens	124	1,068	139	622	N/A	N/A	N/A
Staten Island	165	1,068	217	652	N/A	N/A	N/A

Notes:
The number of residential units that a project generates is the increment between the No-Action and the With-Action Scenarios, as determined by the Lead Agency-approved RWCDS. Projects generating fewer residential units, per the approved RWCDS, than listed for each category in this table do not need to conduct a detailed analysis for these categories.
Table 6-1a in the *CEQR Technical Manual* provides the borough-based multipliers for conducting a detailed analysis of public schools for both the No-Action and With-Action Scenarios.
Table 6-1b in the *CEQR Technical Manual* provides the borough-based multipliers for conducting a detailed analysis of publicly funded child care centers for both the No-Action and With-Action Scenarios.
Thresholds for library analyses are based on Census 2000, total occupied housing units and NYC Department of City Planning's *Selected Facilities and Program Sites in NYC*, 1999, branch and central/reference libraries.

PUBLIC SCHOOLS

According to the *CEQR Technical Manual*, potential impacts on schools may result if there would be insufficient seats available to serve the population. Because it is rare that a project physically displaces an operating school, impacts are more likely to occur when a project introduces school-age children to an area. In general, if a project would introduce more than 50 school-age children (elementary and intermediate grades), significant impacts on public schools may occur and further analysis of schools may be appropriate. Since high school-level students can usually elect to attend high schools outside their neighborhood, an analysis of high school impacts is rarely necessary. However, if the project would generate 150 or more high school students, there may be an impact on borough high schools, and further analysis may be appropriate.

As set forth in the *CEQR Technical Manual*, for projects in Queens, the student generation rates are 0.28 elementary school students per unit, 0.12 intermediate school students per unit, and 0.14 high school students per unit. According to these multipliers, the proposed action would introduce approximately 255 students—104 elementary, 45 intermediate, and 52 high school students. Given that the proposed project would exceed the 50 elementary/intermediate student threshold, detailed analyses of both elementary and middle schools are warranted.

The proposed action would introduce 52 high school students. Since this is below the 150-student CEQR threshold, no further analysis of the project's effects on public high schools is warranted.

LIBRARIES

Potential impacts on libraries may result from an increased user population. A noticeable change in service delivery is likely to occur only if a library is displaced or altered, causing people to use another library in the area, or if a project would introduce a large resident population (i.e., greater than a five percent increase in housing units served). If the proposed action would increase by more than 5 percent the average number of residential units served by library branches in the borough in which the project is located, the project may cause significant impacts on library services, indicating the need for further analysis. Based on the *CEQR Technical Manual* (and shown in **Table D-1**), a proposed action in the Borough of Queens that generates an additional 622 residential units (over the No-Action condition) would create a 5 percent increase in the number of units served per branch. The increment of 372 units introduced by the proposed action as compared to the No-Action condition does not exceed this threshold. Therefore, a detailed analysis of libraries is not warranted and the proposed action would not result in any significant adverse impacts on libraries.

HEALTH CARE FACILITIES

Health care facilities include public, proprietary, and non-profit facilities that accept public funds (usually in the form of Medicare and Medicaid reimbursements) and that are available to any member of the community. Generally, a detailed assessment of service delivery is conducted only if a proposed action would affect the physical operations of, or access to and from, a hospital or a public health clinic, or where a proposed action would create a sizeable new neighborhood where none existed before.

The proposed action would have no effect on access to or from hospitals or clinics. In addition, Long Island City is a dynamic neighborhood with a wide range of uses including residential, commercial, and light manufacturing and recent development in the area has included the development of moderate- and high-density hotel and residential buildings. The proposed action would join this existing neighborhood. Therefore, no further analysis is required, and no significant adverse impacts on the provision of health care services are expected to result from the proposed action.

CHILD CARE CENTERS

Publicly financed child care services are available for income-eligible children up through the age of 12. The CEQR analysis focuses on services for children under age 6 because eligible children aged 6-12 are expected to be in school for most of the day. Projects that would produce substantial numbers of subsidized, low- to moderate-income family housing units may therefore generate a sufficient number of eligible children to affect the availability of slots at publicly funded group child care and Head Start centers. If the project would generate 20 or more eligible children under age 6, further analysis may be appropriate.

As set forth in the *CEQR Technical Manual*, the threshold for requiring detailed analysis is based on the number of low-income and low- to moderate-income units, and the threshold for projects in Queens is 139 low- to moderate-income units. At this time, the applicant intends to construct market-rate dwelling units; however, there is a possibility that the applicant may apply

for the 421a tax exemption program, which requires that 20 percent of the units be affordable. Assuming that 20 percent of the proposed dwelling units would be affordable, the proposed project could result in an increment of 74 affordable units over the as-of-right condition. Since the proposed action would result in fewer than 139 low- to moderate-income units, detailed analysis is not warranted and the proposed action would not result in any significant adverse impacts on child care centers.

FIRE PROTECTION AND EMERGENCY MEDICAL SERVICES

According to the *CEQR Technical Manual*, fire protection services include fire stations that house engine, ladder, and rescue companies. Units responding to a fire are not limited to those closest to it. Normally, more than one engine and ladder company respond to each call and rescue companies also respond to fires or emergencies in high-rise buildings. The New York City Fire Department (FDNY) does not allocate resources based on anticipated development throughout the city, but continually evaluates the need for changes in personnel, equipment, or locations of fire stations and makes any adjustments necessary. Generally, a detailed assessment of fire protection service delivery is conducted only if a proposed action would affect the physical operations of, or access to and from, a station house or where a proposed action would create a sizeable new neighborhood where none existed before. The proposed action would not result in direct effects. Therefore, no further analysis is required and the proposed action would not result in any significant adverse impacts on fire and emergency medical services.

POLICE PROTECTION SERVICES

According to the *CEQR Technical Manual*, the ability of the police to provide public safety for a new project usually does not warrant a detailed assessment under CEQR. The New York City Police Department (NYPD) independently reviews its staffing levels against a precinct's population, area coverage, crime levels, and other local factors. A detailed assessment of service delivery is usually only conducted if a proposed action would affect the physical operations of, or access to and from, a precinct house or where a proposed action would create a sizeable new neighborhood where none existed before. The proposed action would not result in these direct effects. Therefore, no further analysis is required and the proposed action would not result in any significant adverse impacts on police protection services.

B. PUBLIC SCHOOLS

This section identifies public elementary and intermediate schools that could serve the project site and assesses conditions in terms of enrollment and utilization during the most recent school year, noting any school capacity deficiencies. The analysis also considers future enrollment and capacity, and assesses the potential effects of the proposed action.

The project site is located within Community School District (CSD) 30. CSD 30 covers northwest Queens and the area bounded roughly by the East River to the west; the Long Island Sound to the north; La Guardia Airport and Grand Central Parkway to the east; and Newtown Creek, Queens Boulevard, and Roosevelt Avenue to the south. CSD 30 includes the neighborhoods of Long Island City, Astoria, Sunnyside Gardens, Jackson Heights, and East Elmhurst.

Following methodologies in the *CEQR Technical Manual*, the primary study area for the analysis of elementary and intermediate schools should be the school districts' "sub-district"

("regions" or "school planning zones") in which the project is located. The project site is located in Sub-district 2 of CSD 30 (see **Figure D-1**).

The analysis evaluates the potential for impacts on elementary and intermediate schools within CSD 30's Sub-district 2 (see **Figure D-1**). As population shifts within a school district over time, the New York City Department of Education (DOE) can adjust catchment areas within the district to improve composition and utilization of the affected schools.

EXISTING CONDITIONS

ELEMENTARY SCHOOLS

As shown in **Table D-2**, total elementary school enrollment at the schools in Sub-district 2 of CSD 30 is 6,275 students, or 109 percent of capacity, with a deficit of 539 seats. As indicated in the table, Sub-district 2 includes the following elementary schools: P.S. 70 (which includes P.S. 70 Minischool and P.S. 70 Transportable), P.S. 150 and P.S. 150 Annex (which also have intermediate school programs), P.S. 151 (Mary D. Carter School, which includes P.S. 151 Transportable), P.S. 152 (Gwendoline N. Alleyne School, which also has an intermediate school program), P.S. 166 (Henry Gradstein School), and P.S. 11 (Kathryn Phelan School, which is another school with both elementary and intermediate school programs).

Table D-2
Existing Conditions:
Public Elementary School Enrollment, Capacity, and Utilization

Map No.[1]	School Name	Address	Enrollment	Capacity[2]	Available Seats in Program	Program Utilization (Percent)
1	P.S. 150 - Elementary	40-01 43rd Ave	903	845	-58	107
2	P.S. 150 Annex - Elementary	39-01 Queens Blvd	225	185	-40	122
3	P.S. 166 Henry Gradstein School	33-09 35th Ave	1,120	1,050	-70	107
4	P.S. 70[3]	30-45 42nd St	1,098	1,208	110	91
5	P.S. 151 Mary D. Carter School[4]	50-05 31st Ave	534	560	-26	95
6	P.S. 152 Gwendoline N. Alleyne School - Elementary	33-52 62nd St	1,260	999	-261	126
7	P.S. 11 Kathryn Phelan School - Elementary[5]	54-25 Skillman Ave	1,135	890	-245	128
CSD 30 Sub-district 2 Total			**6,275**	**5,736**	**-539**	**109**

Notes:
1. See Figure D-1 for map reference numbers.
2. Capacity is the Target Capacity (assumes 20 children per class for grades K-3 and 28 children per class for grades 4-5.).
3. Includes P.S. 70 Minischool and P.S. 70 Transportable
4. Includes P.S. 151 Transportable
5. Includes P.S. 11 Minischool and P.S. 11 Transportable

DOE's *Utilization Profiles: Enrollment/Capacity/Utilization, 2011-2012* breaks school levels into the following categories: elementary, elementary/intermediate, intermediate, intermediate/high school, and high school. The enrollment and capacity breakdown at each level for elementary/intermediate schools and intermediate/high schools was calculated using information from SCA. Elementary schools serve grades Pre-K through 5 and intermediate schools serve grades 6 through 8.

Sources: DOE, *Utilization Profiles: Enrollment/ Capacity/ Utilization, 2011-2012*; New York City Department of City Planning, May 9, 2011, October 3, 2012.

INTERMEDIATE SCHOOLS

As shown in **Table D-3**, total enrollment in the intermediate school programs in Sub-district 2 of CSD 30 is 1,468 students, or 98 percent of capacity, with a surplus of 28 seats. The primary study area (Sub-district 2) includes the following schools with intermediate programs: P.S. 150 and P.S 150 Annex (which also have elementary school programs), Baccalaureate School of

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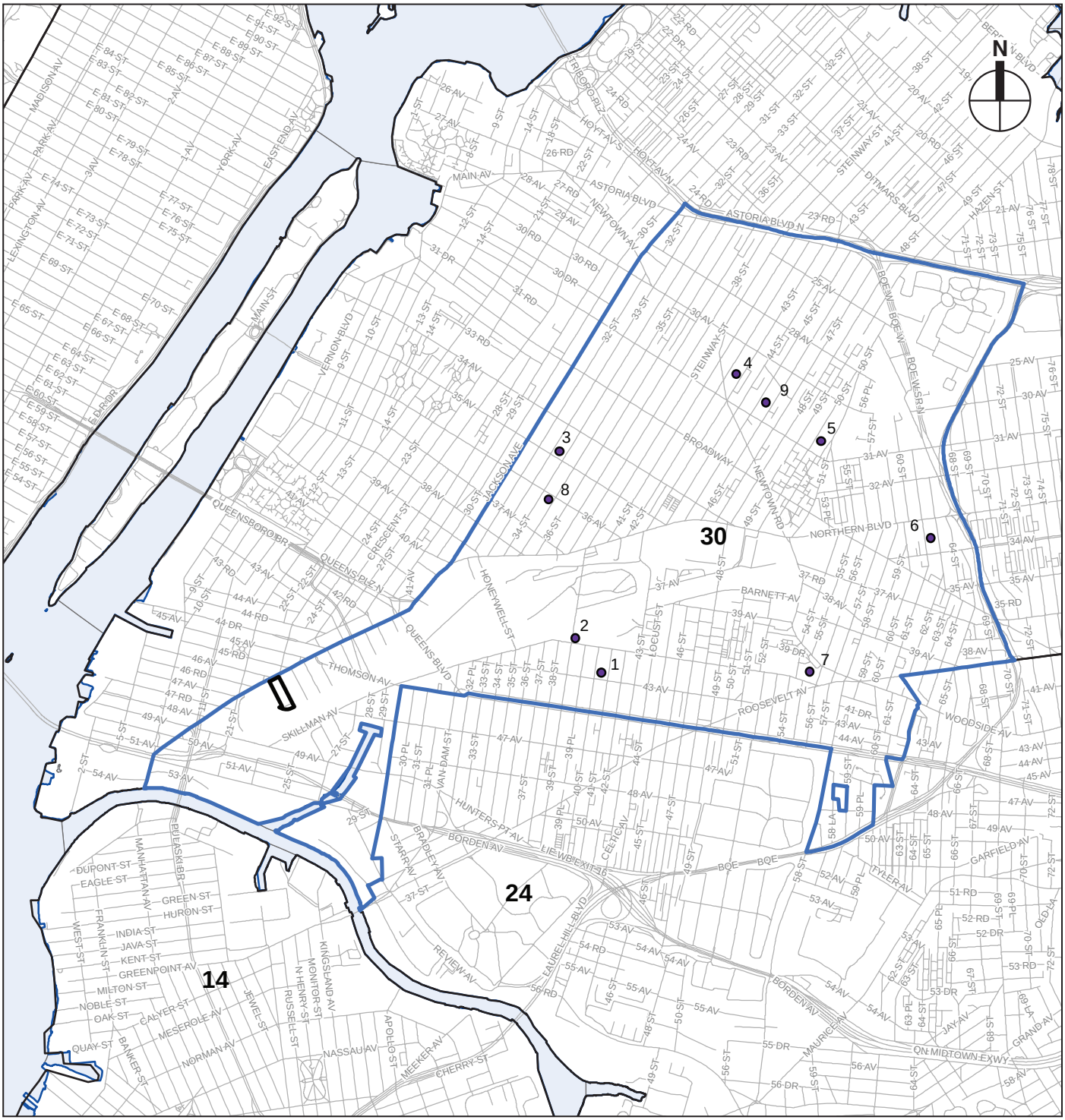

Project Site Boundary

CSD 30 Sub-District 2 Study Area Boundary

30 *Community School District (CSD) Number and Boundaries*

Public Elementary and Intermediate Schools in Study Area

Public Elementary and Intermediate Schools in the Study Area

Figure D-1

Table D-3
Existing Conditions:
Public Intermediate School Enrollment, Capacity, and Utilization

Map No.[1]	School Name	Address	Enrollment	Capacity[2]	Available Seats in Program	Program Utilization (Percent)
1	P.S. 150 - Intermediate	40-01 43rd Ave	109	102	-7	107
2	P.S. 150 Annex - Intermediate	39-01 Queens Blvd	27	22	-5	122
8	Baccalaureate School of Global Education - Intermediate	34-12 36th Ave	181	163	-18	111
9	I.S. 10 H. Greeley School	45-11 31st Ave	940	1,043	103	90
6	P.S. 152 Gwendoline N. Alleyne School - Intermediate	33-52 62nd St	56	44	-12	126
7	P.S. 11 Kathryn Phelan School - Intermediate[3]	54-25 Skillman Ave	155	121	-34	128
CSD 30 Sub-district 2 Total			**1,468**	**1,496**	**28**	**98**

Notes:
1. See Figure D-1 for map reference numbers.
2. Capacity is the Target Capacity (assumes 28 children per class for grades 6-8).
3. Includes P.S. 11 Minischool and P.S. 11 Transportable

DOE's *Utilization Profiles: Enrollment/Capacity/Utilization, 2011-2012* breaks school levels into the following categories: elementary, elementary/intermediate, intermediate, intermediate/high school, and high school. The enrollment and capacity breakdown at each level for elementary/intermediate schools and intermediate/high schools was calculated using information from SCA. Elementary schools serve grades Pre-K through 5 and intermediate schools serve grades 6 through 8.
Sources: DOE, *Utilization Profiles: Enrollment/ Capacity/ Utilization, 2011-2012;* New York City Department of City Planning, May 9, 2011, October 3, 2012.

Global Education (which also includes a high school program that is not accounted for in this schools analysis), I.S. 10 (H. Greeley School), P.S. 152 (Gwendoline N. Alleyne School, which also has an elementary school program), and P.S. 11 (Kathryn Phelan School, also with an elementary school program).

THE FUTURE WITHOUT THE PROPOSED ACTION

ENROLLMENT PROJECTIONS

The New York City School Construction Authority (SCA) provides future enrollment projections by district for up to 10 years, which are based on research undertaken by the Grier Partnership, the firm that prepares enrollment projections for New York City as a consultant to the SCA.

These enrollment projections focus on the natural growth of the City's student population and other population increases that do not necessarily account for new residential developments planned for the area (No Build projects); therefore, the number of additional students expected within the sub-district in the future without the proposed project (obtained from DCP) was also included in the total projected elementary and intermediate schools enrollment in the future without the proposed project to more conservatively predict future enrollment and utilization.

PROJECTED SCHOOL CAPACITY

According to *DOE's FY 2010-2014 Five-Year Capital Plan Proposed 2013 Amendment* (February 2013), 508 additional seats are under construction at P.S. 70, which are expected to be completed by August 2014. In addition to the P.S. 70 Addition, the Capital Plan includes 822

seats in scope/design for CSD 30's Sub-district 2. No other additional capacity projects are expected to be completed in the sub-district study area by the 2017 Build year.

Also, to determine projected school capacity, transportable and other temporary schools identified in the existing conditions analysis were subtracted from the total capacity in the future without the proposed action.

The DOE's Office of Portfolio Development, which develops new school programs, does place new school programs in underutilized school buildings. At the present time, there are no specific plans to place new school programs in the underutilized school buildings, but it is possible that DOE could do so in the future. This would affect the availability of those underutilized seats in the future.

ANALYSIS

Elementary Schools

Factoring in the projected CSD 30 enrollment changes, elementary school enrollment in the schools located within the study area will total 6,769 students, or 118 percent capacity with a deficit of 1,020 seats (see **Table D-4**).

Table D-4
Future Without the Proposed Action:
Projected Enrollment in Public Schools

Analysis Area	2017 Projected Enrollment[1]	Students from New Residential Development[2]	Total Projected Enrollment	Capacity[3]	Available Seats	Program Utilization (Percent)
Elementary Schools						
CSD 30 Sub-district 2	6,687	82	6,769	5,749	-1,020	118
Intermediate Schools						
CSD 30 Sub-district 2	1,283	260	1,543	1,712	168	90

Notes:
1. Enrollment projections: The Grier Partnership, *Enrollment Projections 2009 to 2018 New York City Public Schools*, September 2009 (received from New York City Department of City Planning, May 9, 2011). Projected enrollment for the sub-district was developed proportionally from the CSD projections using percentages obtained from DCP on October 3, 2012.
2. Based on the number of additional students expected within the sub-district in the future without the proposed action (obtained from DCP on October 3, 2012).
3. Capacity for the study area includes additional elementary and intermediate capacity as discussed in "Projected School Capacity" above, based on DOE's *FY 2010-2014 Five-Year Capital Plan Proposed 2013 Amendment* (February 2013). Also, transportable and other temporary schools identified in the existing conditions analysis were subtracted from the total capacity in the future without the proposed action (based on information received from DCP on October 26, 2012 regarding the temporary schools to be excluded).

Intermediate Schools

Intermediate school enrollment is expected to increase to 1,543 students within CSD 30's Sub-district 2, with intermediate school programs operating at 90 percent of capacity with 168 available seats.

PROBABLE IMPACTS OF THE PROPOSED ACTION

The proposed action would result in the construction of up to 372 incremental residential units compared to the as-of-right condition. Based on the latest public school student generation rates

from the *CEQR Technical Manual*, the proposed action would introduce 104 public elementary students and 45 public intermediate school students to the study area (see **Table D-5**).

Table D-5
Future With the Proposed Action:
Estimated Number of Students Introduced by the Proposed Project

Total New Housing Units[1]	Multiplier for Elementary Level Per Unit[2]	Elementary Students	Multiplier for Intermediate Level Per Unit[2]	Intermediate Students	Total Elementary and Intermediate Students
372	0.28	104	0.12	45	149

Notes:
1. This is the increment over the as-of-right condition.
2. Based on student generation rates in Table 6-1a in the *CEQR Technical Manual*.

ELEMENTARY SCHOOLS

In 2017, the proposed action would introduce 104 elementary students to the school study area. The new students would result in a total enrollment of 6,873 elementary students (120 percent utilization) and a deficit of 1,124 seats in the study area (see **Table D-6**). This represents an approximately 2 percentage point increase in the collective utilization rate for elementary schools in CSD 30's Sub-district 2.

INTERMEDIATE SCHOOLS

The proposed action would introduce 45 intermediate students to the study area, increasing the CSD 30's Sub-district 2 intermediate school enrollment to 1,588 with a utilization rate of 93 percent and 124 available seats (see **Table D-6**). This represents an approximately 3 percentage point increase in the collective utilization rate for intermediate schools in CSD 30's Sub-district 2.

Table D-6
Future With the Proposed Action:
Projected Enrollment in Public Schools

Analysis Area	2017 Projected Enrollment[1]	Students Generated by Project[2]	Total Projected Enrollment	Capacity	Available Seats	Program Utilization (Percent)
Elementary Schools						
CSD 30 Sub-district 2	6,769	104	6,873	5,749	-1,124	120
Intermediate Schools						
CSD 30 Sub-district 2	1,543	45	1,588	1,712	124	93

Notes:
1. Enrollment projections: The Grier Partnership, *Enrollment Projections 2009 to 2018 New York City Public Schools*, September 2009. Projected enrollment for the sub-district was developed proportionally from the CSD projections and includes the number of additional students expected within the sub-district in the future without the proposed action, based on information received from the New York City Department of City Planning, October 3, 2012.
2. See Table D-5.

IMPACT SIGNIFICANCE

For the purposes of CEQR analysis, a base utilization rate of 105 percent in the future without the proposed action is the utilization threshold for overcrowding, which takes into account the fact that

enrollments may fluctuate somewhat from year to year and that schools have some flexibility in programming their spaces to accommodate some minimal overcrowding.

Therefore, a significant adverse impact may result, warranting consideration of mitigation, if the proposed action would result in:

1. A collective utilization rate of the elementary and/or intermediate schools in the sub-district study area that is equal to or greater than 105 percent in the future with the proposed action; and
2. An increase of 5 percent or more in the collective utilization rate in the future with the proposed action when compared to the future without the proposed actions.

Elementary Schools

Although elementary schools would have a utilization rate greater than 105 percent in the future with the proposed action, the proposed development would not result in an increase of 5 percentage points or more in the collective utilization rate. Therefore, the proposed action would not result in a significant adverse impact on elementary schools in the study area.

Intermediate Schools

As noted above, the proposed action would result in an approximately 3 percentage point increase in the utilization of intermediate schools in CSD 30's Sub-district 2. As this increase in the collective utilization rate is less than the 5 percent threshold, the proposed action would not result in significant adverse impacts on intermediate schools. Moreover, intermediate schools in the sub-district study area would operate below capacity (93 percent), in the future with the proposed action. Therefore, the proposed development would not result in significant adverse impacts on intermediate schools. ✷

Attachment E: Open Space

A. INTRODUCTION

The 2012 *City Environmental Quality Review (CEQR) Technical Manual* guidelines indicate the need for an open space analysis when an action would result in a direct effect (e.g., the physical loss or alteration of public open space) or an indirect effect caused by the added user demands on the neighborhood open spaces. Typically, an assessment is conducted when a project would generate 200 or more residents or 500 or more workers. While there are different thresholds for an open space assessment in certain areas of the city that are considered either underserved or well served by open space, the project site is in neither of these areas. Therefore, the *CEQR Technical Manual* suggests that a preliminary assessment be used to determine the need for a more detailed open space analysis. If the preliminary assessment indicates the need for further analysis, then a detailed analysis of open space is performed.

The proposed action would result in a net increase of 372 residential units and approximately 963 new residents at the project site (based on the 2010 average household size of 2.59 persons per household for Queens Community District 2, which includes the project site).[1] The proposed action would also result in the creation of approximately 32,099 square feet of publicly accessible landscaped open area (0.74 acres) consisting of an approximately 20,733-square-foot landscaped area with recreational opportunities at the southern portion of the block between Crane and Davis Streets (the South Public Open Area), an approximately 2,785-square-foot landscaped sitting area on Jackson Avenue and Crane Street (the Jackson Avenue Public Open Area), an approximately 6,694-square-foot open area with benches and trees adjacent to the sidewalk for the full length of the project site along Davis Street (the Davis Street Public Open Area); and an approximately 1,887-square-foot open area within the project boundary but within the map but improved portion of Crane Street (the Crane Street Improvement) (see **Figure E-1**).

Since the proposed action would add a substantial new residential population, a preliminary assessment is necessary to examine the effects of the added population on the active and passive public open spaces in the study area and to determine whether the population increase would significantly impact the local open spaces. Since the proposed action would result in a nominal increase in commercial space over the "No Build" condition, an assessment of potential impacts on the non-residential (worker) population was not necessary.

This section presents the result of the preliminary open space assessment and then, in the detailed analysis, presents the existing open space and demographic conditions in the study area, projects those conditions through the future without the proposed action (or No Build condition), and analyzes the potential for impacts with the proposed action (or Build condition).

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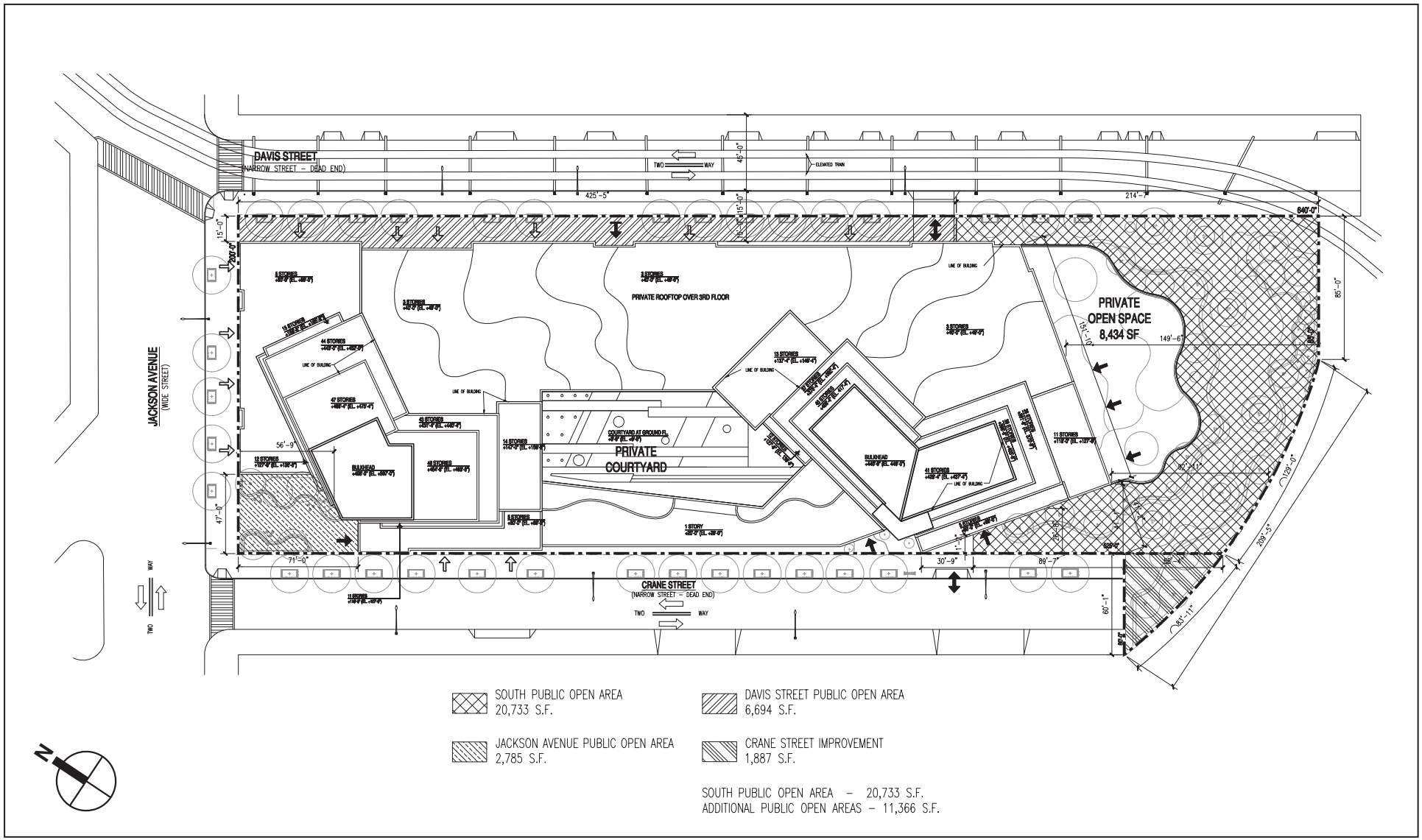
[1] New York City Department of City Planning, Queens Community District 2 Profile, http://www.nyc.gov/html/dcp/pdf/lucds/qn2profile.pdf#profile, last accessed on August 28, 2012



Proposed Open Space

Figure E-1

B. PRELIMINARY ASSESSMENT

A preliminary assessment of open space involves calculating total population and public open space acreage in a study area and compares the results with the City's acceptable open space ratios.

As described below the study area contains 20 open spaces that provide approximately 19.02 acres of open space and has approximately 10,815 residents. With the proposed action, the inventory of open space acreage would increase by approximately 32,099 square feet (0.74 acres) with the added project open space (see the description in Attachment A, "Project Description") and there would be approximately 963 new residents.

Table E-1 compares the study area open space ratios under the existing and Build conditions and shows that the total open space ratio reduces from 1.77 to 1.69 acres per 1,000 residents. As shown in the table, the active and passive open space ratios also decline. If a potential decrease in an open space ratio exceeds 5 percent, it is generally considered to be a substantial change warranting a detailed analysis. As shown in **Table E-1**, under the preliminary assessment, the active open space ratio declines by more than 5 percent—although the total open space ratio declines by under 5 percent and the passive open space ratio declines by only about 2.11 percent. Because the preliminary assessment shows a decrease in the active open space ratio of more than 5 percent, a detailed open space assessment was conducted to determine whether the proposed action would result in any significant adverse impacts on open space. That detailed analysis is provided below.

Table E-1
Preliminary Assessment:
Adequacy of Public Open Space Resources in the Study Area

	Existing Conditions	Build Condition
Study Area Population:		
Residents	10,815	11,778
Open Space Acreage:[2]		
Total	19.13	19.87
Passive	11.19	11.93
Active	7.94	7.94
Open Space Ratios (acres per 1,000 residents):		
Total/Residents	1.77	1.69
Passive/Residents	1.03	1.01
Active/Residents	0.73	0.67
Percent Change, Existing to Build:		
Total/Residents		-4.63%
Passive/Residents		-2.11%
Active/Residents		-8.18%

Notes:
Planning Goal Ratios:
Total: 2.5 acres/1,000 residents
Active: 2.0 acres/1,000 residents.
Passive: 0.5 acres/1,000 residents.
1. Existing residential totals based on 2010 U.S. Census populations for Census Tracts 1, 7, and 19.
2. See **Table E-2**.

C. METHODOLOGY

This detailed analysis of potential open space impacts was conducted based on the methodology of the *CEQR Technical Manual*. According to CEQR guidelines, the first step in this analysis is to establish a study area. Study areas are generally determined based on a reasonable travel distance a person would walk to reach a neighborhood open space and the types of uses that are proposed. The proposed project is primarily a residential development and no non-residential open space analysis is required. Residents are assumed on average to walk about 20 minutes (about a ½-mile distance) to reach neighborhood open spaces. Therefore, in accordance *CEQR Technical Manual*, an open space study area of ½-mile was established; population data for the analysis includes all census tracts that area at least 50 percent in the study area (this includes Queens Census Tracts 1, 7, and 19). The study area extends to the Queensboro Bridge/Queens Plaza on the north, Newtown Creek on the south, 30th Street on the east, and the East River on the west.

INVENTORY OF OPEN SPACE RESOURCES

Publicly accessible open spaces and recreational facilities in the study area were inventoried to determine their size, character, utilization, amenities, and condition. The inventory includes only open spaces that are accessible to the general public. The information used for this analysis was gathered through field surveys conducted in April 2011, February 2012, and July 2012 on weekdays and from data provided by the New York City Department of Parks & Recreation (DPR) website and other agency websites, as well as from New York City DoITT GIS data and planning studies.

The amount of active and passive space acres is also determined for each open space. In making this determination, active open space acreage is considered to be space used for recreational pursuits such as jogging, field sports, children's play, basketball courts, baseball fields, and play equipment. Passive open space is considered to be used for recreational pursuits such as strolling, reading, sunbathing, and people-watching. Some spaces, such as lawns and public esplanades for example, serve both active and passive recreation functions, since they can be used for passive activities such as sitting or strolling and active uses, such as jogging or frisbee. Based on the methodologies of the *CEQR Technical Manual*, uses and the amount of space dedicated to each use at each open space were determined based on field observations.

For determining utilization, open space with less than 25 percent of the space or equipment observed as in use during the field investigation were categorized as low usage; spaces with 25 to 75 percent utilization were classified as moderate usage; and those with over 75 percent utilization were considered heavily used.

In addition to the open spaces located within the study area, open spaces falling outside the study area were considered qualitatively in this analysis. These spaces provide additional open space resources and are likely to be used by the study area residents.

ADEQUACY OF OPEN SPACE RESOURCES

COMPARISON TO GUIDELINES

The adequacy of the study area open space is quantitatively assessed by calculating the ratio of usable open space acreage available to the study area population—referred to as the open space ratio. To determine the adequacy of open space resources, open space ratios are compared with planning goals set by the New York City Department of City Planning (DCP). Although these

DCP planning goals are not meant to determine whether a proposed action might have a significant adverse impact on open space resources, they do provide a quantitative measure for determining potential impacts. The City's open space planning goals are as follows:

- For non-residential open space assessments, 0.15 acres of passive open space per 1,000 non-residents is typically considered adequate.
- For residential open space assessments, a ratio of 2.5 acres per 1,000 residents represents an optimal planning benchmark. Ideally, this would consist of 0.50 acres of passive space and 2.0 acres of active open space per 1,000 residents. However, as noted above, these goals are often not feasible for many neighborhoods of the City and they do not constitute an impact threshold. However, they do provide benchmarks for determining open space adequacy.

Since the non-residential assessment was not necessary, only the residential open space planning goal applies to this analysis.

IMPACT ASSESSMENT

The CEQR impact assessment considers both quantitative and qualitative data. The qualitative analysis considers factors such as the proximity of the resource to the population and any open spaces proposed with the project, including those that would be publicly accessible and those that would serve the project's residents.

D. EXISTING CONDITIONS

STUDY AREA POPULATION

RESIDENTIAL POPULATION

Based on *2010 Census* data, the study area had a total of 10,815 residents in 2010. As shown in **Table E-2**, adults between the ages of 20 and 64 represent the largest proportion of the study area's population (approximately 83 percent). The 65-and-over age group accounted for approximately 7 percent of the study area population, with children 19 and younger making up the remaining 10 percent.

Table E-2
Percent Distribution of Age Groups in the Study Area

Census Tract	Under 5 Years	5 to 9 Years	10 to 14 Years	15 to 19 Years	20 to 64 Years	65 Years and Older
1	4.7	1.4	0.7	0.7	87.1	5.4
7	5.1	2.6	2.0	2.6	79.7	8.0
19	5.0	1.8	2.2	2.0	82.7	6.3
Study Area Total	**4.9**	**1.9**	**1.4**	**1.7**	**83.4**	**6.6**
Queens	**5.9**	**5.5**	**5.5**	**6.2**	**63.9**	**12.8**
New York City	**6.3**	**5.8**	**5.7**	**6.6**	**63.4**	**12.1**

Source: U.S. Census Bureau, *Census 2010*.

The age distribution of a study area population indicates the way open spaces are used and the need for various recreational facilities. Typically, children 4 years old or younger need traditional playgrounds that have play equipment for toddlers and preschool children. Children ages 5 through 9 typically use traditional playgrounds as well as grassy and hard-surfaced open spaces, which are important for such activities as ball playing, running, and skipping rope.

Children ages 10 through 14 use playground equipment, court spaces, little league fields, and ball fields. Teenagers and young adults needs tend toward court game facilities such as basketball and field sports. Adults between the ages of 20 and 64 typically have demands for court game facilities and field sports, along with more individualized recreation such as rollerblading, biking, and jogging that require bike paths, promenades, and vehicle-free roadways. Adults also gather with families for picnicking, ad hoc active sports such as frisbee, and recreational activities for all ages. Seniors over 64 place demands on active recreational facilities such as handball, tennis, gardening, and swimming, and also have demands for passive spaces that provide walking, benches and opportunities for board games. As shown in **Table E-2** the study area population is not disproportionately high in the under 19 or over 65 population groups—these are all below the borough and City-wide average—but does have a higher concentration of residents in the 20-64 age group.

STUDY AREA OPEN SPACES

STUDY AREA

The study area has a wide range of public parks, playgrounds, plazas, and sitting areas that includes properties maintained by DPR, other City agencies, and State agencies. In total, the study area has 20 publicly accessible open spaces that provide approximately 19.13 acres of public open space with an estimated 7.94 acres of active and 11.19 acres of passive open space (see **Table E-3** and **Figure E-2**). The largest of the study area's open spaces are at Queens West, followed by Murray Playground, and Queens Plaza. A detailed description of each open space follows.

Table E-3
Existing Open Space Resources Within Residential Study Area

Map ID No.[1]	Name	Owner/ Agency[3]	Features	Total Acres	Active Acres	Passive Acres	Condition	Utilization
1	Old Hickory Park	MTA Bridges and Tunnels	Sitting area, chess, children's play area	0.23	0.10	0.13	Excellent	Moderate
2	Bridge and Tunnel Park	DPR	Park and Sitting Area (2 handball courts, 1 basketball court, playground)	0.32	0.22	0.10	Good	Low
3	Andrews Grove	DPR	Playground, sitting areas, walkways, trees, greenery	0.40	0.20	0.20	Excellent	Heavy
4	LIC Community Garden	DPR	Community garden, benches	0.11	0.00	0.11	Good	Low
5	Hunter's Point Community Park	OPRHP	Park (lawn, basketball, handball, tot lot)	1.38	0.69	0.69	Excellent	Moderate
6	Murray Playground	DPR	Playground, tot lot, multi-sport paved courts, dog run, handball courts, ball field, sitting area, community garden	2.52	1.68	0.84	Excellent/Poor[2]	Heavy
7	Short Triangle	DPR	Benches, greenery	0.01	0.00	0.01	Excellent	Low
8	McKenna Triangle	DPR	Flagpole, greenery, seating	0.10	0.00	0.10	Excellent	Low
9	Court Square Park	DPR	Sitting area, fountain, lawn	0.49	0.00	0.49	Fair	Low

Table E-3 (cont'd)
Existing Open Space Resources Within Residential Study Area

Map ID No.[1]	Name	Owner/ Agency	Features	Total Acres	Active Acres	Passive Acres	Condition	Utilization
10	Rafferty Triangle (includes Captain Malcom A. Rafferty Memorial)	DPR	Landscaping, seating area	0.38	0.00	0.38	Excellent	Moderate
11	Gordan Triangle	DPR	Greenery, benches, flagpole)	0.80	0.00	0.80	Excellent	Moderate
12	Vernon Mall	DPR	Small park (walkway, benches, trees, planting boxes)	0.14	0.00	0.14	Poor	Moderate
13	Gantry Plaza State Park at Queens West (including Peninsula Park, Gantry Plaza, and additional waterfront open space)	OPRHP	Sitting areas, lawn, waterfront esplanade, children's play area, fishing pier, community garden	7.53	3.01	4.52	Excellent	Heavy
14	Queens West Sportsfield	OPRHP	Running track and multipurpose athletic field	1.86	1.86	0.00	Excellent	Heavy
15	Citibank Plaza	Citigroup	Landscaped area with seating	0.53	0.00	0.53	Good	Moderate
16	Hunter Street Park	NYCDOT	Landscaped area with seating; Greenstreet	0.21	0.00	0.21	Excellent	Low
17	Sundial Park	NYCDOT	Monument, landscaped area with seating; Greenstreet	0.11	0.00	0.11	Excellent	Low
18	Queens Plaza Public Open Space (including Dutch Kills Green)	NYCDOT	Landscaped park and traffic medians with benches, pedestrian walkway, off-street bike lane; Greenstreet	1.81	0.18	1.63	Excellent	Moderate
19	LIC Roots Community Garden/ Michael Brennan Memorial	MTA-LIRR	Community garden, benches, seating	0.09	0.00	0.09	Good	Moderate
20	New York State Dog Run	OPRHP	Dog run	0.11	0.00	0.11	Good	Moderate
			Totals	**19.13**	**7.94**	**11.19**		

Notes:

1. See **Figure E-2** for open space resources.
2. Approximately half of this park is in excellent condition and was recently renovated. The park now includes a synthetic-turf ball field, a playground, and a restroom and maintenance building. The eastern half of the park is in fair/poor condition, but there is DPR reconstruction slated for late 2012.
3. DPR = New York City Department of Parks & Recreation
   MTA = Metropolitan Transportation Authority
   LIRR = Long Island Rail Road
   OPRHP = New York State Office of Parks, Recreation, and Historic Preservation
   NYCDOT = New York City Department of Transportation

Sources: AKRF Field Surveys, April 2011, February 2012, and July 2012; Department of City Planning, June 7, 2012; DPR website, last accessed on September 27, 2012; EDC website, http://www.nycedc.com/project/queens-plaza-bicycle-and-pedestrian-improvements, last accessed on September 27, 2012; NYC DoITT GIS data; QWDC website, http://www.queenswest.org/project.asp, last accessed on October 22, 2012; communications with ESDC on April 4, July 12, and October 5, 2012; State Parks website, http://nysparks.com/parks/149/details.aspx, last accessed on October 22, 2012; Neudorf, P., "LIC's Murray Park get s a facelift," Queens Chronicle: Western Queens News, December 8, 2011 last accessed on July 17, 2012 at http://www.qchron.com/editions/western/lic-s-murray-park-gets-a-facelift/article_d5657ca3-59e6-5ae8-8b68-2bed14eaa972.html?mode=story; *Dutch Kills Rezoning and Related Actions FEIS*, August 29, 2008; communications with OPRHP on November 20, 2012.

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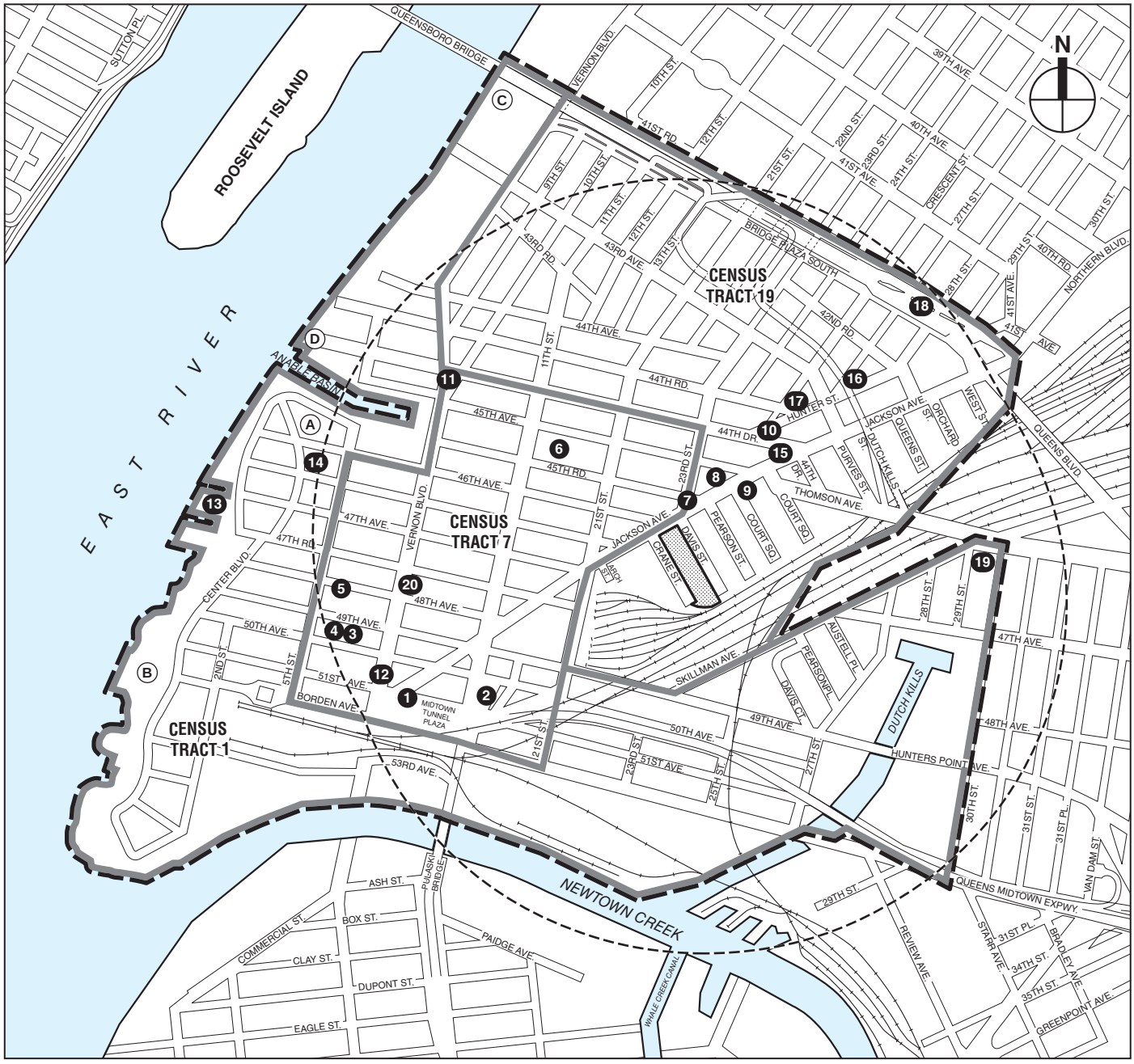

0 1000 2000 FEET
SCALE

Project Site Area

Study Area Boundary

1/2-Mile Perimeter

Census Tract Boundary

1 *Open Space Resource*

Ⓐ *Future Open Space Resource*

Open Space
Figure E-2

The Queens West project along the East River (developed in conjunction with the Queens West Development Corporation [QWDC]) has developed a number of open spaces. The largest of these is referred to as Gantry Plaza State Park, which totals approximately 7.53 acres (**Figure E-2**, open space #13). Gantry Plaza State Park includes waterfront open space that extends along the East River generally north from 50th Avenue to Anable Basin. Gantry Plaza State Park's signature open space, fronting the river near 49th Avenue, is the 1.76 acre Gantry Plaza, which has piers and public open spaces built around the restored historic rail gantries. At the north end of Gantry Plaza State Park is the recently completed Peninsula Park (approximately 1.25 acres), which is a grass lawn that is used for barbeques and light active recreation such as ball playing. Gantry Plaza State Park also includes a waterfront esplanade, children's play area, and a community garden. An additional 1.86 acres of sportsfields and a running track (**Figure E-2**, open space #14) was also developed through QWDC at 46th Road. QWDC's Hunter's Point Community Park provides another 1.38 acres of open space along 48th Avenue, with both passive and active recreation spaces. It includes sitting areas, basketball and handball courts, and a tot lot (**Figure E-2**, open space #5). A dog run (approximately 0.11 acres) was also developed by QWDC and is under the jurisdiction of OPRHP. Collectively, these QWDC-related open spaces total about 11 acres. All of these open spaces are under the jurisdiction of OPRHP. Additional open spaces are proposed as part of the Queens West project in the future without the proposed action (see the discussion below).

Nearer to the project site is the 2.52-acre Murray Playground located on the full block between 11th and 21st Streets, 45th Avenue, and 45th Road (see **Figure E-2**, #6). Approximately half of this acreage (the westerly half) was recently renovated. The playground contains both active and passive resources with basketball and handball courts, a new baseball field, swing sets, sitting areas, and a recently renovated, separate play area for children. Murray Playground also includes a community garden and a dog run. The easterly half of Murray Playground is proposed for renovation in the future without the proposed action (see the discussion below).

There are also public open spaces concentrated near Court Square and along the Jackson Avenue corridor including Court Square Park and Citibank Plaza. Court Square Park is located on the east side of Jackson Avenue to the front of the New York State Supreme Court, Civil Term courthouse at the intersection of Court Square, Jackson Avenue, and Thomson Avenue (see **Figure E-2**, open space #9). This park, about ½-acre in size, is predominantly oriented toward passive open space and features a large fountain surrounded by benches, paths, sizable grassy areas, trees, and other landscaping intended for passive recreational use. Across Jackson Avenue from Court Square Park is Citibank Plaza, which is located at the intersection of 44th Drive and Jackson Avenue (see **Figure E-2**, open space #15). The plaza is a publicly accessible, privately owned open space that is part of the Citigroup Building complex. It provides benches, bicycle racks, trees, and landscaping for passive recreational enjoyment. Developed as part of the development of the Citigroup Building, the plaza is used by employees as passive recreational space to enjoy lunch and is also used by local residents and workers. With frontage along the north side of Jackson Avenue, this open space is an important public space along the Jackson Avenue corridor.

Other important open spaces along the corridor include a number of landscaped triangles that were improved as part of the City's Jackson Avenue Streetscape Project. This major streetscape improvement program was implemented by the City to improve the pedestrian experience along the Jackson Avenue corridor. The improvements include new lighting, streetscape amenities, and an improved roadway design, which have transformed Jackson Avenue into an attractive, landscaped boulevard. The Phase I improvements, which extend from Queens Plaza to 23rd

Street, were completed in fall 2010. The project also included the redesign and expansion of the triangular parks near Court Square, which were completed and opened to the public in fall 2009.[1] These include the following:

- Albert Short Triangle (see **Figure E-2**, open space #7), is a small 0.01 triangular passive open space located near the intersection of 45th Road and 23rd Street. It was recently renovated as a public plaza and contains a large planter with several trees and bushes and a row of benches.
- McKenna Triangle (see **Figure E-2**, open space #8), is a small 0.10 triangular passive open space located between Thomson Avenue, and 45th Street. It was enlarged and improved as part of the Jackson Avenue corridor project and provides trees, landscaping, and seating.
- Rafferty Triangle (see **Figure E-2**, open space #10), is a 0.38 triangular passive open space located between Hunter Street and 44th Drive. It was also enlarged and improved as part of the Jackson Avenue corridor project and provides landscaping and trees with border seating.
- Hunter Street Park (see **Figure E-2**, open space #16), on Hunter Street, one block west from Jackson Avenue, is a New York City Department of Transportation (NYCDOT) Greenstreet with approximately 0.21 acres of passive open space that includes landscaping and seating.
- Sundial Park (see **Figure E-2**, open space #17), is also a NYCDOT Greenstreet located on Hunter Street one block from Jackson Avenue, providing approximately 0.11 acres of passive open space including a monument, landscaping, and seating.

Although these open spaces are individually small in size, they play an important role in the public use and enjoyment of the Jackson Avenue corridor and collectively improve the pedestrian experience near and along this main thoroughfare.

At the west end of Jackson Avenue is the 0.32-acre Bridge and Tunnel Park (see **Figure E-2**, open space #2). The majority of this park (about two thirds) is dedicated to active space which includes handball and basketball courts, while the balance is passive space.

In the northeast portion of the study area is Queens Plaza, which was recently improved as part of the City's Queens Plaza Pedestrian and Bicycle Improvement Project (see **Figure E-2**, open space #18). This capital project transformed this primary entry point into Long Island City and Queens into a dynamic and appealing gateway. Queens Plaza now includes usable public open space, including landscaped medians with seating, a bikeway, a pedestrian walkway with new sidewalks, curbs, plantings, improved lighting, and Dutch Kills Green, located at the eastern end near Northern Boulevard. Dutch Kills Green constitutes an acre of public open space with artisan-designed benches, pavers, and plantings that have transformed this former commuter parking lot into an inviting public place. Queens Plaza connects with Jackson Avenue on the east and complements the improvements to Jackson Avenue described above.[2]

Open spaces in the westerly portion of the study area include the 0.4 acre Andrews Grove, located at the intersection of 49th Avenue, 5th Street, and Vernon Boulevard (see **Figure E-2**, open space #3). The playground facilities here include two play areas for children equipped with climbing structures and swings, sitting areas with benches and game tables, walkways, trees, and

[1] http://www.nycedc.com/project/jackson-avenue-streetscape-project, last accessed on October 16, 2012

[2] http://www.nycedc.com/project/queens-plaza-bicycle-and-pedestrian-improvements, last accessed on October 16, 2012

greenery. There is also Gordan Triangle and Vernon Mall (see **Figure E-2**, open space #11 and open space #12, respectively). Gordan Triangle, which is located at the intersection of Vernon Boulevard, 44th Drive, and 10th Street, provides 0.80 acres of passive open space, with a pathway that leads to a flagpole, surrounded by benches, trees, and other landscaping. A sitting and pedestrian area is surrounded by a grass lawn. Vernon Mall, located along Vernon Boulevard, provides 0.14 acres of passive open space.

The study area also includes two community gardens: LIC Community Garden—a 0.11-acre DPR-owned resource on 49th Avenue adjacent to Andrews Grove (see **Figure E-2**, open space #4)—and the LIC Roots Community Garden, a 0.09-acre resource owned by the Metropolitan Transportation Authority (MTA) Long Island Rail Road (LIRR) at 29-08 47th Avenue (see **Figure E-2**, open space #19).

Additional Recreational Facilities and Open Space Resources

In addition to its public spaces, Queens West also includes a number of private recreational facilities that are operated for use by the buildings residents. These recreational amenities, though not open to the public, also service to meet the recreational needs of the building residents.

There is also public parkland located just outside the study area and therefore was not included in the quantitative analyses; however, this parkland also serves as a resource open to the study area residents. Queensbridge Park, a 20.3-acre park with a mix of active and passive features, is located along the East River waterfront just north of the Queensboro Bridge. Recreational facilities here include sitting and picnic areas, walking paths, baseball fields, a multi-purpose field, basketball courts, handball courts, and a playground. There is also a handball court at Queensbridge Baby Park located under the Queensboro Bridge. Because of the size of this open space and the type of facilities it provides, it is likely that the park draws open space users from the study area.

ADEQUACY OF OPEN SPACE RESOURCES

With a total of 19.13 acres of open space (of which 7.94 acres are determined to be dedicated to active use and 11.19 acres are determined to be for passive use) and a total residential population of 10,815 persons, the study area has an overall open space ratio of 1.77 acres per 1,000 residents (see **Table E-4**). This is below DCP's planning guideline of 2.5 acres of open space per 1,000 residents. However, the project site is not located in an area deemed underserved by open space by DPR and the total open space ratio under existing conditions exceeds the City-wide average of 1.5 acres of open space per 1,000 residents.

Table E-4
Existing Conditions: Adequacy of Open Space Resources

2010 Total Population	Open Space Acreage			Open Space Ratios per 1,000 Residents			DCP Open Space Guidelines		
	Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
10,815	19.13	7.94	11.19	1.77	0.73	1.03	2.5	2.0	0.5

The study area's current residential passive open space ratio is 1.03 acres of passive open space per 1,000 residents, which is greater than DCP's goal of 0.5 acres per 1,000 residents. The study area's active open space ratio is 0.73 acres per 1,000 residents, which is substantially below DCP's planning guideline of 2.0 acres per 1,000 residents.

E. THE FUTURE WITHOUT THE PROPOSED ACTION

STUDY AREA POPULATION

In the future without the proposed action, it is assumed that an as-of-right project would be developed on the project site by 2017. It is anticipated that this project would include approximately 628 new dwelling units, resulting in approximately 1,627 new residents (based on the 2010 average household size of 2.59 persons for Queens Community District 2, using 2010 Census data).[1] Including other known developments anticipated in the open space study area by 2017 (see Attachment B, "Land Use, Zoning and Public Policy"), approximately 20,247 new residents would be added to the study area population in the future without the proposed action.

STUDY AREA OPEN SPACES

In the future without the proposed action, several changes in the open space inventory are also expected by 2017. For example, DPR has plans to renovate the eastern half of Murray Playground. The project is anticipated to start in late summer 2013 and last for approximately one year (refer to **Table E-3**). The renovations will include a circular central green space with tiered seat walls, performance space, new planters, and a new four-foot fence. Water service is proposed to be installed in the dog run, its fence will be painted, and the yellow sculpture removed. There are no plans to renovate the community garden. These renovations would not change the open space acreage that exists currently at Murray Playground, but would substantially improve this open space for public use. In addition, there are three new open spaces that are expected to be completed in the study area by 2017 (see **Table E-5**).

The continued build-out of Queens West is expected to add approximately 3.0 acres of new open space to the study area by 2013, of which 1.5 acres is assumed to be active open space and 1.5 acres is assumed to be passive open space.[2] In addition, Hunter's Point South—a proposed mixed-use, middle-income housing development situated on approximately 30 acres along the East River waterfront—is anticipated to add 5 acres of new waterfront parkland (which for this analysis is assumed to be 40 percent active and 60 percent passive) to the study area by 2014.[3] An additional 0.94 acres of passive open space is anticipated along the waterfront by the 2017 Build year as a result of the Silvercup West mixed-use development. Also, approximately 0.13 acres of passive open space will be added to the study area by 2017 with the City's restoration of the 44th Drive public pier.

Overall, the study area open space is expected to increase by approximately 9.07 acres, of which 5.57 acres would be passive open space and 3.50 acres would be active open space. With the additional open spaces, the study area would have a total of 28.20 acres of open space split between 16.76 acres of passive space and 11.44 acres of active space.

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[1] New York City Department of City Planning, Queens Community District 2 Profile, http://www.nyc.gov/html/dcp/pdf/lucds/qn2profile.pdf#profile, last accessed on August 28, 2012

[2] QWDC website, http://www.queenswest.org/project.asp, October 22, 2012

[3] NYCEDC website, http://www.nycedc.com/project/hunters-point-south, October 22, 2012

Table E-5
Future Without the Proposed Action: New Open Space

Map ID[1]	Name	Owner / Agency	Passive/Active	Total Acres	Active Acres	Passive Acres
A	Queens West Waterfront Park	QWDC	50 percent Passive, 50 percent Active	3.0	1.5	1.5
B	Hunter's Point South Waterfront Park	DPR	60 percent Passive, 40 percent Active	5.0	2.0	3.0
C	Silvercup West	Terra Cotta, LLC	100 percent Passive	0.94	0.00	0.94
D	44th Drive Pier Restoration	DEP/DCAS/DPR	100 percent Passive	0.13	0.00	0.13
Subtotal, No Build New Open Space				**9.07**	**3.50**	**5.57**
Total Open Space in the Study Area in the Future Without the Proposed Action				**28.20**	**11.44**	**16.76**

Note: 1. See **Figure E-2**.
Sources: QWDC website, http://www.queenswest.org/project.asp and http://www.queenswest.org/Stage2.asp, last accessed October 22, 2012; communications with ESDC on July 12 and October 5, 2012; EDC website, http://www.nycedc.com/project/hunters-point-south, last accessed October 22, 2012; AKRF, 2012; *Silvercup West FEIS* (2006); Hunter's Point South Rezoning and Related Actions FEIS (2008); DPR, February 2013.

ADEQUACY OF OPEN SPACE RESOURCES

In the future without the proposed action, the study area open space ratios decrease when compared with the existing conditions. The overall open space ratio decreases from 1.77 to 0.91 acres per 1,000 residents (see **Table E-6**) and remains below DCP's planning guideline of 2.5 acres of open space per 1,000 residents. The study area residential passive open space ratio decreases from 1.03 to 0.54 acres of passive open space per 1,000 residents, but remaining above DCP's goal of 0.5 acres per 1,000 residents. The residential active open space ratio decreases from 0.73 to 0.37 acres per 1,000 residents, remaining below DCP's planning guideline of 2.0 acres per 1,000 residents.

Table E-6
Future Without the Proposed Action: Adequacy of Open Space Resources

2017 Total Population	Open Space Acreage			Open Space Ratios per 1,000 Residents			DCP Open Space Guidelines		
	Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
31,062	28.20	11.44	16.76	0.91	0.37	0.54	2.5	2.0	0.5

Thus, in the future without the proposed action, there would continue to be a study area deficiency of total and active open space resources in the study area in 2017 while the supply of passive open space would continue to be adequate for its residents.

F. THE FUTURE WITH THE PROPOSED ACTION

INTRODUCTION

The proposed action would not displace any publicly accessible open spaces, nor would it result in any project-related impacts due to shadows, air quality, or noise (see Attachments F, "Shadows"; I, "Air Quality"; and J, "Noise").

As stated above and described in greater detail below, the proposed action would provide a total of approximately 32,099 square feet (0.74 acres) of landscaped publicly accessible open space in

the southern portion of the project site, at the corner of Jackson Avenue and Crane Street, and along Davis Street (see **Figure E-1**).

The southern portion of the project site (the South Public Open Area) would provide the largest assemblage of landscaped open area—about a half acre (approximately 20,733 square feet)—and would facilitate pedestrian movements between Davis and Crane Streets. The South Public Open Area would have a flowing shaded space with plantings, a green wall with art, an interactive water feature, low climbing features, and abundant public seating opportunities. The approximately 1,887-square-foot landscaped Crane Street Improvement would be adjacent to the South Public Open Area within the bed of the mapped but unimproved portion of Crane Street.

On the northerly portion of the site, the Jackson Avenue Public Open Area would provide an approximately 2,785-square-foot landscaped sitting area at the corner of the residential building entrance on Jackson Avenue and Crane Street and adjacent to the Jackson Avenue retail frontage. It would include seat walls with wooden benches and seat pods for social seating. This open space would be located diagonally across Jackson Avenue from MoMA PS1 and would support the City's streetscape improvements along Jackson Avenue. It would also signal one of the access points to the South Public Open Area at the south end of the site and its design would complement that larger open area.

On the easterly portion of the site, the Davis Street Public Open Area would provide approximately 6,694 square feet of publicly accessible open area in the form of a 15- to 19-foot deep sidewalk widening adjacent to the sidewalk along the entire block length of Davis Street. The Davis Street Public Open Area would be adjacent to the ground floor retail uses and artists galleries proposed along the Davis Street frontage. It is designed to provide connectivity between the Jackson Avenue open space and the South Public Open Area, with shade trees, public benches and ample sidewalk space for interaction with the retail and artist studios fronting the street.

With the proposed action, the South Public Open Area and Crane Street Improvement would be open to the public as follows: (i) from 7:00 AM to 8:00 PM between November 1 and April 14; and (ii) from 7:00 AM to 10:00 PM between April 15 and October 31. The "Jackson Avenue" and "Davis Street Public Open Areas" would be open 24 hours. All of the open areas would be maintained by the building owner.

In addition, the proposed project would provide recreational amenities in the building for the residents. These amenities would include an indoor swimming pool, gymnasium, two roof decks, and an interior courtyard (see the discussion below).

STUDY AREA POPULATION

The proposed action would result in an increase of 372 market-rate residential units. Based on the 2010 average household size of 2.59 persons for Queens Community District 2, those additional dwelling units would add an estimated 963 residents to the study area, bringing the study area's residential population to 32,025.

STUDY AREA OPEN SPACES

In the future with the proposed action, the total amount of open space in the study area would increase to approximately 28.94 acres, with the addition of approximately 0.74 acres of passive open space on the project site, for a total of 17.50 acres of passive open space and 11.44 acres of

active open space.[1] (See the detailed description of the proposed open space in Attachment A, "Project Description").

ADEQUACY OF OPEN SPACE RESOURCES

In the future with the proposed action, the study area open space ratios would decrease slightly as compared with the No Build condition (see **Tables E-7** and **E-8**). With the proposed project, the total open space ratio would decline slightly from 0.91 to 0.90 acres per 1,000 residents) and would remain below DCP's planning guideline of 2.5 acres of open space per 1,000 residents. The study area residential passive open space ratio would increase slightly from 0.54 acres to 0.55 acres of passive open space per 1,000 residents) and above DCP's goal of 0.5 acres per 1,000 residents. The residential active open space ratio would decrease from 0.37 to 0.36 acres per 1,000 residents, and would remain below DCP's planning guideline of 2.0 acres per 1,000 residents.

Table E-7
Future With the Proposed Action: Adequacy of Open Space Resources

2017 Total Population	Open Space Acreage			Open Space Ratios per 1,000 Residents			DCP Open Space Guidelines		
	Total	Active	Passive	Total	Active	Passive	Total	Active	Passive
32,025	28.94	11.44	17.50	0.90	0.36	0.55	2.5	2.0	0.5

Table E-8
Future With the Proposed Action: Open Space Ratio Summary

Ratio	DCP Guideline	No Build Ratio	Build Ratio	Percent Change
Total/residents	2.5	0.91	0.90	-0.5%
Passive/residents	0.5	0.54	0.55	+1.3%
Active/residents	2.0	0.37	0.36	-3.0%

Although the total and active open space ratios would remain below the ratios recommended by the City, it is recognized that these goals are not feasible for many City neighborhoods and they are not considered impact thresholds. The *CEQR Technical Manual* indicates that a significant adverse impact may result if a project would reduce the open space ratio by more than 5 percent in areas that are currently below the City's median community district open space ratio of 1.5 acres per 1,000 residents. As discussed above, the project site is not located in an area currently below the City's median community district open space ratio of 1.5 acres per 1,000 residents. The proposed action would also not result in more than a 5 percent decrease in the total, passive, or active open space ratios, and would increase the passive open space ratio by approximately 1.3 percent (see **Table E-8**). The proposed action also includes approximately 0.74 acres of new publicly accessible open space and would result in a positive increase in the passive open space ratio in the study area.

QUALITATIVE ASSESSMENT

The quantitative analysis above does not include the private recreational amenities proposed with the project or other private recreational amenities in the study area, such as those at Queens

[1] Although the open space adjacent to the south end of the building would provide both passive and active recreational opportunities, the open space would be predominantly passive and, therefore, all of the open space being provided by the project has been analyzed conservatively as passive open space.

West; nor do the ratios include the public open spaces located just beyond the study area, such as the 20 acres at Queensbridge Park and its mix of active and passive features. In addition to publicly accessible open space, the proposed project would also include substantial indoor and outdoor private residential amenity space and recreational facilities, such as an indoor swimming pool, gymnasium, two roof decks, and an interior courtyard. Although these facilities would not be publicly accessible, they would reduce the active recreational demands generated by building residents for the local active public open space.

Queensbridge Park, just outside of the study area, provides a number of active open space resources including baseball fields, a multi-purpose field, basketball courts, handball courts, and a playground. Because of the size of this open space its range of active facilities, and its close proximity to the northern study area boundary, it is likely that this resource serves a portion of the study area population. Queensbridge Park would therefore relieve some of the potential active open space demands in the study area.

G. CONCLUSION

Under the existing, No Build, and Build conditions, the total and active open space ratios are below DCP's planning goals, and the passive open space ratio is above DCP's planning goal. Although there would continue to be a shortfall of total and active open space in the study area, the proposed action would not result in a significant adverse impact on open space. The project site is not located in an area currently below the City's median community district open space ratio of 1.5 acres per 1,000 residents and the proposed action would not decrease the total, active, or passive open space ratios by 5 percent or more. The proposed action would provide 32,099 square feet of landscaped, publicly accessible open area that would be a new recreational amenity open not just to the building residents, but to residents of Long Island City as a whole. This proposed open space would increase the passive open space ratio in the study area. Also, the proposed streetscape improvements have been designed to enhance and support the City's Jackson Avenue Streetscape Project and to extend the "greening" of the Jackson Avenue corridor. The proposed action also would provide private active recreational amenities for its residents in addition to the publicly accessible open space improvements. In addition, Queensbridge Park is a large multi-purpose waterfront park with active recreational amenities located near the study area that is open to the study area residents. For these reasons, it is concluded that the proposed action would not result in any direct or indirect significant adverse impacts on open space resources. ✷

Attachment F: Shadows

A. INTRODUCTION

This attachment examines whether the proposed building would cast new shadows on any sunlight-sensitive publicly-accessible resources, and assesses the potential effects of any such new shadows. Public open spaces, historic, cultural, and natural resources are all potentially sunlight-sensitive resources, and, therefore, this attachment is linked to the information presented in other sections of the Environmental Assessment Statement, such as Attachment E, "Open Space."

According to the 2010 *City Environmental Quality Review (CEQR) Technical Manual*, a shadows assessment is required only if the project would result in structures (or additions to existing structures) of 50 feet or more, or be located adjacent to or across the street from a sunlight-sensitive resource.

In the future with the proposed action the project site would be developed with a new building consisting of two towers of 41 and 47 stories on a base of varying heights—60 feet along the Jackson Avenue frontage and the north and south ends of Crane Street, 40 feet along Davis Street, and 20 feet in the central portion of Crane Street. The taller north tower would be 466 feet tall plus the rooftop bulkhead (498 feet to the top of the bulkhead). Absent the proposed action, the site would likely be developed with a slightly taller (492 feet plus the bulkhead) as-of-right building consisting of a single tower on a base. Given this different configuration, a shadows analysis was warranted.

The analysis concluded that the proposed action would not result in significant adverse shadow impacts to any vegetation or users of publicly-accessible open spaces. No historic resources with sunlight-dependent features or natural resources were located in the longest shadow study area.

B. DEFINITIONS AND METHODOLOGY

DEFINITIONS

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

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

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

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

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

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

- *City streets and sidewalks* (except Greenstreets);
- *Private open space* (e.g., front and back yards, stoops, vacant lots, and any private, non-publicly accessible open space);
- *Project-generated open space.* Project-generated open space cannot experience a significant adverse shadow impact from the project, according to CEQR, because without the project the open space would not exist. However, a qualitative discussion of shadows on a project-generated open space should be included in an analysis.

A significant adverse shadow impact occurs when the incremental shadow added by a proposed project falls on a sunlight-sensitive resource and substantially reduces or completely eliminates direct sunlight, thereby significantly altering the public's use of the resource or threatening the viability of vegetation or other resources. Each case must be considered on its own merits 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 2012 *City Environmental Quality Review (CEQR) Technical Manual*, a preliminary screening assessment must first be conducted to ascertain whether shadow from the proposed project 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 project that represents the longest shadow that could be cast. If there are sunlight-sensitive resources within this radius, the analysis proceeds to the second tier, which reduces the area that could be affected by project-generated shadow by accounting for the fact that shadows can never be cast between a certain range of angles south of the project site due to the path of the sun through the sky at the latitude of New York City.

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

If the third tier of analysis does not eliminate the possibility of new shadows on sunlight-sensitive resources, a detailed shadow analysis is required to determine the extent and duration of the incremental shadow resulting from the project, taking into account existing buildings and their shadows. 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 proposed project and the surrounding street layout (see **Figure F-1**). In coordination with the information regarding open space, historic, and natural resources presented in other sections of this EAS, potentially 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 building could cast is calculated, and using this length as the radius, a perimeter is drawn around the project site. Anything outside this perimeter, which represents the longest possible shadow, could never be affected by project-generated shadow, while any sunlight-sensitive resources inside the perimeter need 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 498 feet above curb level, including rooftop mechanical bulkhead, the proposed building could cast a shadow up to approximately 2,141 feet in length (498 x 4.3). Using this length as the radius, a perimeter was drawn around the project site (see **Figure F-1**). Since a number of sun-sensitive resources lay within the perimeter or longest shadow study area, the next tier of screening assessment was conducted.

TIER 2 SCREENING ASSESSMENT

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

A number of publicly-accessible open spaces are located within the remaining shadow study area, as shown in **Figure F-1** and listed in **Table F-1**. No historic resources with sunlight-dependent features or sunlight-sensitive natural features are located within the longest shadow study area.

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 whether project generated shadow could fall on a sunlight-sensitive resource, three-dimensional (3D) computer mapping software[2] is used in the Tier 3 assessment to calculate and display the proposed project's shadows on individual representative days of the year.

A 3D model was developed representing the topography and open space resources contained in the Tier 1/Tier 2 base map. A 3D model of the proposed building was provided by the applicant.

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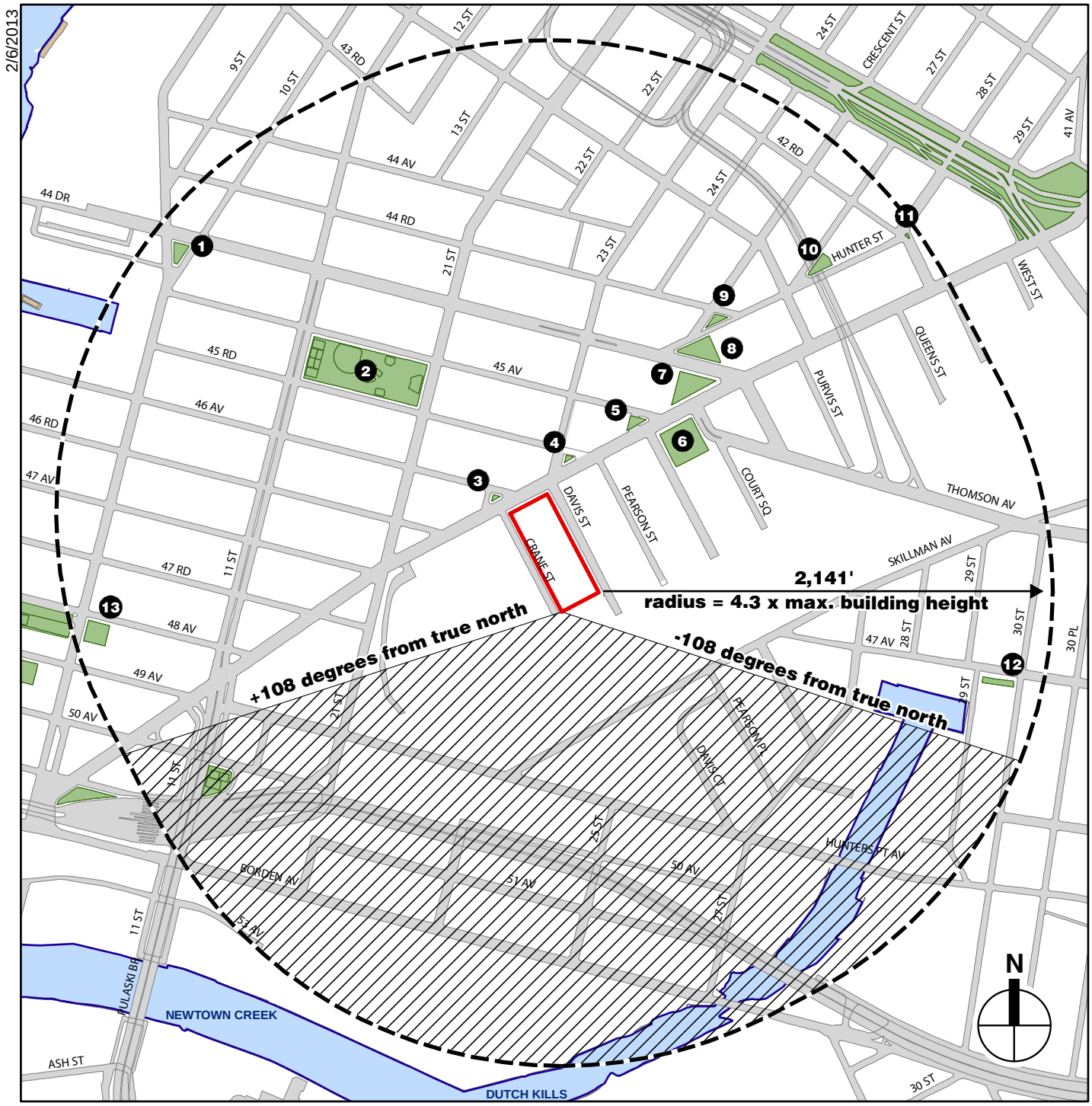
[1] Software: Esri ArcGIS 10; Data: New York City Department of Information Technology and Telecommunications (DoITT) and other City agencies.

[2] MicroStation V8i.



Proposed Building Footprint

Longest Shadow Study Area Boundary

Area that Cannot Be Shaded by Proposed Building

Publicly-Accessible Open Spaces (see Table F-1)

Tier 1 and Tier 2 Assessment

Figure F-1

Table F-1
Sunlight-Sensitive Resources in Tier 1/Tier 2 Assessment

Map ID No.[1]	Name
1	Gordan Triangle
2	John F. Murray Playground
3	Greenstreets triangle at Jackson and 46th Avenues
4	Albert Short Triangle
5	McKenna Triangle
6	Court Square Park
7	Citibank Plaza
8	Rafferty Triangle
9	Triangle at 44th Rd and Crescent St (Sundial Park)
10	Triangle at Hunter and 27th Streets (Hunter Street Park)
11	Greenstreets traffic island at 28th St and 42nd Rd
12	LIC Roots Community Garden/Michael Brennan Memorial
13	New York State Dog Run

REPRESENTATIVE DAYS FOR ANALYSIS

Shadows on the summer solstice (June 21), winter solstice (December 21) and spring and fall equinoxes (March 21 and September 21, which are approximately the same in terms of shadow patterns) are modeled, to represent the 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.

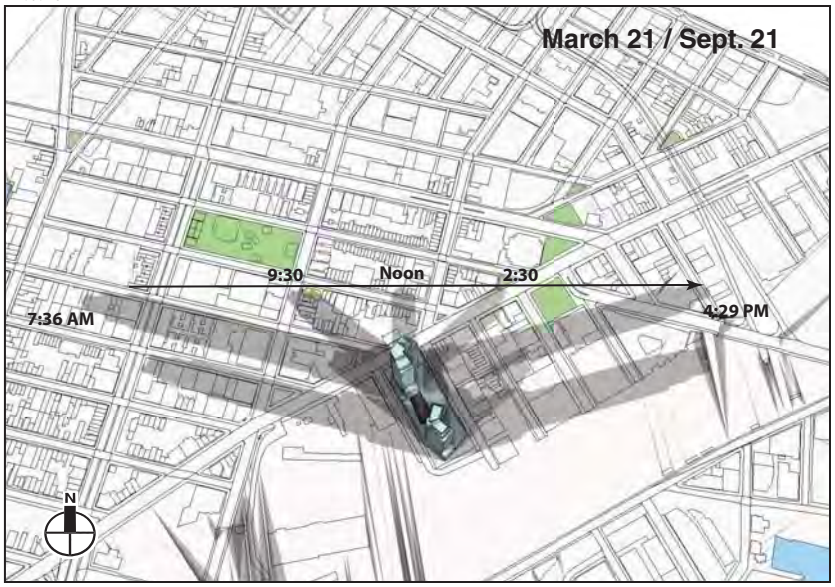
TIMEFRAME WINDOW OF ANALYSIS

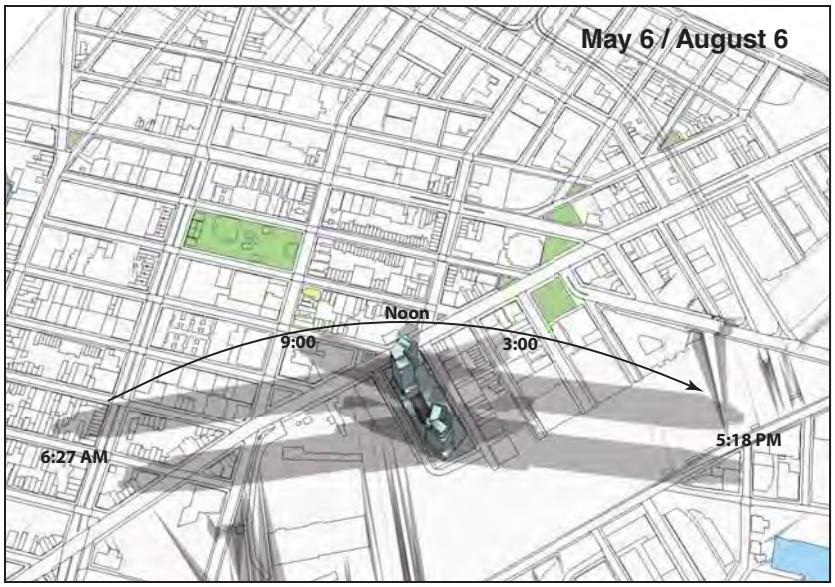
The shadow assessment considers shadows occurring between one and a half hours after sunrise and one and a half hours before sunset. At times earlier or later than this timeframe window of analysis, the sun is down near the horizon and the sun's rays reach the Earth at very tangential angles, diminishing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

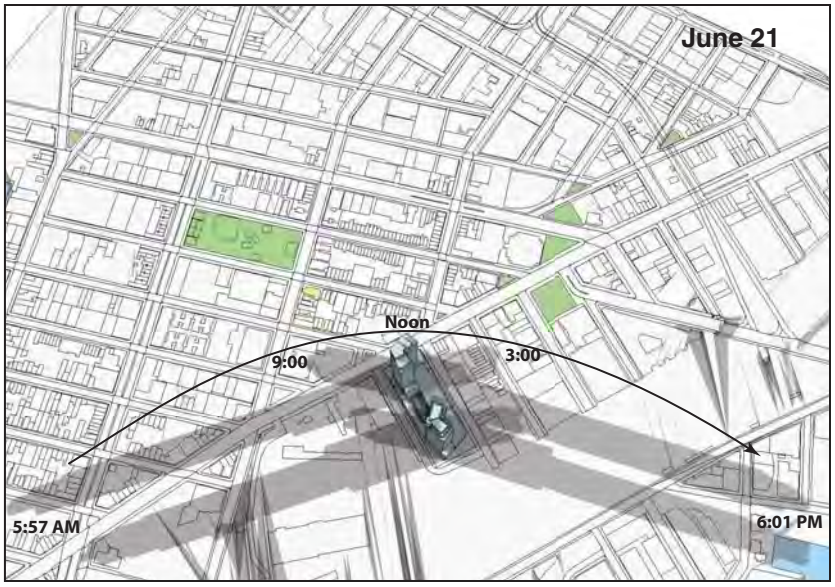
TIER 3 SCREENING ASSESSMENT RESULTS

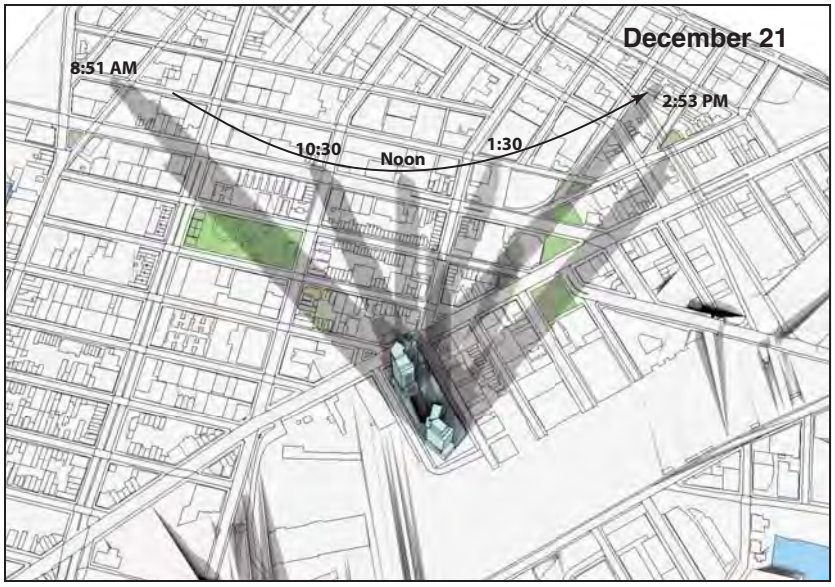
Figure F-2 illustrates the range of shadows that would occur, absent intervening structures, from the proposed building on the four representative days for analysis. The shadow are shown occurring approximately every two to three hours from the start of the analysis day (one and a half hours after sunrise) to the end of the analysis day (one and a half hours before sunset). On each day the path or "sweep" of the shadow across the landscape is indicated with a directional arrow.

2.6.13









Publicly-Accessible Open Space

Shadow

Note: Daylight Saving Time not used.

The assessment shows that on March 21/September 21 the proposed building's shadow would pass across the Greenstreets triangle at Jackson and 46th Avenues, Albert Short Triangle, McKenna Triangle, and Court Square Park.

On both the May 6/August 6 and June 21 analysis days, the Greenstreets triangle at Jackson and 46th Avenues would be the only sun-sensitive resource that could be affected by the proposed building's shadow.

On December 21, when shadows are longest, the proposed building's shadow would pass across John F. Murray Playground, the Greenstreets triangle at Jackson and 46th Avenues, Albert Short Triangle, McKenna Triangle, Court Square Park, Citibank Plaza, Rafferty Triangle, and the triangle north-adjacent to Rafferty Triangle at 44th Road and Crescent Street.

In summary, the Greenstreets triangle at Jackson and 46th Avenues could be reached by project-generated shadow on all four analysis days; Albert Short Triangle, Court Square Park and McKenna Triangle could be reached on two of the four analysis days (representing fall, winter and early spring), and Murray Playground, Citibank Plaza, Rafferty Triangle, and the triangle north-adjacent to Rafferty Triangle could be reached on the December 21 day only. Further assessment is required for these resources to determine the extent and duration, if any, of new project-generated shadow.

The Tier 3 assessment showed that the Gordan Triangle, the triangle at Hunter and 27th Streets (Hunter Street Park), the Greenstreets traffic island at 28th Street and 42nd Road, the LIC Roots Community Garden, and the New York State Dog Run on Vernon Boulevard were too far, given the topography and the shadow patterns, to be reached by the proposed building's shadow, and do not require any further analysis.

D. DETAILED 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 project. The detailed shadows analysis establishes a baseline condition (future No Action) to which the future condition with the proposed project (future With Action) is compared. Because existing or future No Action buildings may already cast shadows on a sun-sensitive resource, the proposed project 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 buildings in the study area, and the approximately 492 foot high as-of-right building that would be built on the project site absent the proposed actions. **Figure F-3** shows views of the computer model used in the detailed analysis. Shadow analyses were performed for each of the representative days and analysis periods indicated in the Tier 3 assessment.

Table F-2 summarizes the results of the detailed analysis. It shows the entry and exit times and total duration of project-generated incremental shadow on each affected resource. **Figures F-4** through **F-10** document the results of the analysis by providing graphic representations or "snapshots" of times when incremental shadow would fall on a sun-sensitive resource. The figures illustrate the extent of additional, incremental shadow at that moment in time, highlighted in red, and also show existing shadow and remaining areas of sunlight.

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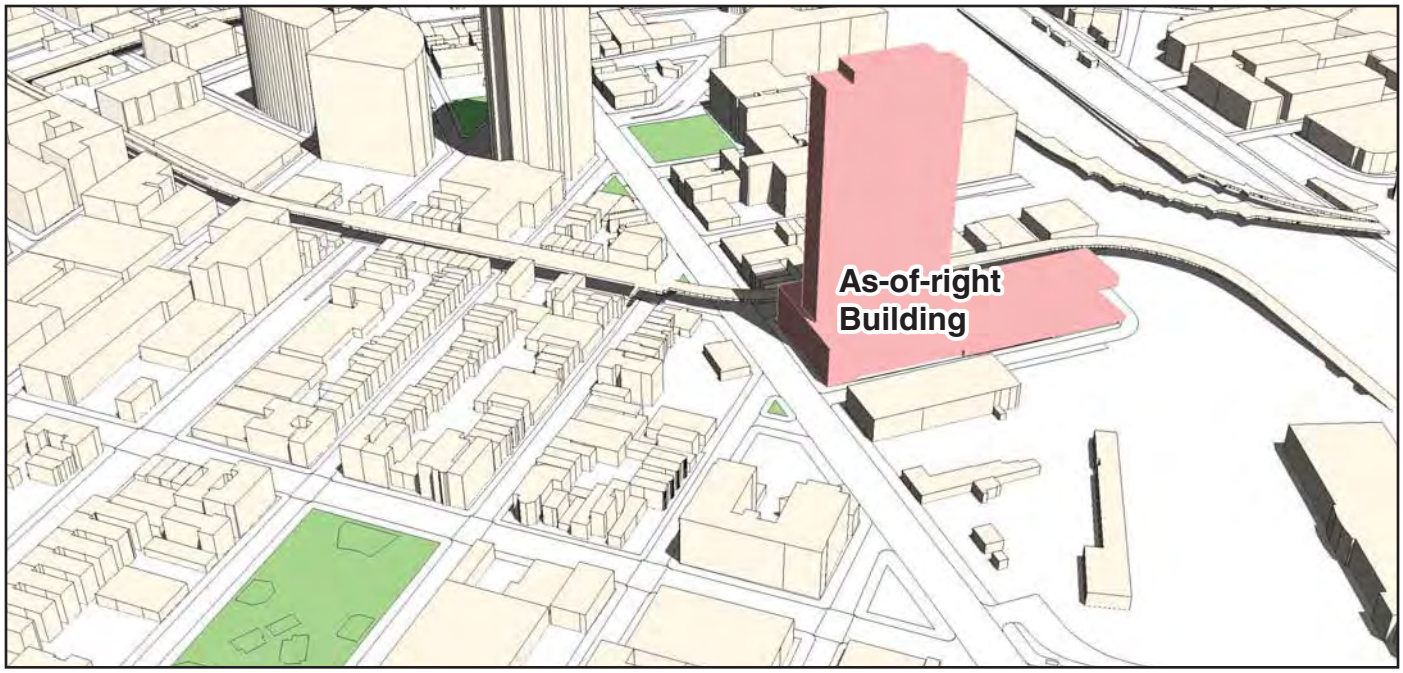
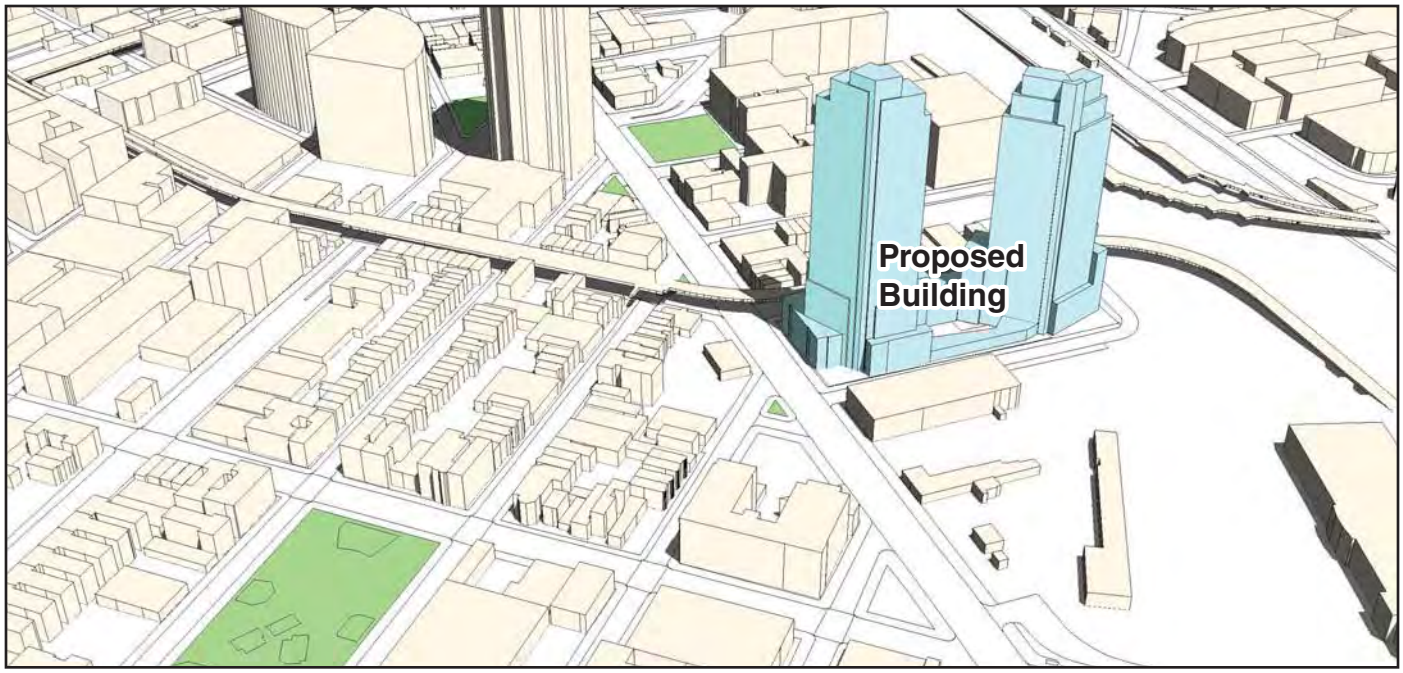


Public Open Space

Future Without Proposed Project
View East

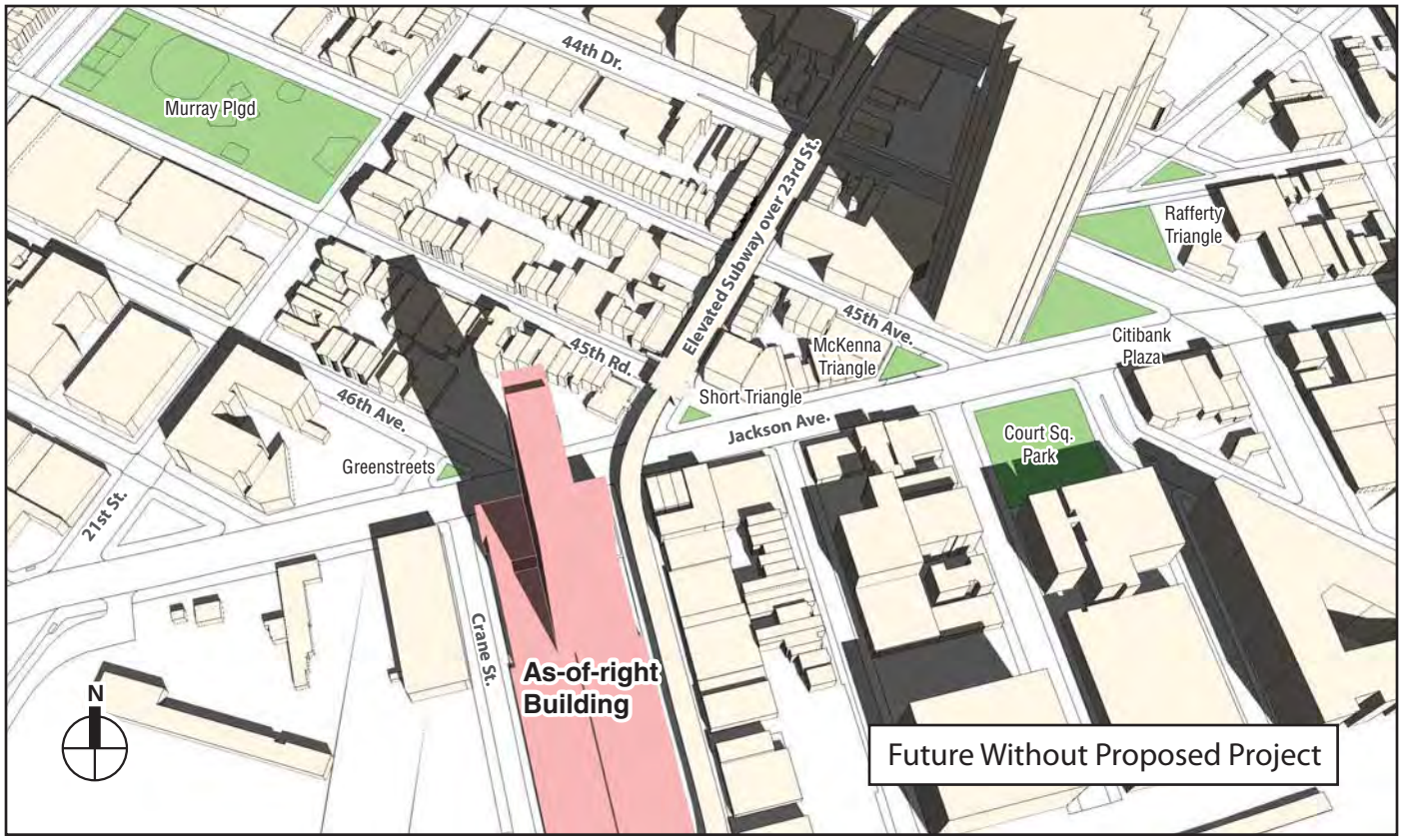


Public Open Spaces

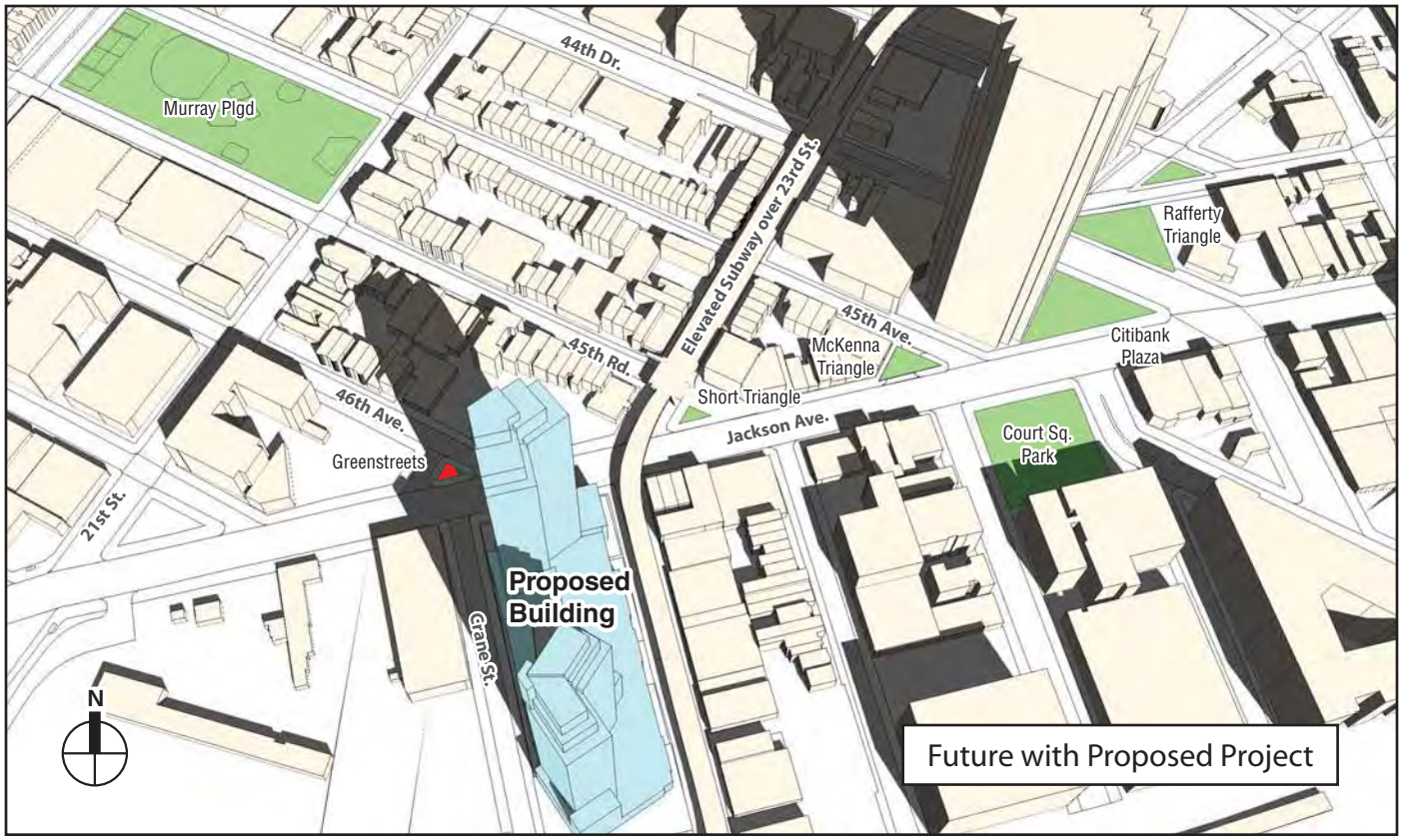
Future with Proposed Project
View East

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

2.7.13



Public Open Space

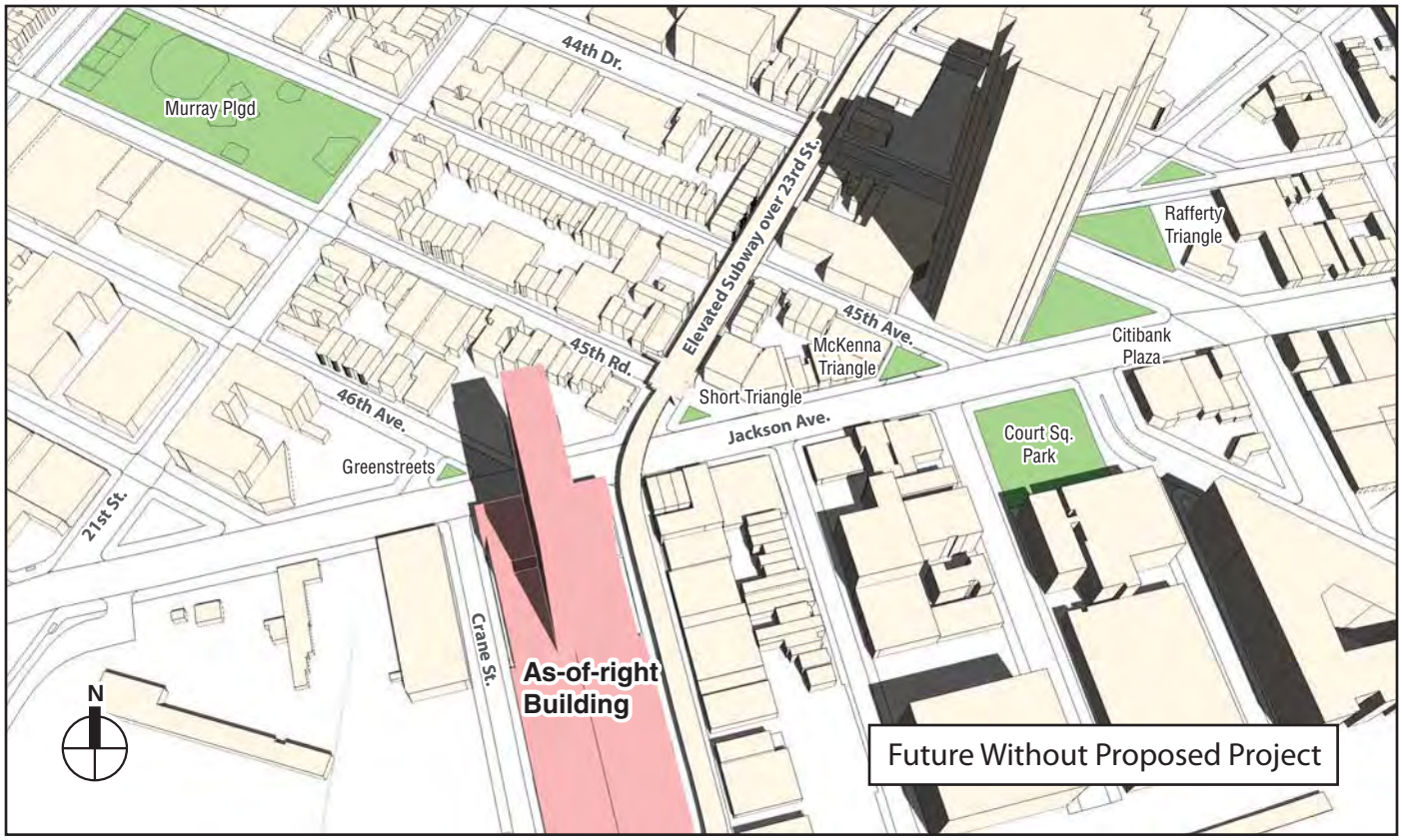


Public Open Space Incremental Shadow

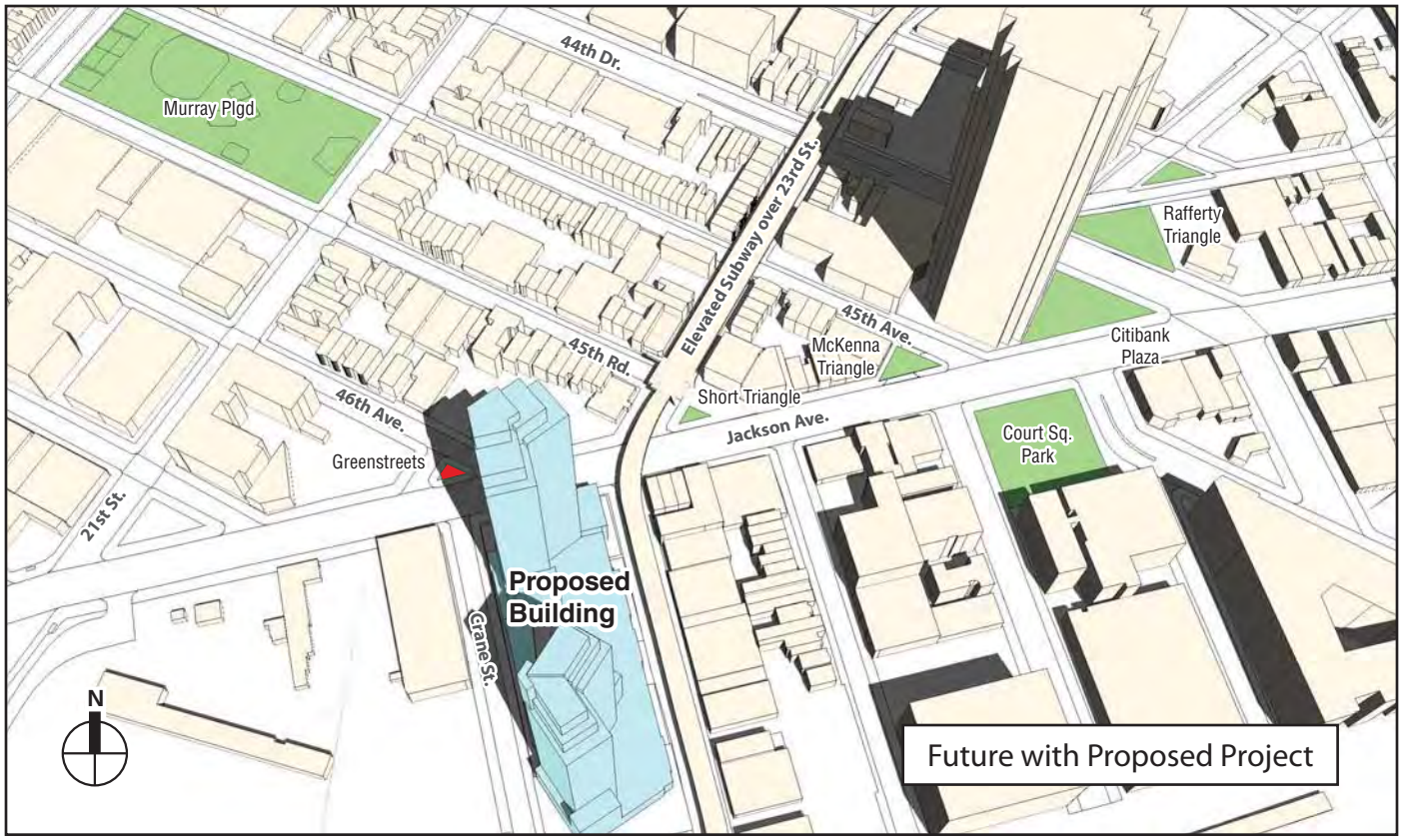
March 21/Sept. 21 - 10:00 AM EST

Figure F-4

2.7.13



Public Open Space



Public Open Space Incremental Shadow

May 6/August 6 - 10:30 AM EST

Figure F-5

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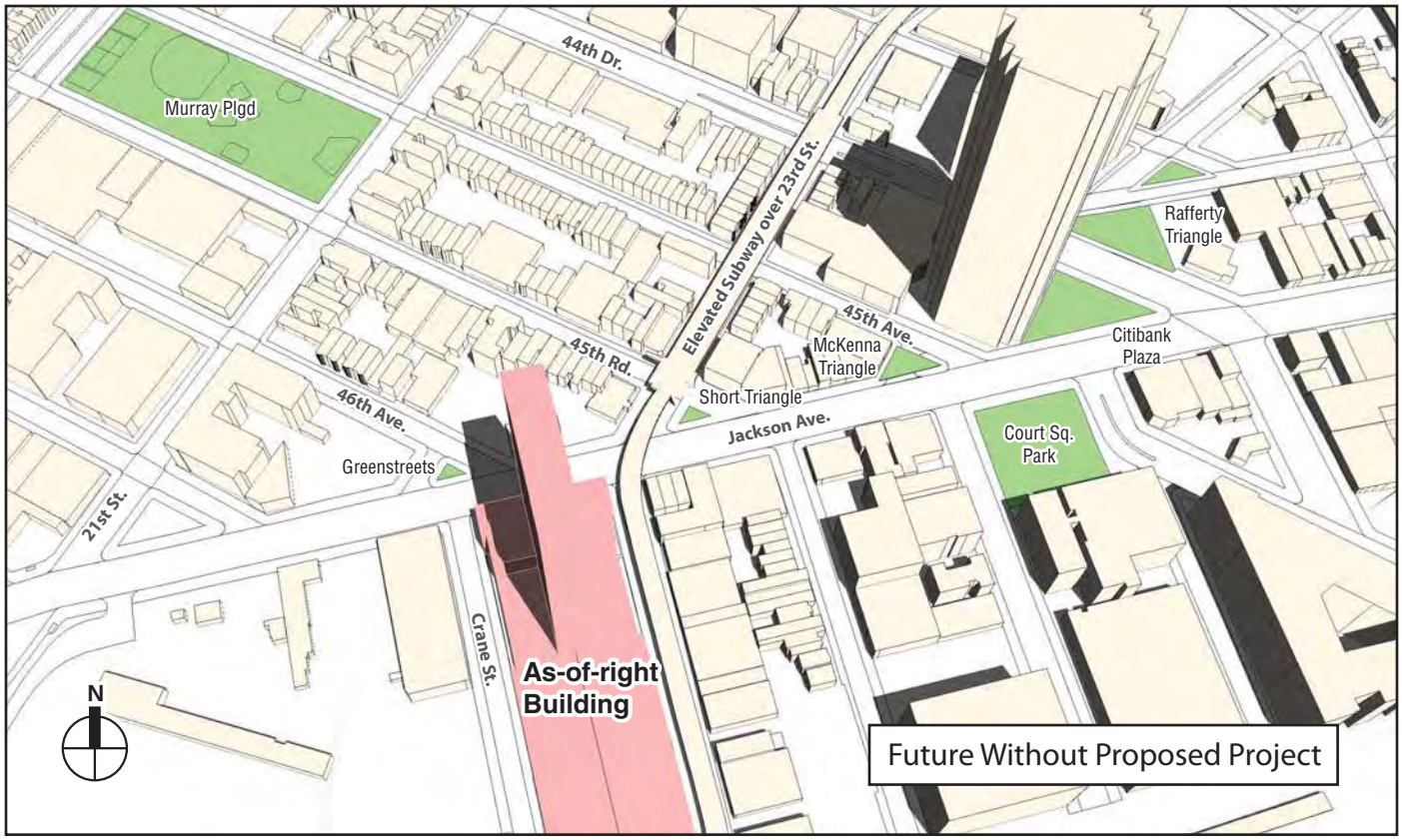
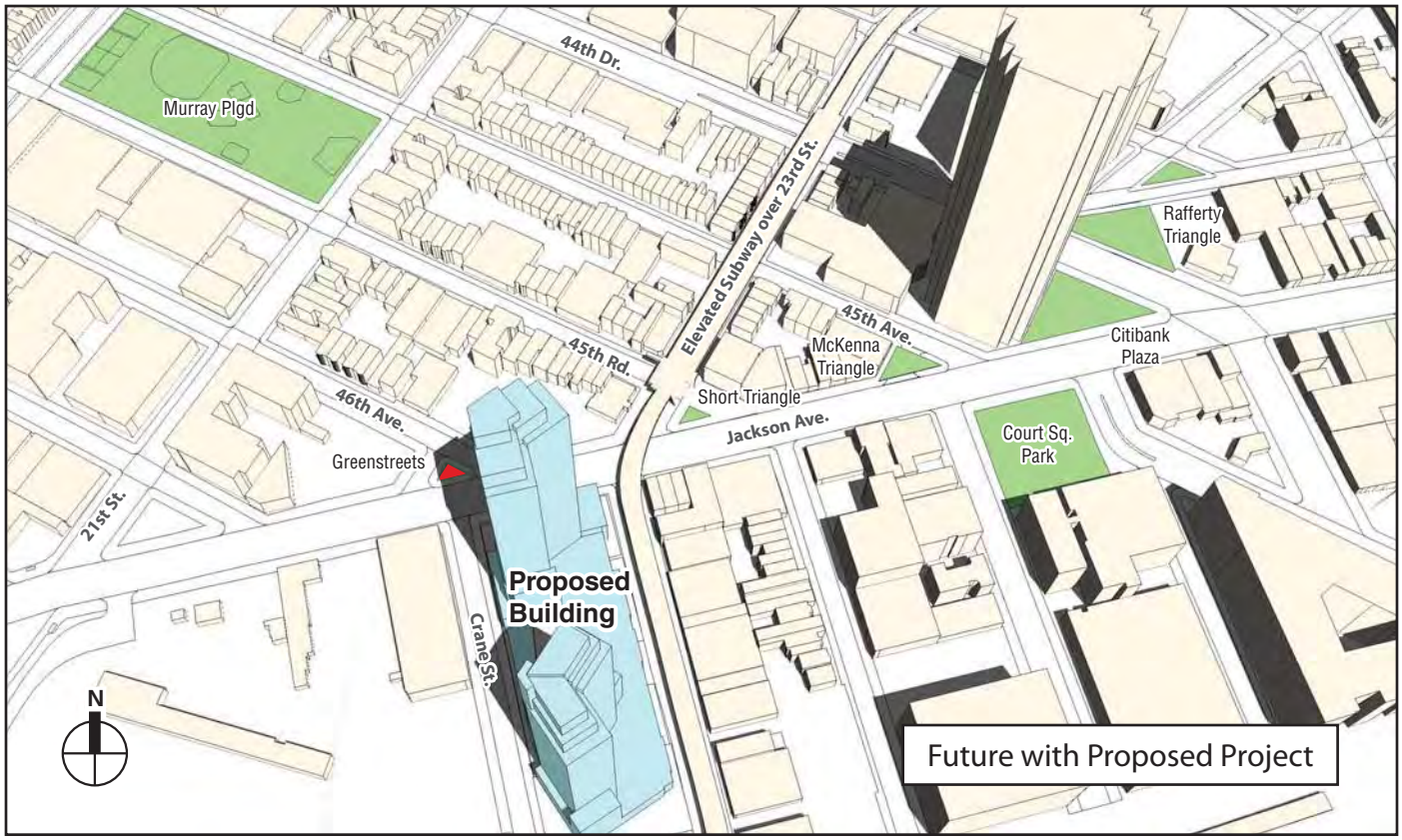


Public Open Space



Public Open Space Incremental Shadow

June 21 - 10:45 AM EST

Figure F-6

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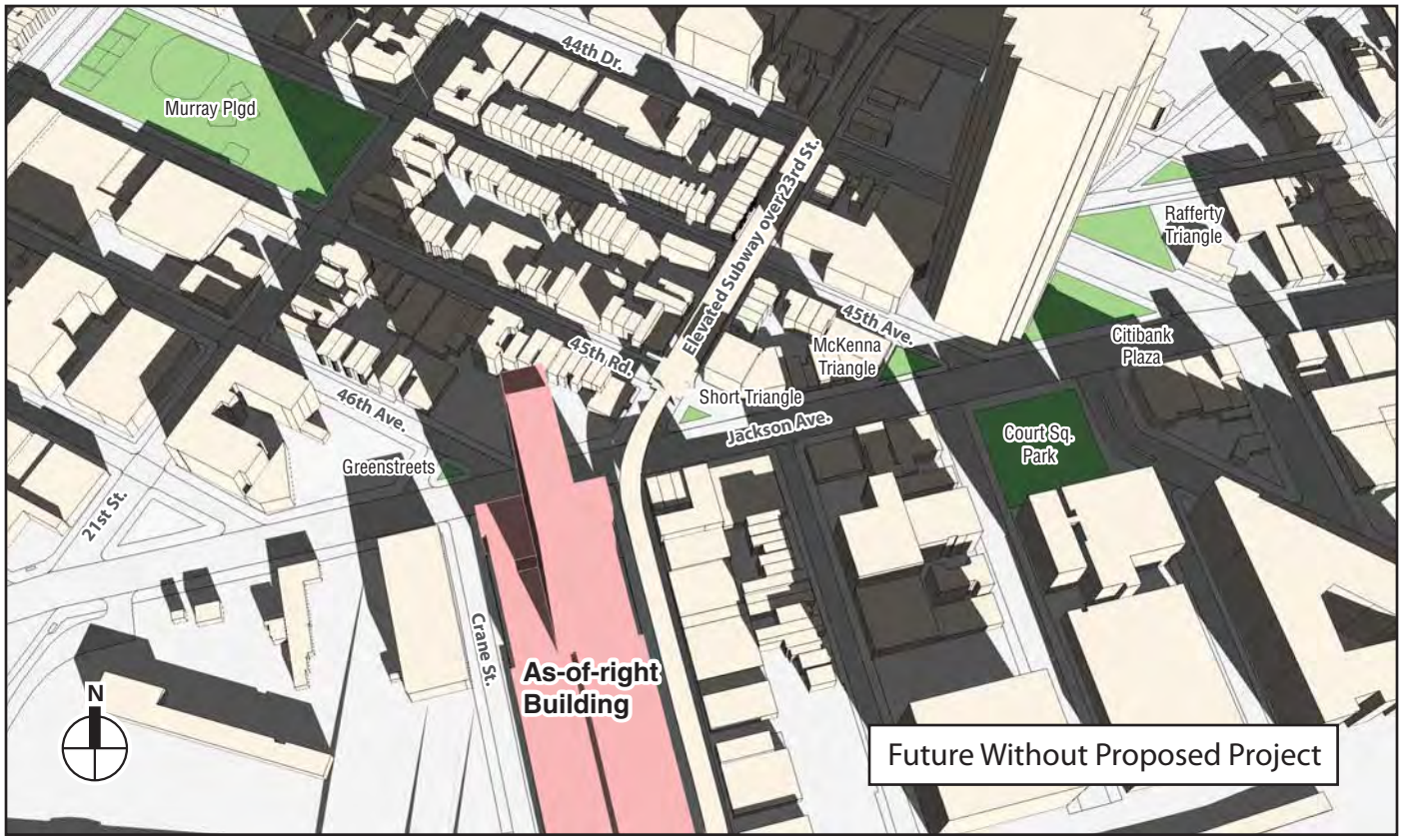

Public Open Space

Public Open Space Incremental Shadow

December 21 - 9:00 AM EST

Figure F-7

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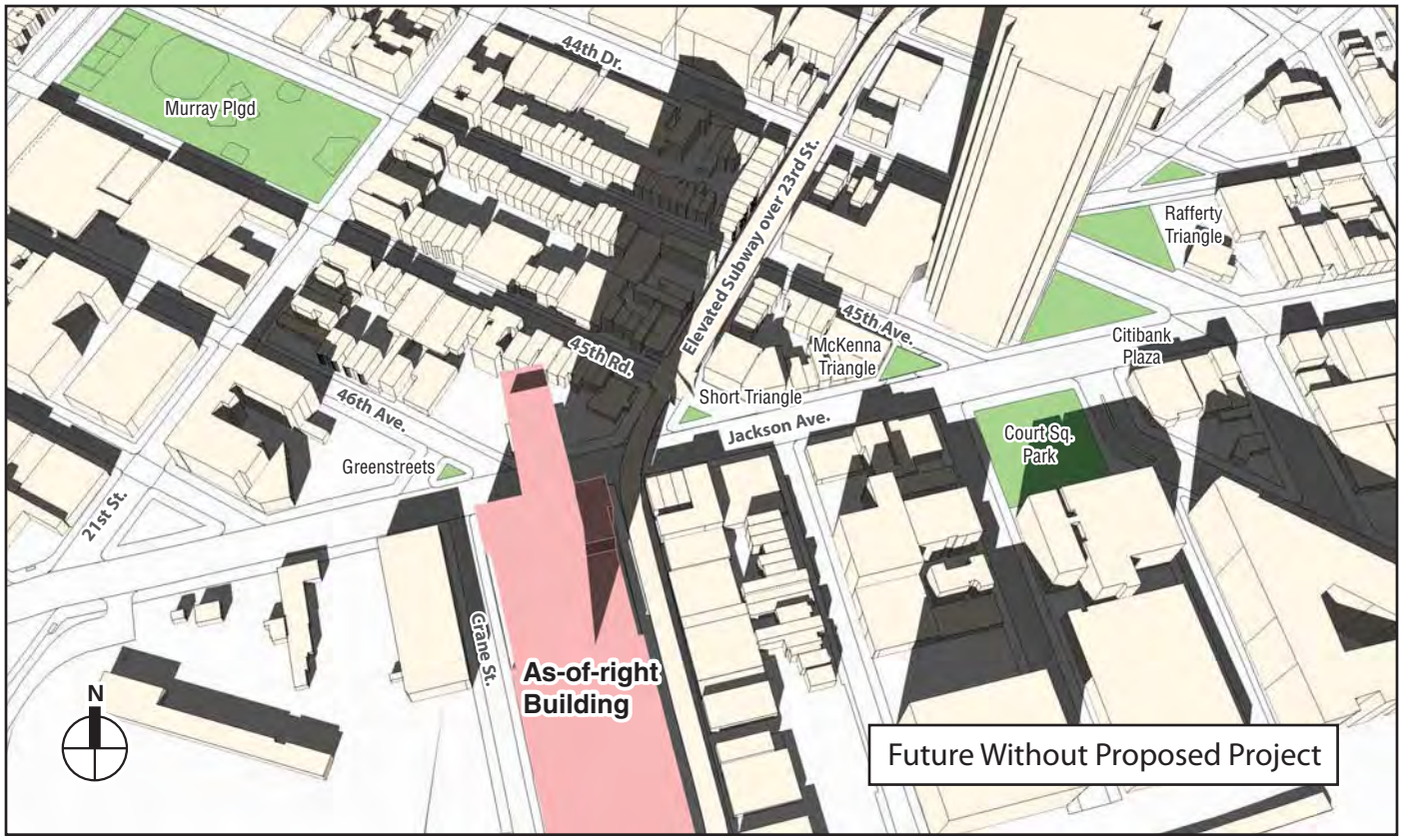

Public Open Space

Public Open Space Incremental Shadow

December 21 - 12:00 PM EST

22-44 JACKSON AVENUE

Figure F-8

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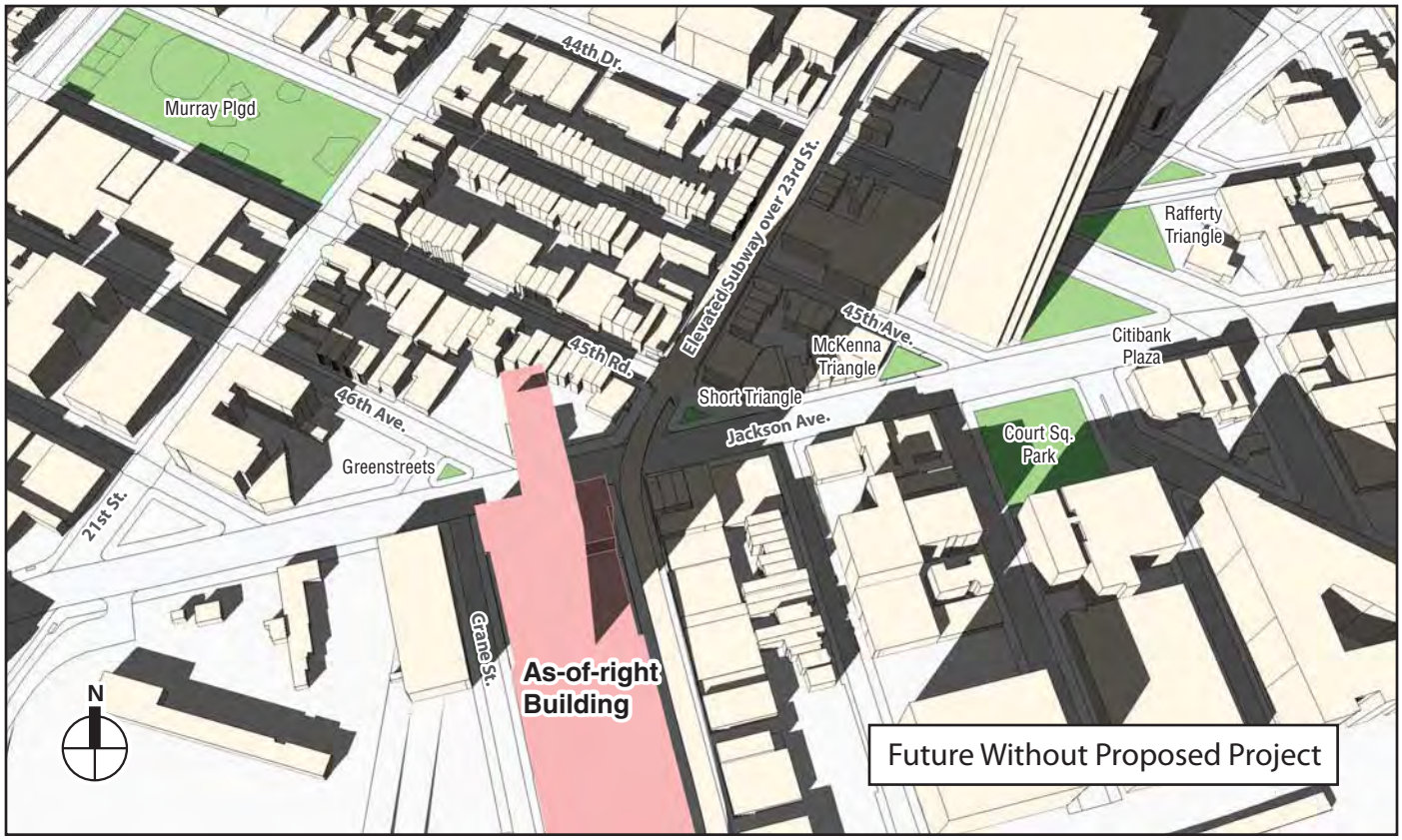


Public Open Space

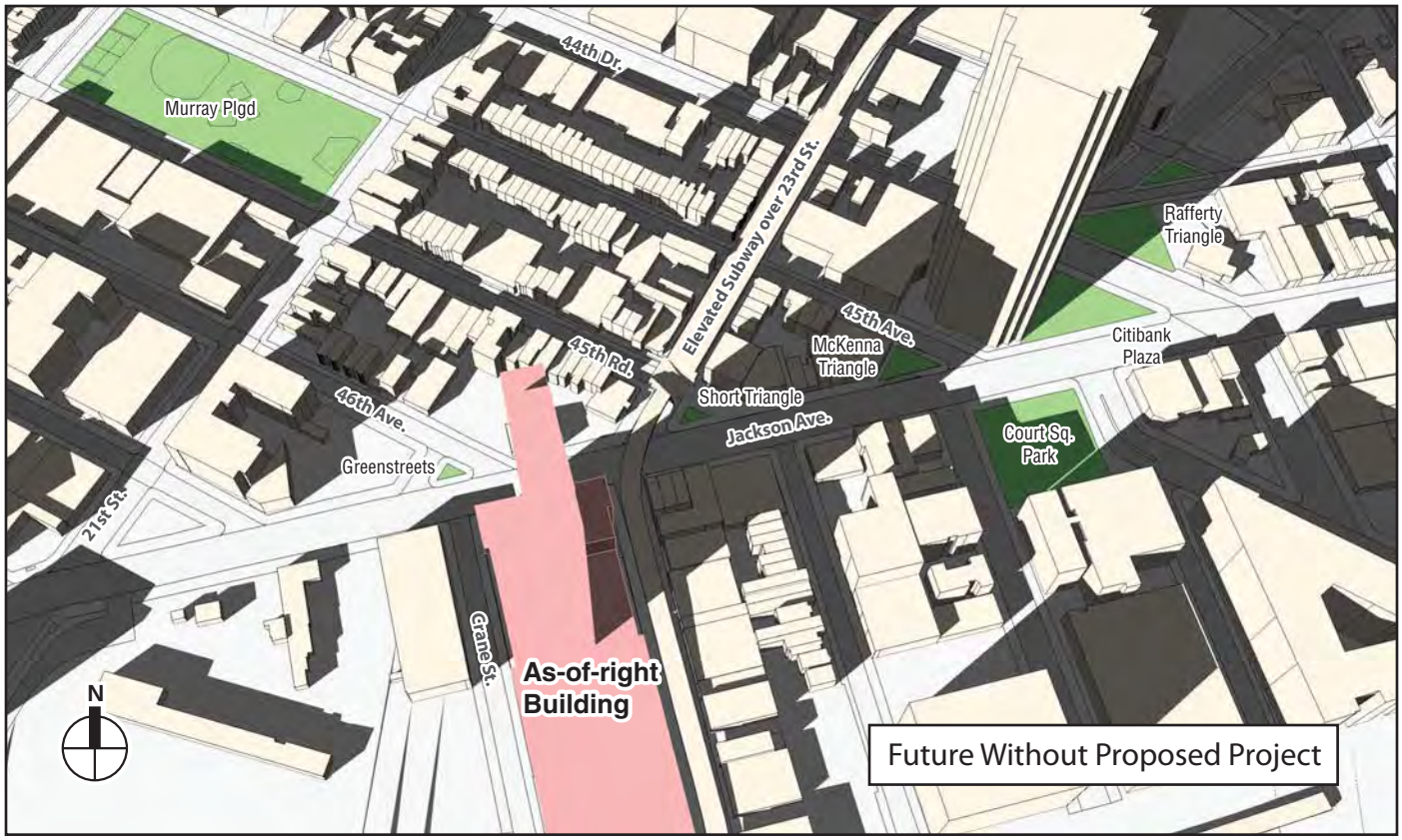
Public Open Space Incremental Shadow

December 21 - 1:30 PM EST

22-44 JACKSON AVENUE

Figure F-9

2.7.13



Public Open Space

Public Open Space Incremental Shadow Reduction in Shadow

December 21 - 2:30 PM EST

Figure F-10

Table F-2
Incremental Shadow Durations

Open Space resources	March 21 / Sept. 21 7:36 AM-4:29 PM	May 6 / August 6 6:27 AM-5:18 PM	June 21 5:57 AM-6:01 PM	December 21 8:51 AM-2:53 PM
Murray Playground	—	—	—	8:51 AM–9:50 PM Total: 59 min
Greenstreets triangle at Jackson and 46th Avenues	9:50 AM–10:20 AM Total: 30 min	*Reduced:* *7:30 AM–8:10 AM* *Total: 40 min* 10:10 AM–10:40 AM Total: 30 min	*Reduced:* *8:20 AM–9:00 AM* *Total: 40 min* 10:30 AM–11:00 AM Total: 30 min	8:51 AM–9:40 PM Total: 49 min
Albert Short Triangle	*Reduced:* *12:20 PM–1:00 PM* *1:50 PM–2:00 PM* *Total: 50 min*	—	—	11:40 AM–12:30 PM Total: 50 min *Reduced:* *12:30 PM–1:20 PM* *2:40 PM–2:53 PM* *Total: 1 hr 3 min*
McKenna Triangle	*Reduced:* *2:20 PM–2:40 PM* *Total: 20 min*	—	—	1:10 PM–2:00 PM Total: 50 min *Reduced:* *2:00 PM–2:53 PM* *Total: 53 min*
Court Square Park	*Reduced:* *2:50 PM–4:29 PM* *Total: 1 hr 39 min*	—	—	2:00 PM–2:53 PM Total: 53 min
Citibank Plaza	—	—	—	1:50 PM–2:40 PM Total: 50 min *Reduced:* *2:50 PM–2:53 PM* *Total: 3 min*
Rafferty Triangle	—	—	—	2:10 PM–2:30 PM Total: 20 min *Reduced:* *2:50 PM–2:53 PM* *Total: 3 min*

Notes: Table indicates entry and exit times and total duration of incremental shadow for each sunlight-sensitive resource. Daylight saving time is not used—times are Eastern Standard Time, per *CEQR Technical Manual* guidelines. However, in reality, Eastern Daylight Time is in effect for the March/September, May/August and June analysis periods. Therefore, add one hour to the given times to determine the actual clock time.

"Reduced" durations refer to shadow that the as-of-right building would cast, which would not be cast by the proposed building.

AS-OF-RIGHT BUILDING

As noted above, absent the proposed project, a 492-foot-high as-of-right building would be developed on the project site. This building would be approximately the same height at its highest point compared with the proposed building—several feet taller, in fact—but would

consist of one tower on a base, rather than two towers like the proposed building (see **Figure F-3**). The single tower of the as-of-right building would be larger than the proposed in the north-south dimension, thus casting larger shadows to the east and west, but narrower in the east-west dimension, casting smaller shadows due north around noon.

RESOURCES OF CONCERN

John F. Murray Playground is located on the full block between 11th and 21st Streets, 45th Avenue, and 45th Road. Recently renovated, the playground contains both active and passive resources with basketball and handball courts, a baseball field, shuffleboard layouts, game tables, seesaws, sitting areas, and a separate play area for children. **Albert Short Triangle** is a small plaza, recently renovated along with the adjacent new Court Square Subway Station structure at Jackson Avenue and 23rd Street, containing a large planter with several trees and bushes, and a row of benches. **McKenna Triangle**, **Citibank Plaza**, and **Rafferty Triangle** are public plazas with plantings and seating at Jackson and 45th Avenues, all located adjacent to, or across the street from, the One Court Square Citigroup office tower. **Court Square Park**, south of One Court Square across Jackson Avenue, contains plantings, benches, walkways and a large fountain. A small **Greenstreets triangle** across Jackson Avenue from the project site contains trees and bushes but no benches or other amenities.

RESOURCES THAT WOULD NOT EXPERIENCE INCREMENTAL SHADOW

The analysis concluded that the recently renovated triangle shaped plaza just north and adjacent to Rafferty Triangle (Sundial Park) would not receive project-generated incremental shadow, due to existing shadow from the intervening One Court Square building.

MARCH 21/SEPTEMBER 21

On March 21/September 21, the Greenstreets triangle across Jackson Avenue from the project site would be in shadow in the future either with or without the proposed action from the start of the analysis day at 7:36 AM until 9:45 AM. Shadow from the as-of-right building would exit the triangle beginning at 9:50 AM while shadow from the proposed building would remain on the triangle for an additional half-hour (see **Figure F-4**).

The proposed building would not cast any further incremental shadow on the open spaces in the study area on this analysis day. Short Triangle, McKenna Triangle, and Court Square Park would all experience reductions in shadow with the proposed project, compared to the as-of-right project, ranging in duration between 20 minutes (McKenna Triangle) to an hour and 39 minutes (Court Square Park).

MAY 6/AUGUST 6

Shadow from the as-of-right building and the proposed building would both pass across the Greenstreets Triangle across Jackson Avenue from the project site during the May 6/August 6 morning (see **Figure F-5**). The proposed building's north tower, narrower and more set back from the triangle than the as-of-right building's tower, would cast 10 minutes less shadow than the as-of-right.

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

JUNE 21

Similar to the May 6/August 6 analysis day, shadow from the as-of-right building and the proposed building would both pass across the Greenstreets Triangle across Jackson Avenue from the project site on the June 21 morning (see **Figure F-6**). The proposed building would cast 10 minutes less shadow than the as-of-right, as on May 6/August 6.

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

DECEMBER 21

On December 21, shadows are longest, and shadow from the proposed building's southern tower reaches some of the resources, unlike on the other analysis days.

At the start of the December 21 analysis day at 8:51 AM, shadow from the proposed building would cast a larger shadow on Murray Playground than the as-of-right tower. This incremental shadow would move eastward across the center and eastern portions of the playground (see **Figure F-7**), exiting the northeast corner at 9:50 AM, resulting in a total of about an hour of incremental shadow.

The proposed building would also cast incremental shadow on the Greenstreets Triangle across Jackson Avenue from the project site from 8:51 AM to 9:40 AM (see **Figure F-7**).

In the middle of the day, the proposed building's southern tower would cast 50 minutes of new shadow on Short Triangle and then McKenna triangle (see **Figures F-8 and F-9**). Following that, however, the as-of-right building would cast shadows very similar in extent and duration on these two open spaces, resulting in a slight net reduction in shadows on both. Shadow from the proposed building's north tower would not add incremental shadow on either of these two spaces on this day.

Shadow from the proposed building's south tower would pass across portions of Court Square Park and Citibank Plaza in the afternoon, casting about 50 minutes of incremental shadow (see **Figure F-10**). The incremental shadow would eliminate all the remaining sunlight on Court Square Park for the final 13 minutes of the analysis day.

Shadow from the proposed building's south tower would also pass across portions of Rafferty Triangle from 2:10 PM to 2:30 PM (see **Figure F-10**).

E. PROBABLE IMPACTS OF THE PROPOSED ACTION

The proposed project would not result in significant adverse shadow impacts. Although it would result in some additional incremental shadows on several sun-sensitive resources, as discussed below, the project-generated shadows would be of limited duration and extent such that no significant adverse shadow impacts on vegetation or parks would occur.

The **Greenstreets triangle** at Jackson and 46th Avenues would experience limited incremental shadow throughout the year. However, in late spring and summer, it would experience an overall reduction in shadow compared with the as-of-right project. On March 21/September 21, which represents the beginning and end of the growing season, the space would experience 30 minutes of incremental shadow. In winter it would experience about 50 minutes of incremental project-generated shadow. However, throughout the growing season, this space would continue to be in sun for most of the day, and the limited extent and duration of incremental shadow would not cause significant adverse impacts.

Short Triangle and **McKenna Triangle** would experience a net reduction in shadows with the proposed project, as compared with the No Build condition.

Court Square Park would experience an hour and 40 minutes less shadow on March 21/September 21. On December 21 it would experience just under an hour of new shadow from the proposed building's south tower. This incremental shadow, occurring in winter, would not impact the vegetation. For users of the space in winter, during the 53 minute duration of new shadow, areas of sun would remain available in the park for most of this period, and sunlit areas would also be available across Jackson Avenue in McKenna Triangle and Citibank Plaza when much of Court Square Park is in shadow. Thus, the project-generated incremental shadow would not result in significant adverse impacts to this park.

Citibank Plaza and **Rafferty Triangle** would experience 50 and 20 minutes of incremental shadow, respectively. These plazas would remain mostly or entirely in sun throughout the morning and mid-day of December 21. Thus, the proposed project would not result in significant adverse impacts to these spaces.

Murray Playground would experience an hour of incremental shadow on the December 21 morning. This shadow would move across portions of the space on the east side over the course of this duration. The playground would remain mostly or completely in sun for the remainder of the analysis day, and would not experience significant adverse impacts resulting from the proposed project.

F. PROJECT-GENERATED OPEN SPACE

The proposed development would include approximately 32,000 square feet of new publicly accessible open space. Most of the open space would be located south of the proposed building; the balance would be plazas with benches and trees along Davis Street, and a small rectangular shaped area at the corner of Crane Street and Jackson Avenue containing benches and landscaping.

According to the *CEQR Technical Manual*, project-provided open space cannot experience a significant adverse shadow impact from the project, because without the project the open space would not exist. However, CEQR does require a qualitative assessment of shadows on project-generated open space.

As shown on **Figure F-2**, shadows fall to the southwest and southeast very briefly at the start and end, respectively, of the late spring and summer analysis days, but never fall southwest or southeast in March 21/September 21 or December 21.

The project's main open space, located south of the proposed building, would be mostly or completely in sun throughout the year. Small areas of this space that are adjacent to the south end of the proposed building, would likely receive a few hours of shadow from the proposed building either in the morning or the afternoon, depending on which side of the proposed building they would be located on. But given the lack of structures to the south and west, and the low structures to the east (including the elevated 7 subway), large areas of the open space would receive direct sun for many hours on all analysis days.

The small open space area on the northwest corner of the project block would be in shadow throughout the morning, but in sun throughout the afternoon, in all seasons.

The area proposed for trees and benches and public space east of the proposed building, along the adjacent Davis Street sidewalk, is already in shadow for the majority of the day due to the elevated 7 subway (above) or the existing project site buildings. The proposed project would cast

an incremental shadow on this area in the afternoon. However, in accordance with the *CEQR Technical Manual*, since this open space would not exist without the project, it cannot experience a significant adverse shadow impact from the project. ✷

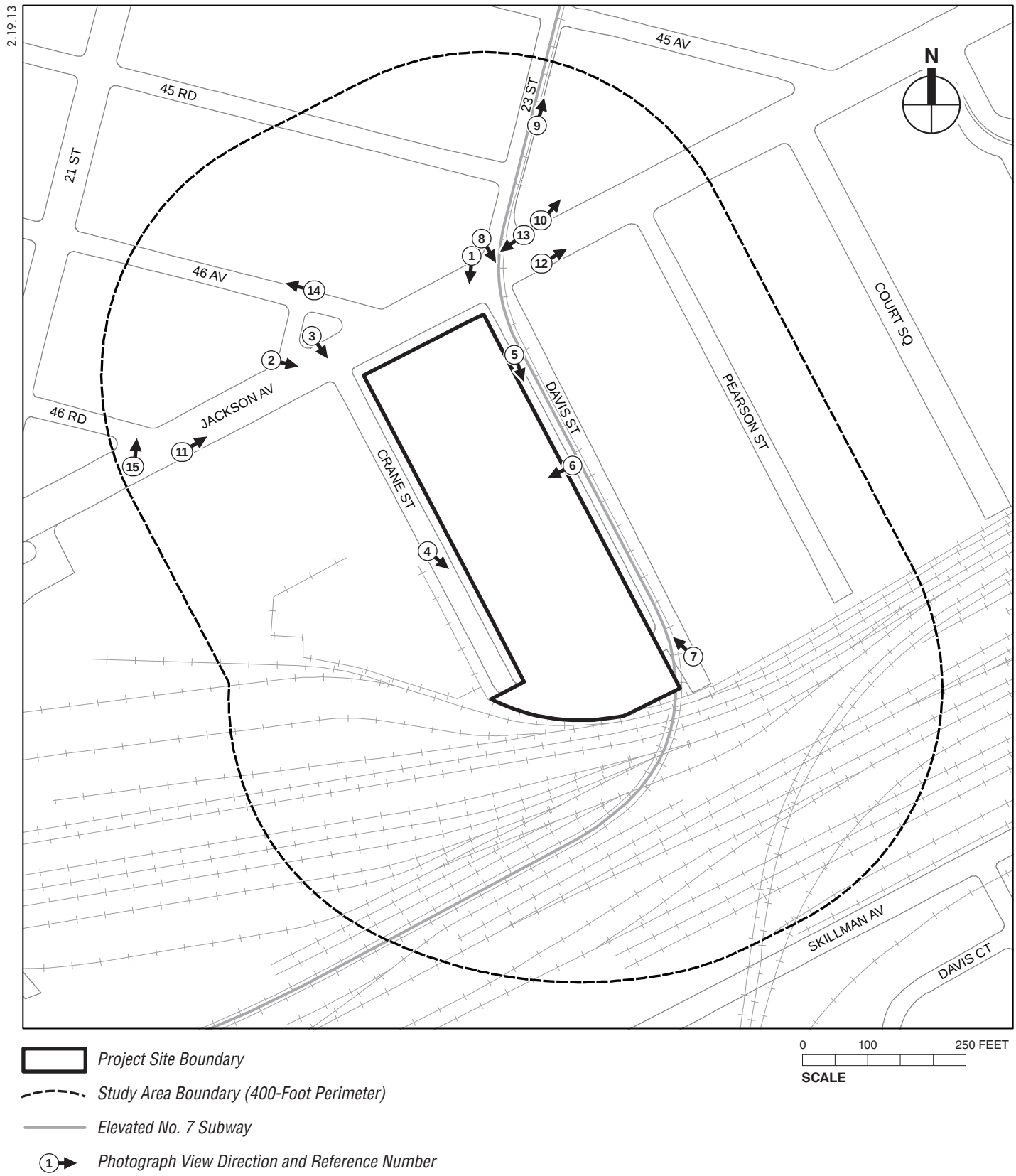
A. INTRODUCTION

This attachment examines how the proposed action may affect the urban design and visual resources of the project site and the surrounding area. The project site is located on Block 86 (Lots 1, 6, 7, 8, and 22) and Block 72, Lot 80 in Queens Community District 2, and is bounded by Jackson Avenue to the north, Sunnyside Yards to the south, Davis Street to the east, and Crane Street to the west. The proposed action would redevelop the project site with a mixed-use development that includes residential units, artist work space, retail uses, a 250-space public parking garage, and new publicly accessible open space on a site that is currently occupied by twelve buildings, eight of which are interconnected and function as a single complex).

The 2012 *City Environmental Quality Review* (*CEQR) Technical Manual* defines urban design as the totality of components that may affect a pedestrian's experience of public space. These components include streets, buildings, visual resources (e.g. views of significant natural or built features), open space, natural features, and wind. The *CEQR Technical Manual* recommends a preliminary urban design assessment for projects that would create physical alterations to the built environment beyond what is allowed by existing zoning. Because the proposed action would result in an increase in the allowable floor area ratio (FAR) on the site as well as waivers of street wall requirements, the project meets the CEQR threshold for a preliminary assessment. The following assessment focuses on potential changes generated by the proposed action to the arrangement, appearance, and functionality of the built environment at the pedestrian-level, compared with corresponding changes to the study area that would be expected in the future without the proposed action. Based on the methodology described in the *CEQR Technical Manual*, since the project site is not on the waterfront or within or near any historic districts, the 400-foot land use, zoning, and public policy study area was used for this urban design analysis (see **Figures G-1a and G-1b**[1]).

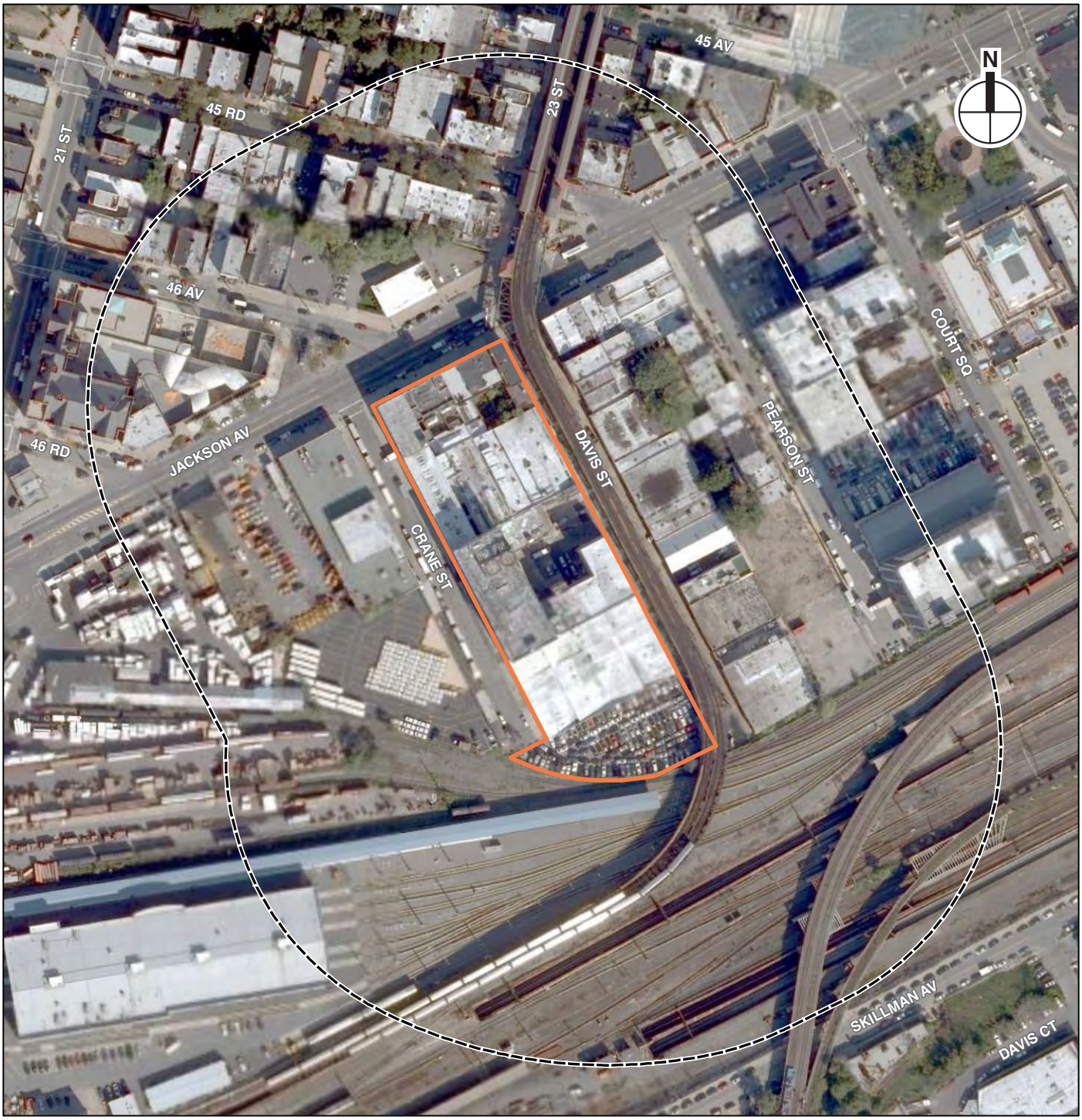
This assessment concludes that, compared with changes to the project site and the study area expected in the future without the proposed action (the as-of-right development scenario), the proposed action would not result in any significant adverse changes to urban design and visual resources.

[1] **Figure G-1a** is the photo key showing the location and direction of the photographs used in this analysis.



Urban Design and Visual Resources
Study Area and Project Location
Figure G-1a

2.19.13



Project Site Boundary

Study Area Boundary (400-Foot Perimeter)

0 100 250 FEET

SCALE

Urban Design and Visual Resources
Aerial Photograph of Project Site and Study Area
Figure G-1b

B. EXISTING CONDITIONS

URBAN DESIGN

PROJECT SITE

The project site is occupied by twelve buildings with frontage on Jackson Avenue to the north, Davis Street to the east, and Crane Street to the west (Block 86, Lots 1, 6, 7, 8, and 22) (see **Figure G-1c**), and a 100-space surface parking lot that abuts Sunnyside Yards to the south (Block 72, Lot 80). The buildings range in height from 1 to 5 stories and contain approximately 250,000 to 300,000 gross square feet (gsf) of floor area. Eight of the twelve buildings are interconnected industrial/manufacturing and warehouse buildings that function as a single complex of approximately 190,000 square feet, comprising the majority of the project site

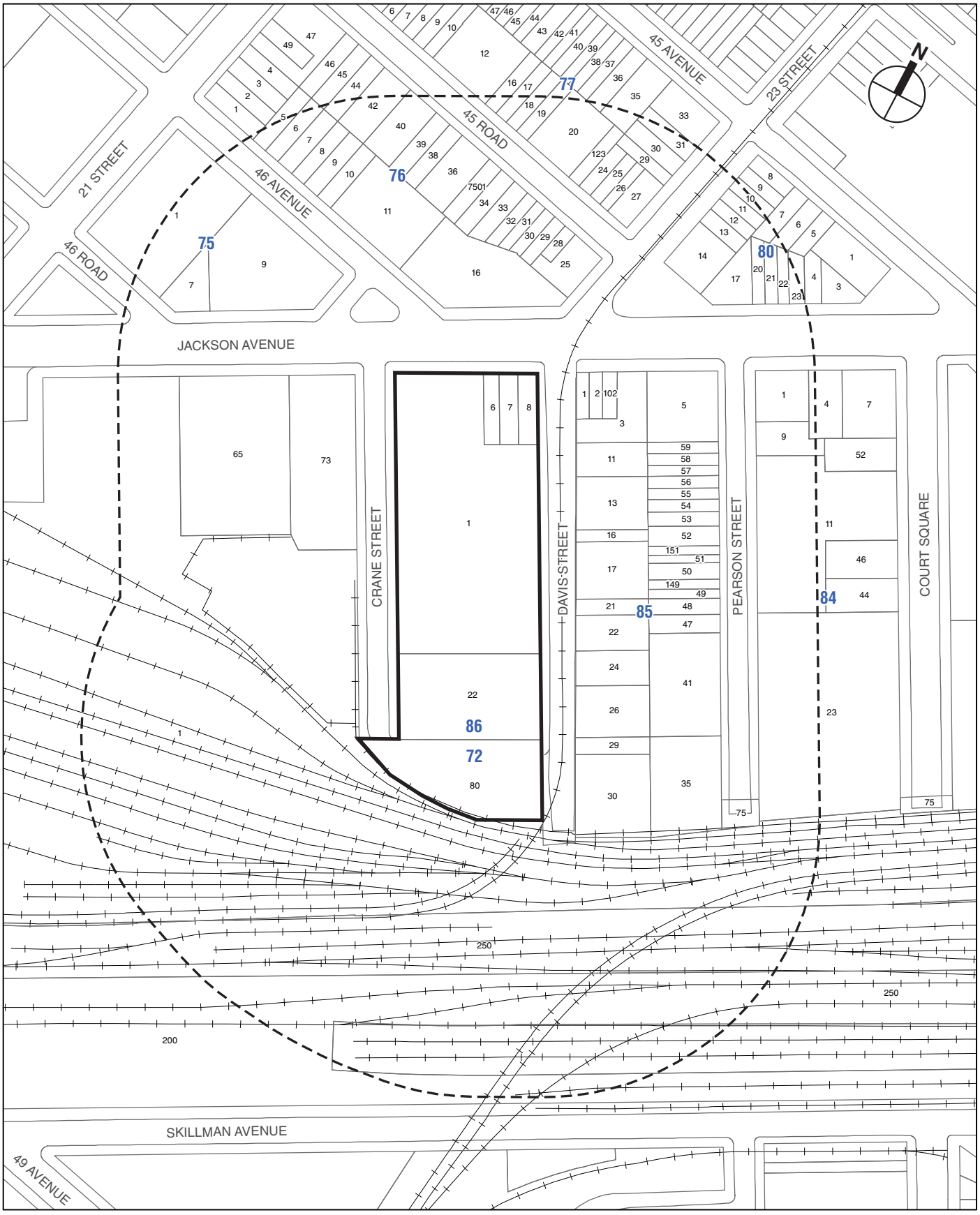
Four buildings along the Jackson Avenue frontage at the northeast portion of the project site are 4- and 3-story mixed-use commercial and residential buildings (see **Figure G-2**). These buildings occupy approximately 75 feet of frontage along Jackson Avenue (on Block 86, Lots 6, 7 and 8). They are older brick buildings that contain ground floor commercial space with residential units above that are mostly vacant. The balance of the Jackson Avenue frontage is occupied by a portion of the interconnected complex of industrial buildings that comprises the remainder of Block 86 (Lot 1). These structures together form a continuous street wall along Jackson Avenue with the industrial building being roughly the same height as the 4-story building at the northeast corner of the lot. Photos 1 and 2 in **Figure G-2** show views of the project site from Jackson Avenue.

The industrial/warehouse complex also forms the large majority of the street wall on the west side of the block, extending approximately 530 feet along Crane Street from Jackson Avenue to the parking lot on the south end of the block (See Photos 3 and 4 in **Figure G-3**). On this side, the building heights vary between one, three, and five stories.

Photos 5 and 6 in **Figure G-4** and Photo 7 in **Figure G-5** show views of the east side of the project site from Davis Street. Photo 5 shows the MTA-New York City Transit (NYCT) elevated No. 7 subway running parallel to the 1-story portion of the industrial/warehouse complex. Photo 6 shows the enclosed loading dock, accessible from the eastern side of the building. Photo 7 is a view of the project site on Davis Street looking northwest, partially obstructed by the elevated No. 7 subway, which runs along Davis Street (immediately east of the project site), before turning southwest and entering the Sunnyside Yards. The elevated train crosses above a small portion of the southeast portion of the property. This view includes the surface parking lot on the southern end of the project site, as well as the 1-, 3-, and 5-story components of the building.

Most of the building's exterior is covered with graffiti art that has been created with the permission of the building owner. Approximately 15 years ago, the applicant, as a favor to an artist whose studio was in one of the project site's buildings, allowed the artist to decorate the exterior walls with graffiti-inspired murals; this expanded to other artists selected by the applicant. These designs are intended to be temporary in nature and are covered by new paintings on a regular basis. The building and its temporary graffiti murals has become informally known as "5 Pointz." This building is visually distinct from the other industrial buildings in the study area (see discussion below) due to its large size and the graffiti covering its façade.

2.19.13



Project Site Boundary

Study Area Boundary (400-Foot Perimeter)

72 *Block Number*

250 *Lot Number*

22-44 JACKSON AVENUE

Tax Map

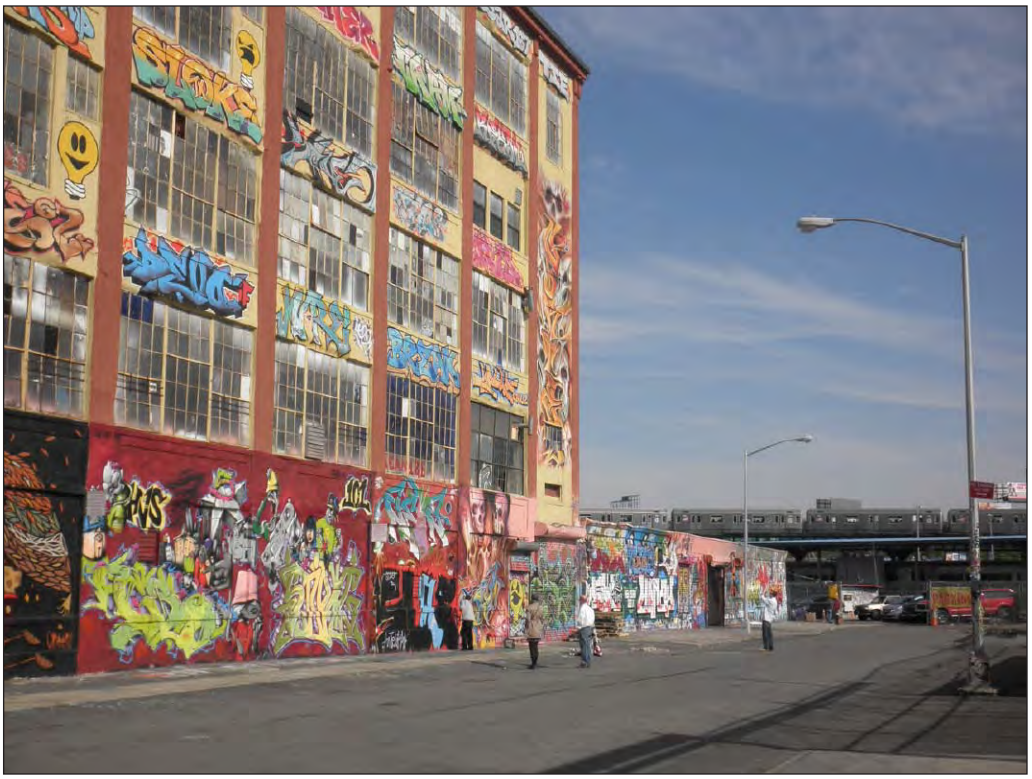
Figure G-1c

Looking southwest on Jackson Avenue toward the Project Site **1**

Looking southeast on Jackson Avenue toward the Project Site **2**

Urban Design
Figure G-2

Looking southeast at the corner of Jackson Avenue and Crane Street at the Project Site **3**



Looking southeast on Crane Street at the Project Site **4**

Looking south on Davis Street toward the Project Site **5**

Looking southwest on Davis Street toward the Project Site **6**

Looking northwest toward the Project Site from Davis Street **7**

The total lot area of the project site is approximately 127,156 square feet (sf), or 2.9 acres. As noted above, the total floor area of the existing buildings on the project site is between 250,000 and 300,000 gsf. This total existing floor area is below the 635,750 gsf allowable on the site, which is in an M1-5/R7-3 zoning district within Area C of the Queens Plaza Subdistrict of the Special Long Island City Mixed Use District, permitting a 5.0 FAR for all uses; except pursuant to New York City Zoning Resolution (ZR) Section 117-56, which provides that Blocks 86/72 (the project site) and Block 403 (in another part of Long Island City) can be increased to a maximum 8.0 by Special Permit with provision of certain public parking and open space (see Attachment B, "Land Use, Zoning, and Public Policy").

STUDY AREA

As described in detail in Attachment B, "Land Use, Zoning, and Public Policy," the study area is characterized by a mix of residential, commercial, and industrial uses, as well as transportation and community facility uses. Apart from One Court Square and several new developments, the study area contains mainly older, low-rise building stock. Most of the residential buildings in the study area are 2- and 3-story row houses built before 1930. Residential uses are concentrated on the west side of Pearson Street (mostly two-family homes) and the south side of 45th Road, north of Jackson Avenue (two family-homes and a 5-story, 25-unit apartment building).

Dominant visual features in the study area are the elevated No. 7 subway tracks and the Jackson Avenue corridor. The train tracks bisect the study area, running along 23rd Street, turning slightly east once crossing Jackson Avenue, and running along Davis Street immediately east of the project site, before entering the Sunnyside Yards (see **Figure G-1a**). The subway tracks are elevated on green-painted metal supports which are partially covered in graffiti art along Davis Street. Photos 8 and 9 in **Figure G-6** illustrate the effects of the elevated subway on the pedestrian experience.

Within the study area, Jackson Avenue is lined primarily with commercial uses. The block directly north of the project site across Jackson Avenue (Block 76) is characterized by low-rise neighborhood commercial buildings (a bank and a restaurant). The street wall in this location is interrupted by surface parking lots. The Court Square Diner building on this block was recently renovated to reflect the architecture of older, prefabricated diners. Northeast of the project site (Block 80), Jackson Avenue is lined with plazas (see discussion below) and vacant land, and a low-rise commercial building. Also on this block are entrances to the new Court Square Subway Station complex along with several take-out eateries in a mixed-use building with residential space on the upper floors. The Jackson Avenue frontage east of the project site (Block 85) contains four 3- and 4-story, mixed-use buildings with ground floor commercial uses, including restaurants and neighborhood businesses, with a combination of residential and office space above, in addition to a 1-story commercial building. Another 1-story commercial building is located on the southeast corner of Jackson Avenue and Pearson Street (Block 84). Also on this block, a large (approximately 127,000-square foot, 6-story) office building is located further south on Pearson Street. West of the project site on Block 72, a commercial taxi business is located on the south side of Jackson Avenue.

Two triangular plazas are located on the north side of Jackson Avenue across from the project site. The plaza at the corner of Jackson Avenue and 46th Avenue is created by the intersection of the street grid north of Jackson Avenue (which angles to the northwest). It contains trees and grass and is classified as a Greenstreet. The plaza at the intersection of Jackson Avenue and 23rd Street is the Albert Short Triangle, which was recently renovated along with the Court Square

Looking south on Davis Street from 23rd Street and Jackson Avenue **8**

Looking north on 23rd Street **9**

Station, as part of the City's Jackson Avenue Streetscape Project. This major streetscape improvement program was implemented by the City to improve the pedestrian experience along the Jackson Avenue corridor between 23rd Street and 42nd Road. These improvements include new lighting, streetscape amenities, and an improved roadway design, which have transformed Jackson Avenue—the main corridor of Long Island City's business district—into an attractive, landscaped boulevard. A landscaped median serves as the centerpiece of these improvements. The project also included the redesign and expansion of the triangular parks surrounding Court Square, which were completed and opened to the public in fall 2009. The Phase I improvements, which extend from Queens Plaza to 23rd Street, were completed in fall 2010.[1]

Directly north and east of the Court Square subway station (east of 45th Avenue) are the One and Two Court Square Citigroup office buildings—located just outside of the 400-foot study area. One Court Square is an important visual feature in Long Island City. Rising approximately 658 feet, One Court Square is the tallest building in New York City outside of Manhattan. Wrapped in green-tinted glass, the building represents a striking break from the urban design character of the surrounding area. One Court Square represents a precedent of the modern urban design that is likely to become more prevalent with the expected increase in higher density residential, retail, and office development. Citigroup's 15-story Two Court Square office tower is adjacent to One Court Square and with the same green-tinted glass. Across the street from the Citigroup complex is the United Nations Federal Credit Union Corporate Headquarters located at 24-01 44th Road in a 16-story, 274,000-square foot, Class A office building, On the same block, Rockrose Development is also nearing completion of a modern 41-story residential tower on 43rd Avenue adding to the cluster of tall tower buildings in the center of Long Island City near the transit hub.

South of Jackson Avenue, the study area is primarily industrial and transportation uses. West of the project site on Crane Street is a 1- and 2-story industrial building currently occupied by a commercial bakery. The east side of Davis Street contains several low-rise industrial and automotive-related businesses. There are also several industrial and warehouse buildings on the west side of Pearson Street, and a large City Wide Self Storage facility on the east side of the street, occupying the southern half of the block bounded by Court Square on the east. North of Jackson Avenue, several industrial facilities are scattered throughout the primarily residential and commercial blocks. Most of the industrial buildings were built before 1950 and are unornamented. The southernmost portion of the study area is occupied by Sunnyside Yards. This expansive rail yard includes Long Island Rail Road and Amtrak train tracks and infrastructure. The western portion of the study area south of Jackson Avenue also has an MTA-NYCT bus parking facility. These transportation uses interrupt the street grid and are generally restricted to pedestrian access, and there is little pedestrian traffic on the streets south of Jackson Avenue that terminate at the rail yards.

MoMA PS1 is a large institutional use in the study area; its ornamental red brick building and modern courtyard are notable visual features. The contemporary art institution and exhibition space comprises a former schoolhouse and courtyard on the block to the northwest of the project site (Block 75). The building was constructed in 1900 in the Romanesque Revival style, and the facilities were expanded in 1997 to include a 2-story project space and an outdoor gallery. The courtyard entrance faces Jackson Avenue and presents a low, modern concrete wall against the sidewalk, above which the main building is visible.

[1] http://www.nycedc.com/project/jackson-avenue-streetscape-project, last accessed on October 16, 2012

Looking east on Jackson Avenue at Court Square Station **10**

Looking east on Jackson Avenue **11**

View Corridors and Visual Resources

Figure G-7

VIEW CORRIDORS AND VISUAL RESOURCES

The *CEQR Technical Manual* defines a visual resource as "the connection from the public realm to significant natural or built features, including views of the waterfront, public parks, landmark structures or districts, otherwise distinct buildings or groups of buildings, or natural resources."

PROJECT SITE

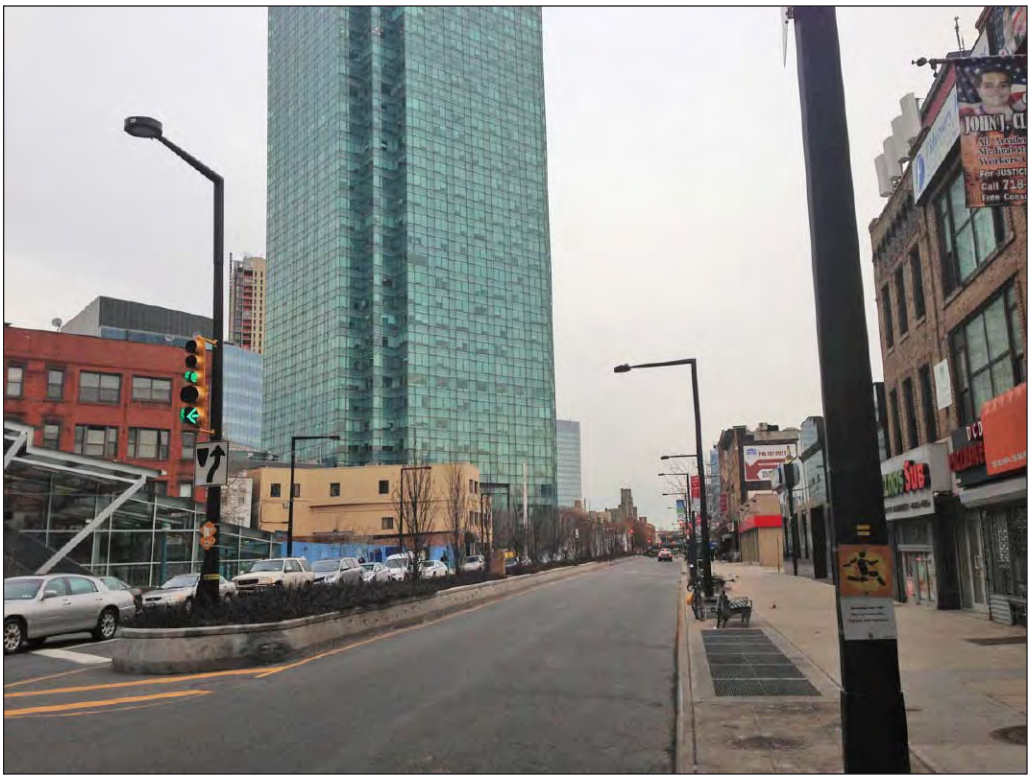
As discussed above, the project site contains four 3- and 4-story mixed-use buildings which are not considered to be prominent visual resources in the study area; they are similar to some of the surrounding older building stock and not particularly distinct in the local street views. The industrial/warehouse complex that occupies the majority of the project site is visually distinct due to the graffiti art that covers its exterior. This complex is visible from Jackson Avenue as well as from the elevated subway, which runs along Davis Street east of the project site.

STUDY AREA

View corridors in the study area are generally limited by the presence of the elevated No. 7 subway and the Sunnyside Yards, which restrict through roads in the southern portion. Views looking north on 23rd Street, south on Davis Street, and views across these streets from 45th Road and Jackson Avenue are restricted by the subway tracks. Views looking south from Jackson Avenue down Crane, Davis, and Pearson Streets are limited by the presence of the rail yard. All three of these streets provide no outlet to the south and are partially separated from the rail yard by parking lots.

The subway is elevated over the intersection of Jackson Avenue and Davis Street, which is occupied on the northeast corner by Court Square Station. The station was recently renovated, and is an important visual resource in the study area. The station provides above- and below-grade access to the 7, G, M, and E subways with elevators enclosed in a modern glass façade. The glass structure is separated from Jackson Avenue by seating and landscaping in Albert Short Triangle and connects pedestrians to the train platform elevated over 23rd Street (see Photo 10 on **Figure G-7**).

Jackson Avenue, a 100-foot-wide street, presents the most expansive and continuous view corridor in the study area. Views from Jackson Avenue looking east include the project site on the south and low-rise commercial buildings and the two triangular plazas to the north (see Photo 11 on **Figure G-7**). This view also captures the elevated train running across the intersection of Jackson Avenue and Davis Street as well as Citigroup's One Court Square building. Due to its height and modern façade, One Court Square is a significant visual resource visible from many study area vantage points. It dominates the Jackson Avenue view corridor and provides a contrast to the industrial buildings of the study area, particularly the graffiti-covered complex on the project site. East of 23rd Street, this view corridor is enhanced by recent streetscape renovations on Jackson Avenue (see Photo 12 on **Figure G-8**). Improvements include seating and street trees along the sidewalks and a median with grass and trees. While other modern, high-rise buildings are clustered near One Court Square (including the 15-story Two Court Square building, the 16-story United Nations Federal Credit Union Corporate Headquarters, and the 41-story Rockrose tower), they are not as visually prominent from the study area, given their smaller size and farther distance from the study area, as compared with the One Court Square tower.



Looking east on Jackson Avenue **12**

Looking west on Jackson Avenue **13**

View Corridors and Visual Resources

Figure G-8

The corridor looking west on Jackson Avenue from the project site also provides an expansive view, though it contains few visual resources. This portion of Jackson Avenue has some street trees; the median is not landscaped. This view does not have a continuous street wall, contains a mix of parking and automotive facilities, a gas station, and several new residential buildings. Photo 13 on **Figure G-8** shows the view looking west on Jackson Avenue.

The view looking west on 46th Avenue from Jackson Avenue provides a narrow view corridor and features MoMA PS1, which is a significant visual resource in the study area. Somewhat obscured by street trees, the north side of 46th Avenue is lined with a few 2-story townhouses. In the far distance, the skyline of midtown Manhattan is visible. Photo 14 on **Figure G-9** shows the view of MoMA PS1's courtyard entrance and midtown Manhattan in the far distance. Photo 15 on **Figure G-9** shows a view of the main building looking north at the corner of Jackson Avenue and 46th Road.

C. THE FUTURE WITHOUT THE PROPOSED ACTION

PROJECT SITE

Absent the proposed action, the project site would be redeveloped with an as-of-right building of 678,989 gsf at 5.0 FAR, which would require the demolition of the existing buildings on the project site. As described in Attachment A, "Project Description," the as-of-right building would include retail and residential space, and a 225-space accessory parking garage. The as-of-right building would be approximately 492 feet to top of 47th floor roof plus the bulkhead, and consist of a 1- and 4-story base with a tower (See **Figure G-10**). Retail would occupy the Jackson Avenue façade of the building, and the building footprint would occupy approximately 77,522 sf of the total area of the project site lots. This development would introduce some new uses on the project site and would alter the urban design character of the study area. The most notable changes at the pedestrian level would be experienced on the Jackson Avenue street wall. While the base of the as-of-right building would have a 4-story street wall along Jackson Avenue, the 47-story tower above would be a substantial change on the project site in future without the proposed action.

STUDY AREA

As detailed in Attachment B, "Land Use, Zoning, and Public Policy," there are two developments currently expected to be completed in the 400-foot study area by the 2017 Build year. A planned development on the north side of Jackson Avenue would create a 708-room, 35-story hotel at 45th Road. In addition, approximately residential 200 units are under construction on the southwest side of Pearson Street; at completion the building will be 15 stories (147 feet in height).

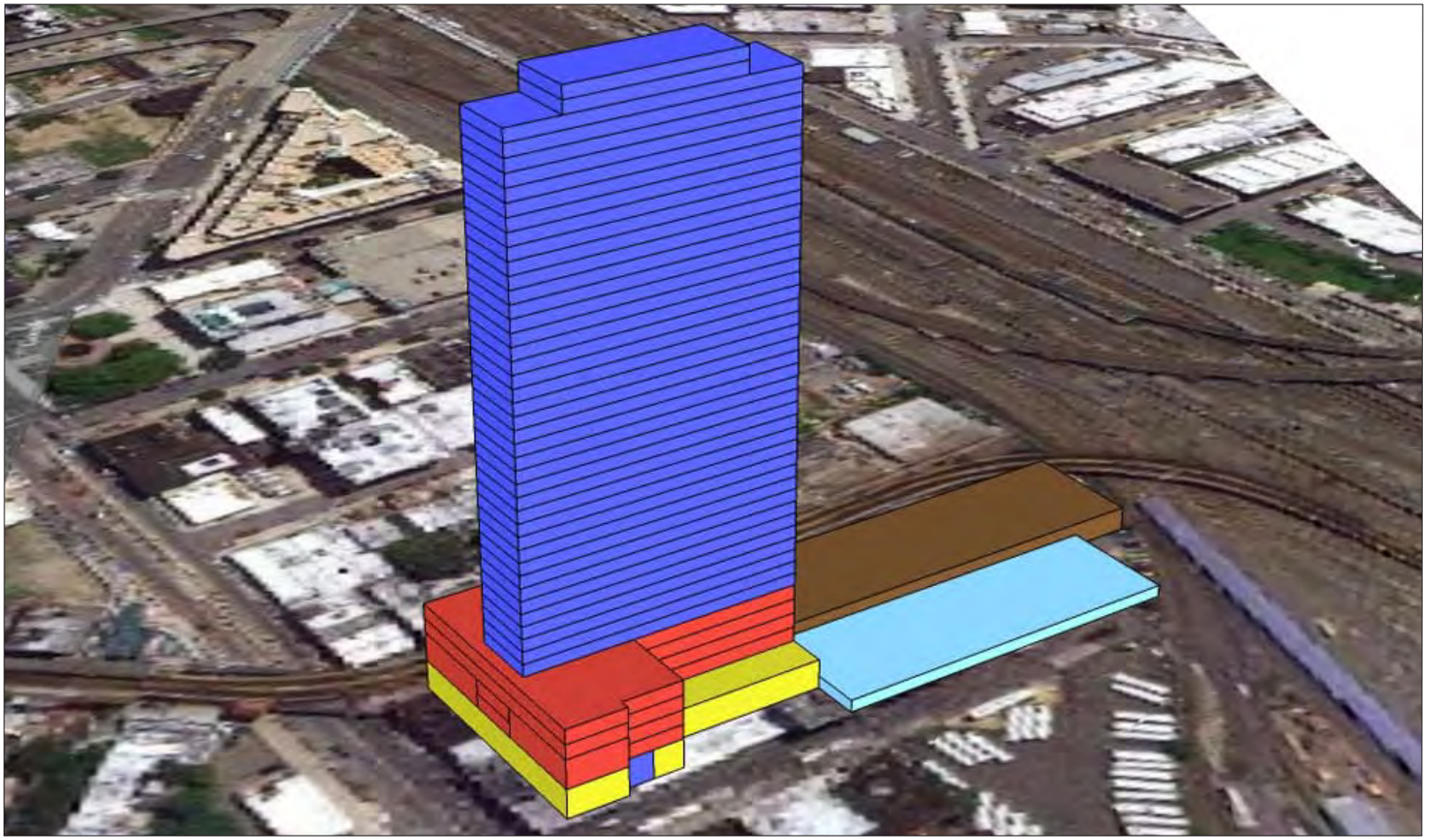
The project site's as-of-right building would be the tallest building in the study area but would not be taller than the 50-story Citigroup building just outside of the study area. The as-of-right building would be distinct from the urban design character and residential context of the area immediately surrounding the project site, but would reflect the development of new, taller buildings in the study area like the Citigroup building and the expected hotel development. The as-of-right development would result in the removal of the buildings from project site, including the industrial/warehouse complex, which could be considered visually significant. However, as explained above, the industrial/warehouse complex is only visually distinct due to the graffiti covering the building's façade; the building itself is not visually distinct in the study area. The

Looking west on 46th Avenue **14**

Looking north at the corner of Jackson Avenue and 46th Road **15**

View Corridors and Visual Resources

Figure G-9



NOTE: FOR ILLUSTRATIVE PURPOSES ONLY

- Residential
- Commercial
- Retail
- Double height space from cellar
- Parking

Views East from Jackson Avenue

Figure G-10

most notable change would be to the Jackson Avenue view corridor. The as-of-right development would add a new building to this view, but the new structure would be similar in height and façade to the Citigroup building. The No Build condition would not alter street orientation or street patterns, public open spaces, visual resources, or natural features.

D. PROBABLE IMPACTS OF THE PROPOSED ACTION

PROJECT SITE

PROPOSED PROJECT

Changes at the Project Site

Like the No Build condition, the proposed action would result in the demolition of all buildings on the project site. However, the proposed action would allow a larger development with an 8.0 FAR. The proposed building would contain 1,170,299 gsf with a base of varying heights—60 feet along the Jackson Avenue frontage and the north and south ends of Crane Street, 40 feet along Davis Street, and 20 feet in the central portion of Crane Street—with two residential towers (the North and South Towers) of 41 and 47 stories. The North Tower would be approximately 466 feet high (plus the bulkhead), and the South Tower would be approximately 428 feet high (plus the bulkhead). Waivers of street wall requirements would allow two 10 feet by 2.4 feet recesses above the ground floor of the Jackson Avenue façade, and would permit the provision of publicly accessible open areas along Jackson Avenue and Davis Street (described below), and the articulation of the Crane Street frontage with a landscaped building entrance. The South Tower would cover approximately 14,232 square feet of the lot and the North Tower would cover approximately 15,327 square feet of the lot. The proposed building would have a setback of approximately 10 feet 5 inches along Jackson Avenue; 14 feet 8 inches along Crane Street; and 15 feet 5 inches along Davis Street.

Proposed Landscaping and Public Spaces

The proposed project would provide a total of approximately 32,099 square feet of landscaped publicly accessible open area at the southern portion of the project site, along Jackson Avenue, and along Davis Street. All of the proposed public open areas, which are described in more detail below, would be adjacent and complementary to retail uses or private residential amenity spaces.

The southern portion of the project site (South Public Open Area) would provide the largest assemblage of landscaped open area—about a half acre (approximately 20,733 square feet)—and would allow pedestrian flow between Davis and Crane Streets. The South Pubic Open Area would have shaded spaces with plantings, a green wall with pockets of art, an interactive water feature, low climbing features and abundant seating. Adjacent private residential terrace and tenant amenity space would provide an active and complementary use to the South Public Open Area. The approximately 1,887-square-foot landscaped Crane Street Improvement would be adjacent to the South Public Open Area, within the bed of the mapped but unimproved portion of Crane Street.

The proposed Jackson Avenue Public Open Area at the northwest corner of the site would provide an approximately 2,785-square-foot landscaped sitting area located at the residential building entrance at Jackson Avenue and Crane Street and adjacent to the Jackson Avenue retail frontage. It would provide seat walls with wooden benches and seat pods for social seating. This

space would be located diagonally across Jackson Avenue from MoMA PS1 and would support the City's commitment to the streetscape and pedestrian improvements along Jackson Avenue. It would also signal one of the access points to the South Public Open Area at the south end of the site and its design would complement that larger open area.

The Davis Street Public Open Area along the easterly project block frontage would provide approximately 6,694 square feet of publicly accessible open area in the form of a 15- to 19-foot deep sidewalk widening adjacent to the sidewalk along the entire block length of Davis Street. The Davis Street Public Open Area would be adjacent to the project's ground floor retail uses and artist galleries proposed along the Davis Street frontage. It is designed to provide connectivity between the Jackson Avenue open space and the South Public Open Area, with trees providing shade, public benches and ample sidewalk space for interaction with the retail and artist studios along the street. It would also allow the proposed building to be pulled back from the subway tracks, thereby minimizing the impact of noise generated by the elevated trains on the proposed project residents and pedestrians.

Proposed Streetscape Improvements

In addition to the public open area amenities described above, the proposed project would improve and enhance the street treatments on Jackson Avenue and Crane Street. Over 40 linear feet of "World's Fair" type benches are proposed along Jackson Avenue, as a continuation of the City's recent improvements along Jackson Avenue. Five street trees would also be planted (or preserved) on the avenue. Crane Street would be improved with 13 street trees, approximately 500 square feet of additional planting area, and 11 backless benches, which would improve the pedestrian experience for the surrounding community, visitors, workers, and residents. In total, the proposed project would install 45 trees, about 8,862 square feet of planting beds, 1,123 linear feet of seating, and two drinking fountains. Additionally, nine public bicycle racks are proposed around the project site.

Proposed Waivers

To develop the proposed project design requires the following waivers of the street wall requirements of ZR Section 117-531 and a waiver of the setback regulations of ZR Section 117-532 (a):

- On Jackson Avenue, requested waivers would permit (i) the provision of a publicly accessible landscaped sitting area at the northwest corner of the block (approximately 40 feet by 70 feet in dimension) and (ii) two 10 x 2.4 foot recesses in the Jackson Avenue façade above the ground floor.
- On Davis Street, the street wall waiver requested would provide for a widened sidewalk (an additional 15-19 feet) of approximately 6,694 square feet, enhanced with a planted zone with trees and benches between the proposed building and the elevated No. 7 subway structure. The proposed building would be pulled back from the tracks, thereby minimizing the impact of noise generated by the trains on the proposed project residents and passersby.
- The Crane Street street wall waivers are needed to allow for the (i) 71-foot deep Jackson Avenue Public Open Area and (ii) articulation of the Crane Street frontage with a landscaped building entrance.
- The areas for which a setback waiver is requested are both located 100 feet above the entrances to the North and South Towers and along Crane Street. The proposed waivers would allow the buildings to rise without the required 10-foot setbacks fronting Jackson

Avenue and 15-foot setbacks fronting Crane Street at the tower building entrances in order to provide a "chevron" architectural expression extending from the ground to the tower roofs and related design.

IMPACT ANALYSIS

Figure G-11 illustrates a view of the proposed building looking northeast on Jackson Avenue. Compared with the as-of-right building, the proposed development would contain more active and diverse street uses with retail and artist work space and would provide approximately 32,099 sf of publicly assessable open area. The proposed building would have two towers but would not be as tall as the as-of-right building and the towers would have less of a setback along Crane and Davis Streets.

To understand the context of the street level perspective used to analyze the proposed project, **Figure G-12** presents a street profile view looking northeast on Jackson Avenue under existing conditions, and with the as-of-right and proposed buildings, and **Figure G-13** presents a view of the project site under the same conditions, looking southwest from the intersection of 23rd Street and Jackson Avenue.

With the proposed increase in FAR, along with waivers of certain street wall and setback requirements, the proposed development would include two towers with less setback from the east and west street walls than that of the as-of-right building. However, at the pedestrian level, the proposed development would not represent a significant change over the as-of-right condition. The base of the tower for both the as-of-right and proposed buildings would be similar in height and both would contain ground floor retail. Like the No Build condition, the proposed action would result in the removal of the industrial/warehouse complex on the project site, which could be considered visually significant. Accordingly, the proposed action would not result in a significant change to this visual resource, as compared with the No Build condition.

The proposed building would incorporate artistic elements such as an art wall within the publicly accessible open space at the rear of the building (the South Public Open Area) as well as within the interior courtyard. The building would also feature art windows along Davis Street as well as sculptures within the recreational and open spaces. The gallery and interior courtyard would be visible from Crane Street. These design elements would not be provided in the No Build condition.

STUDY AREA

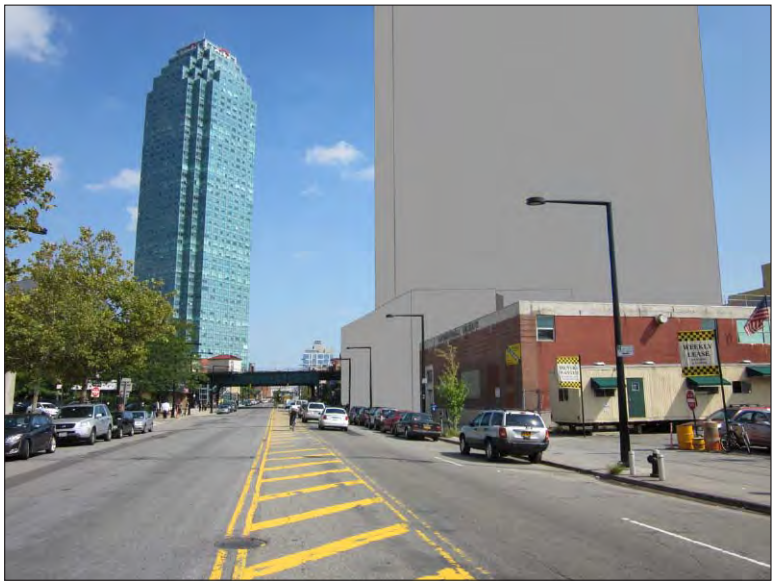
Though the proposed action would result in a new, tall building on the project site, this change would also occur in the future without the proposed action. The proposed development would not be as tall as the as-of-right building and the tower setback would not be as deep along the east and west elevations, but these differences would not significantly alter the street wall or the visual character of the project site from the perspective of a pedestrian. The modern façade of the proposed development would complement the new, glass transit structure at the Court Square Station and the new open space would reflect the plazas and landscaped triangles near the station and the improved streetscape along Jackson Avenue. The proposed streetscape improvements have also been designed to enhance and support the "greening" of the Jackson Avenue Corridor. The proposed action would add a new, tall development to the view corridor looking northeast on Jackson Avenue, but these changes would be similar to those in the No Build condition, and the proposed building would reflect the scale of the nearby Citigroup building and the expected hotel. When compared to the as-of-right condition, the proposed

For Illustrative Purposes Only **16**

View of Proposed Development from Jackson Avenue Looking Northeast

Figure G-11

Existing Conditions **17a**



As-of-Right **17b**

Proposed Action **17c**

Views Northeast from Jackson Avenue

Figure G-12

Existing Conditions **18a**

As-of-Right **18b**

Proposed Action **18c**

Views Southwest from
23rd Street and Jackson Avenue

Figure G-13

development would not significantly alter any view corridors to the project site or in the study area.

The proposed action would not result in substantial changes to the built environment of a historic district or building. The proposed action would also not obstruct a view corridor, or substantially alter the streetscape by noticeably changing the scale of buildings. The proposed action would also not negatively affect the vitality, walkability, and visual character of the area. Therefore, the proposed action would not be expected to result in significant adverse impacts to urban design and visual resources. ✷

A. INTRODUCTION

This attachment addresses the potential for the presence of hazardous materials from previous and existing uses on or near the project site, and potential risks with respect to any such hazardous materials resulting from the proposed project to determine whether there is any potential for significant adverse impacts related to hazardous materials. Both the proposed project and the building that would be constructed in the future without the proposed project would result in: demolition of the existing buildings and the development of the project site with new buildings requiring excavation and subsurface disturbance.

B. EXISTING CONDITIONS

As part of the May 2001 Final Environmental Impact Statement (FEIS) for the *Long Island City Zoning Changes and Related Actions*, the project site was given an (E) designation for hazardous materials. The (E) designation requires that prior to redevelopment, the property owner prepare a Phase I Environmental Site Assessment (ESA) and, if appropriate, conduct a subsurface investigation, with the scope approved by the New York City Office of Environmental Remediation (OER). Depending on the findings of the subsurface investigation, a Remedial Action Plan and Construction Health and Safety Plan (RAP/CHASP) are typically required to be implemented during the redevelopment to ensure no adverse exposures would occur either during or following the new construction. Additionally, in May 2012, the site was entered into the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) as the Former Neptune Meter Site (Site C241138). As with the (E) designation program, the BCP requires investigation and remediation of the site prior to its redevelopment.

TOPOGRAPHY, GEOLOGY AND GROUNDWATER

The surface topography on the project site generally slopes down towards the East River. Based on mapping by the U.S. Geological Survey, the property lies at an elevation of approximately 15 feet above mean sea level. The approximate depth to bedrock is 100 feet below the surface, with groundwater most likely situated approximately 10 feet below the surface. Groundwater most likely flows in a generally westerly direction toward the East River, however, actual groundwater flow can be affected by many factors including current and past pumping of groundwater (e.g., by the Metropolitan Transportation Authority [MTA] for rail tunnel construction), past filling, underground utilities and other subsurface openings or obstructions such as basements, underground parking garages and subway lines, and other factors. Groundwater in this part of Queens is not used as a source of potable water.

POTENTIAL FOR SITE CONTAMINATION

A 2000 Phase I ESA conducted by AKRF, Inc. identified that the project site's (then) active uses included primarily clothing manufacturing/distributing as well as residential and artist spaces. The one-story warehouse on the south side of the block was unoccupied and the lot on the southernmost side was occupied by taxi parking. Historic on-site manufacturing was identified, including the Neptune Meter Manufacturing Company, plumbing suppliers, and a brass foundry. Nearby uses included two filling stations to the west and rail yards to the south (note that although 133 acres of the rail yards are listed in the State Superfund Registry, the only portion where extensive contamination was found is approximately one mile to the east of the project site, near Amtrak's Acela building). The regulatory review listed the former on-site ECOFA Inc. facility at 4623 Crane Street as a Large Quantity Generator of hazardous waste with violations. The one-story building attached to the rear of 2252 Jackson Avenue (aka 4506 Davis Street) contained an auto repair shop. Fire Department records indicated two expired permits for on-site fuel oil aboveground storage tank (ASTs). Four ASTs were observed as well as several empty storage tank pedestals.

A July 2011 Phase I ESA prepared by Galli Engineering, P.C. (Galli) identified no substantive changes in the environmental concerns: four aboveground storage tanks were observed, only one of which was in use.

An August 2011 Phase II ESA prepared by Galli included results of soil samples collected from 16 borings. Volatile organic compounds (consistent with gasoline), semivolatile organic compounds, and metals were detected at levels above the most stringent NYSDEC guidelines.

Given their age, building materials, lighting equipment, or electrical equipment within the existing structures could include asbestos-containing materials (ACM), lead-based paint (LBP), polychlorinated biphenyls (PCBs), or mercury.

C. THE FUTURE WITHOUT THE PROPOSED ACTION

In the future without the proposed action, the project site would be developed as-of-right which would require demolition and a subsurface disturbance similar to the proposed project. Thus, with the existing (E) designation, the NYSDEC BCP, and applicable regulatory requirements would result in the following, which would avoid the potential for significant adverse impacts:

- Demolition of the on-site buildings would be in compliance with applicable regulatory requirements relating to asbestos-containing materials (ACM), lead-based paint (LBP), polychlorinated biphenyls (PCBs) or mercury.
- The (E) designation would ensure that appropriate procedures for any necessary subsurface disturbance are followed prior to, during, and following construction. Specifically, additional pre-construction subsurface testing may need to be conducted in accordance with an Investigation Work Plan and Health and Safety Plan approved by OER. Based on the results of the existing and any additional testing, the applicant would then prepare a RAP/CHASP, which would be submitted to OER for approval. The (E) designation would require that an approved RAP/CHASP be obtained in order to receive building permits prior to conducting soil disturbance. The (E) designation would also require that a Notice of Satisfaction be obtained (subsequent to the applicant submitting a Closure Report to OER documenting proper performance of all required procedures) before seeking Certificates of Occupancy for any newly constructed structures.

- Dewatering, if required, would be in accordance with applicable New York City Department of Environmental Protection (DEP) requirements (following pre-treatment, if necessary).

D. PROBABLE IMPACTS OF THE PROPOSED ACTION

As stated above, the as-of-right redevelopment would involve demolition of the existing buildings, followed by subsurface disturbance for new foundations/basements. This work would be performed in accordance with the same measures and regulatory requirements as in the future without the proposed action (i.e., see the bulleted items above).

With the implementation of these measures, no significant adverse impacts related to hazardous materials would result from construction activities on the project site and, following construction, there would be no potential for significant adverse impacts. ✷

A. INTRODUCTION

The potential for air quality impacts from the proposed project, which would be constructed on Jackson Avenue in Long Island City, Queens, is examined in this attachment. Air quality impacts can be either direct or indirect. Direct impacts result from emissions generated by stationary sources at a development site, such as emissions from on-site fuel combustion for heating, ventilation and air conditioning (HVAC) systems. Indirect impacts result from emissions from nearby existing sources (impacts on the proposed project) or from emissions from on-road vehicle trips generated by a project or other changes to future traffic conditions due to a project.

The maximum hourly traffic generated by the proposed project would not exceed the 2012 *City Environmental Quality Review (CEQR) Technical Manual* carbon monoxide (CO) screening threshold of 160 peak hour vehicle trips at intersections in the study area. In addition, the particulate matter emission screening thresholds discussed in Chapter 17, Sections 210 and 311 of the *CEQR Technical Manual* would not be exceeded. Therefore, a quantified assessment of emissions from project generated-traffic is not warranted. However, the proposed project would include a public parking garage. Therefore, an analysis of emissions from vehicles using the parking garage was conducted to assess the potential for significant impact on air quality.

The stationary source analysis consists of two components: the potential impacts of air emission sources from the proposed project and existing nearby industrial sources on the proposed project. The first analysis evaluates the potential impacts from the HVAC systems of the proposed project on surrounding residential buildings. The pollutants of concern are by-products of fossil fuel combustion. The second analysis was focused on the potential impacts of air toxic contaminants emitted by nearby industrial sources on the proposed project, since the project site is located within a mixed-use district.

B. POLLUTANTS FOR ANALYSIS

Ambient air quality is affected by air pollutants produced by both motor vehicles and stationary sources. Emissions from motor vehicles are referred to as mobile source emissions, while emissions from fixed facilities are referred to as stationary source emissions. Ambient concentrations of carbon monoxide (CO) are predominantly influenced by mobile source emissions. Particulate matter (PM), volatile organic compounds (VOCs), and nitrogen oxides (nitric oxide, NO, and nitrogen dioxide, 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 sources utilizing non-road diesel such as diesel trains, marine engines, and non-road vehicles (e.g., construction engines). On-road diesel vehicles currently contribute little 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.

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. Since CO is a reactive gas that does not persist in the atmosphere, CO concentrations can vary greatly over relatively short distances; elevated concentrations are usually limited to locations near crowded intersections, heavily traveled and congested roadways, parking lots, and garages. Consequently, CO concentrations must be predicted on a local, or microscale, basis.

The proposed project would not exceed the *CEQR Technical Manual* screening analysis threshold for CO. However, an assessment of CO impacts from proposed project's parking garage was conducted.

NITROGEN OXIDES, VOCS, AND OZONE

NO_x together with VOCs, are 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 change in regional mobile source emissions of these pollutants would be related to the total vehicle miles traveled added or subtracted on various roadway types throughout the New York metropolitan area, which is designated as a moderate non-attainment area for ozone by the U.S. Environmental Protection Agency (EPA).

The proposed project would not have a significant effect on the overall volume of vehicular travel in the metropolitan area; therefore, no measurable impact on regional NO_x emissions or on ozone levels is predicted. Per the *CEQR Technical Manual* analysis of project-related emissions of these pollutants from mobile sources is 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 for the proposed project's boiler system were evaluated.

LEAD

Airborne lead emissions are currently associated principally with industrial sources. Effective January 1, 1996, the Clean Air Act (CAA) banned the sale of the small amount of leaded fuel that was still available in some parts of the country for use in on-road vehicles, concluding a 25-year effort to phase out lead in gasoline. Even at locations in the New York City area where

traffic volumes are high, atmospheric lead concentrations are far below the 3-month average national standard of 0.15 micrograms per cubic meter ($\mu g/m^3$).

No significant sources of lead are associated with the proposed project and, therefore an analysis was 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 project would not result in a large increase in truck traffic and would not exceed the $PM_{2.5}$ vehicle emissions screening thresholds as defined in Chapter 17, Sections 210 and 311 of the *CEQR Technical Manual*. Therefore, an analysis of potential impacts from PM emissions from project generated traffic was not conducted. An analysis of $PM_{2.5}$ emissions from the proposed project's boiler system was performed.

SULFUR DIOXIDE

SO_2 emissions are primarily associated with the combustion of sulfur-containing fuels (oil and coal). Monitored SO_2 concentrations in New York City are lower than the current national standards. Due to the federal restrictions on the sulfur content in diesel fuel for on-road vehicles, no significant quantities are emitted from vehicular sources. Vehicular sources of SO_2 are not significant and therefore, an analysis of SO_2 from mobile sources was not warranted.

As part of the proposed project, natural gas would be burned in the proposed project's boiler system. The sulfur content of natural gas is negligible; therefore, no analysis was performed to estimate the future levels of SO_2 with the proposed project.

C. AIR QUALITY REGULATIONS, STANDARDS, AND BENCHMARKS

NATIONAL AND STATE AIR QUALITY STANDARDS

As required by the 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 and secondary standards are the same for NO_2 (annual), ozone, lead, and PM, and there is no secondary standard for CO or the 1-hour NO_2 standard. The NAAQS are presented in **Table I-1**. The NAAQS for CO, annual NO_2, and 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 particulate matter (TSP), settleable particles, non-methane hydrocarbons (NMHC), and ozone, which correspond to federal standards that have since been revoked or replaced, and for beryllium, fluoride, and hydrogen sulfide (H_2S).

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 $\mu g/m^3$ to 35 $\mu g/m^3$ and retaining the level of the annual standard at 15 $\mu g/m^3$. EPA recently lowered the primary annual-average standard to 12 $\mu g/m^3$, 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. EPA is also proposing a secondary ozone standard, measured as a cumulative concentration within the range of 7 to 15 ppm-hours, aimed mainly at protecting sensitive vegetation. A final decision on this standard has been postponed but is expected to occur in 2013.

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

On January 22, 2010, EPA established a new 1-hour average NO_2 standard of 0.100 ppm, in addition to the current annual standard. The statistical form is the 3-year average of the 98th percentile of daily maximum 1-hour average concentration in a year.

EPA established a new 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).

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

Pollutant	Primary		Secondary	
	ppm	µg/m^3	ppm	µg/m^3
Carbon Monoxide (CO)				
8-Hour Average [1]	9	10,000	None	
1-Hour Average [1]	35	40,000		
Lead				
Rolling 3-Month Average [2]	NA	0.15	NA	0.15
Nitrogen Dioxide (NO_2)				
1-Hour Average [3]	0.100	188	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 [8]	NA	12	NA	15
24-Hour Average [6]	NA	35	NA	35
Sulfur Dioxide (SO_2)				
1-Hour Average [7]	0.075	196	NA	NA
Maximum 3-Hour Average [1]	NA	NA	0.50	1,300

Notes:

ppm – parts per million

µg/m^3 – micrograms per cubic meter

NA – not applicable

All annual periods refer to calendar year.

PM concentrations (including lead) are in µg/m^3 since ppm is a measure for gas concentrations.

Concentrations of all gaseous pollutants are defined in ppm and approximately equivalent concentrations in µg/m^3 are presented.

[1] Not to be exceeded more than once a year.

[2] EPA has lowered the NAAQS down from 1.5 µg/m^3, 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. EPA has reduced these standards down from 0.08 ppm, effective May 27, 2008.

[5] EPA has proposed lowering this 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] Not to be exceeded by the annual 98th percentile when averaged over 3 years.

[7] 3-year average of the annual 99th percentile daily maximum 1-hr average concentration. Effective August 23, 2010.

[8] EPA lowered the primary annual standard from 15 µg/m3, effective March 2013.

Source: 40 CFR Part 50: National Primary and Secondary Ambient Air Quality Standards.

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. The CAA requires that a maintenance plan ensure continued compliance with the CO NAAQS for former non-attainment areas. New York City is also 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 CAA due to exceedance of the annual average standard. Based on recent monitoring data, 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. As stated earlier, 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 likely that the region will be in attainment for the new standard.

As described above, EPA has revised the 24-hour average $PM_{2.5}$ standard. In October 2009 EPA finalized the designation of the New York City Metropolitan Area as nonattainment with the 2006 24-hour $PM_{2.5}$ NAAQS, effective in November 2009. The nonattainment area includes the same 10-county area 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 it has not yet been redesignated to attainment status, this determination removes further requirements for related SIP submissions.

Nassau, Rockland, Suffolk, Westchester, Lower Orange County Metropolitan Area (LOCMA), and the five New York City counties (the New York–New Jersey–Long Island, 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 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 would remove further requirements under the 1-hour standard.

On April 15, 2004, EPA designated these same counties as moderate non-attainment for the 8-hour average ozone standard which became effective as of June 15, 2004. On February 8, 2008,

the New York State Department of Environmental Conservation (NYSDEC) submitted final revisions to the SIP to EPA to address the 1997 8-hour ozone standard. On June 18, 2012, EPA determined that the NYMA has 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 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" for the new 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 new 1-hour SO_2 standard, replacing the 24-hour and annual standards, effective August 23, 2010. Based on the available monitoring data, all New York State counties currently meet the 1-hour standard. Additional monitoring will be required. EPA plans to make final attainment designations in June 2013. SIPs for nonattainment areas will be due by June 2015.

DETERMINING THE SIGNIFICANCE OF AIR QUALITY IMPACTS

The State Environmental Quality Review Act (SEQRA) regulations and the *CEQR Technical Manual* state that the significance of a predicted consequence of a project (i.e., whether it is material, substantial, large or important) should be assessed in connection with its setting (e.g., urban or rural), its probability of occurrence, its duration, its irreversibility, its geographic scope, its magnitude, and the number of people affected.[1] In terms of the magnitude of air quality 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 I-1**) would be deemed to have a potential significant adverse impact. In addition, in order to maintain concentrations lower than the NAAQS in attainment areas, or to ensure that concentrations will not be significantly increased in non-attainment areas, threshold levels have been defined for certain pollutants; any action predicted to increase the concentrations of these pollutants above the thresholds would be deemed to have a potential significant adverse impact, even in cases where violations of the NAAQS are not predicted.

DE MINIMIS CRITERIA REGARDING CO IMPACTS

New York City has developed *de minimis* criteria to assess the significance of the increase in CO concentrations that would result from the impact of proposed projects or actions on mobile sources, as set forth in the *CEQR Technical Manual*. These criteria set the minimum change in CO concentration that defines a significant environmental impact. Significant increases of CO concentrations in New York City are defined as: (1) an increase of 0.5 ppm or more in the

[1] *CEQR Technical Manual*, Chapter 17, section 400, January 2012; and State Environmental Quality Review Regulations, 6 NYCRR § 617.7

maximum 8-hour average CO concentration at a location where the predicted No Action 8-hour concentration is equal to or between 8 and 9 ppm; or (2) an increase of more than half the difference between baseline (i.e., No Action) concentrations and the 8-hour standard, when No Action concentrations are below 8.0 ppm.

$PM_{2.5}$ INTERIM GUIDANCE CRITERIA

NYSDEC has published a policy to provide interim direction for evaluating $PM_{2.5}$ impacts[1]. This policy would apply only to facilities applying for permits or major permit modifications under SEQRA that emit 15 tons of PM_{10} or more annually. The policy states that such a project will be deemed to have a potentially significant adverse impact if the project's maximum impacts are predicted to increase $PM_{2.5}$ concentrations by more than 0.3 $\mu g/m^3$ averaged annually or more than 5 $\mu g/m^3$ on a 24-hour basis. Projects that exceed either the annual or 24-hour threshold will be required to prepare an Environmental Impact Statement (EIS) to assess the severity of the impacts, to evaluate alternatives, and to employ reasonable and necessary mitigation measures to minimize the $PM_{2.5}$ impacts of the source to the maximum extent practicable.

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

- 24-hour average $PM_{2.5}$ concentration increments which are predicted to be greater than 5 $\mu g/m^3$ at a discrete receptor location would be considered a significant adverse impact on air quality under operational conditions (i.e., a permanent condition predicted to exist for many years regardless of the frequency of occurrence);
- 24-hour average $PM_{2.5}$ concentration increments which are predicted to be greater than 2 $\mu g/m^3$ but no greater than 5 $\mu g/m^3$ would be considered a significant adverse impact on air quality based on the magnitude, frequency, duration, location, and size of the area of the predicted concentrations;
- Annual average $PM_{2.5}$ concentration increments which are predicted to be greater than 0.1 $\mu g/m^3$ at ground level on a neighborhood scale (i.e., the annual increase in concentration representing the average over an area of approximately 1 square kilometer, centered on the location where the maximum ground-level impact is predicted for stationary sources; or at a distance from a roadway corridor similar to the minimum distance defined for locating neighborhood scale monitoring stations); or
- Annual average $PM_{2.5}$ concentration increments which are predicted to be greater than 0.3 $\mu g/m^3$ at a discrete receptor location (elevated or ground level).

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

The proposed project's annual emissions of PM_{10} are estimated to be well below the 15-ton-per-year threshold under the NYSDEC $PM_{2.5}$ policy guidance. The New York City interim guidance criteria have been used to evaluate the significance of predicted impacts of the proposed project on $PM_{2.5}$ concentrations and determine the need to minimize particulate matter emissions from the proposed project.

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

D. METHODOLOGY FOR PREDICTING POLLUTANT CONCENTRATIONS

MOBILE SOURCES

The proposed project would include a 250 space public parking facility. Emissions from vehicles using the parking facility could potentially affect ambient levels of pollutants at adjacent receptors. Since the parking facility would be used by automobiles, the primary pollutant of concern is CO. Because cold-starting automobiles leaving a parking facility would emit far higher levels of CO than vehicles entering a facility, the impact from a parking facility would be greatest during the periods with the largest number of departing vehicles. An analysis was performed using the methodology delineated in the *CEQR Technical Manual* to calculate pollutant levels.

Potential impacts from the proposed parking facility on CO concentrations were assessed at multiple receptor locations. The CO concentrations were determined for the time periods, when overall usage would be the greatest, considering the hours when the greatest number of vehicles would enter and exit the project site. Departing vehicles were assumed to be operating in a "cold-start" mode, emitting higher levels of CO than arriving vehicles. Emissions from vehicles entering, parking, and exiting the parking facility were estimated using the EPA MOBILE6.2 mobile source emission model and an ambient temperature of 43°F, as referenced in the *CEQR Technical Manual*. All arriving and departing vehicles were conservatively assumed to travel at an average speed of 5 miles per hour within the parking facility. In addition, all departing vehicles were assumed to idle for 1 minute before exiting.

A "near" and "far" receptor was placed on the sidewalk adjacent to the parking lot and on the sidewalk directly opposite the parking facility across, respectively. In addition, receptors were placed on building façades at a height of 6 feet above the vent. To determine compliance with the NAAQS, CO concentrations were determined for the maximum 1- and 8-hour average periods. A persistence factor of 0.70 was used to convert the calculated 1-hour average maximum concentrations to 8-hour averages, accounting for meteorological variability over the average 8-hour period.

Background CO concentrations from the nearest NYSDEC monitoring station were added to the modeling results to obtain the total ambient levels. The on-street CO concentration was determined using the methodology in the Air Quality Appendix of the *CEQR Technical Manual*, utilizing traffic volumes derived from the trip generation analysis described in the traffic section.

STATIONARY SOURCES

HVAC SYSTEMS

Stationary source analyses were conducted for the fossil fuel-fired boiler system for the proposed project. Initially, a screening level analysis was performed following the *CEQR Technical Manual* procedures to evaluate potential impacts from the project's boilers. Further analysis was performed using the EPA-approved AERSCREEN and AERMOD models to specifically evaluate potential impacts of $PM_{2.5}$ with respect to the City's interim guidance criteria and impacts of 1-hour average NO_2 with respect to the recently promulgated NAAQS.

CEQR Screening Analysis

A screening analysis was performed to assess air quality impacts associated with emissions from the proposed project's HVAC systems. The screening methodology described in the *CEQR*

Technical Manual was used for the analysis and considered impacts on sensitive uses (both existing residential development as well as other residential developments under construction). The *CEQR Technical Manual* 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 HVAC 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 would be required. Otherwise, the source passes the screening analysis, and no further analysis is required.

Any nearby development of similar or greater height was analyzed as a potential receptor. The design for the proposed project assumes that the North and South towers would have separate boiler systems for heating and hot water systems, and the exhausts would be ducted to individual stacks located above the tallest portion of the roof of the proposed buildings.

The maximum development floor area was used as input for the screening analysis. Natural gas would be used exclusively in the boiler system based on the current design. The primary pollutant of concern from natural gas is NO_2.

AERSCREEN Analysis

Potential 1-hour NO_2, 24-hour $PM_{2.5}$ and annual average $PM_{2.5}$ impacts from the South Tower 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. 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.

AERMOD Analysis

Since the AERSCREEN analysis of the South Tower boiler system indicated the potential for impacts of 1-hour NO_2 concentrations, further analysis was performed using the EPA/AMS AERMOD dispersion model[2]. AERMOD is a state-of-the-art dispersion model, applicable to rural and urban areas, flat and complex terrain, surface and elevated releases, and multiple sources (including point, area, and volume sources). AERMOD is a steady-state plume model that incorporates current concepts about flow and dispersion in complex terrain, including updated treatment of the boundary layer theory, understanding of turbulence and dispersion, and includes handling of the interaction between the plume and terrain.

The AERMOD model calculates pollutant concentrations from one or more points (e.g., exhaust stacks) based on hourly meteorological data, and has the capability to calculate pollutant

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

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

concentrations at locations where the plume from the exhaust stack is affected by the aerodynamic wakes and eddies (downwash) produced by nearby structures. The analysis of potential impacts from the exhaust stack was made assuming stack tip downwash, urban dispersion and surface roughness length, with and without building downwash, and elimination of calms.

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

For the analysis of the 1-hour NO_2 concentrations, the PVMRM module was applied within AERMOD, following EPA modeling guidance.[1] In place of a representative ozone background concentration, hourly ozone background concentrations were incorporated to estimate NO_x transformation within the source plume. Ozone concentrations were obtained from the NYSDEC Queens College II monitoring station, which is the nearest ozone monitoring station with complete data through 2011. An initial NO_2 to NO_x ratio of 10 percent at the source exhaust was assumed, based on available data.

Total hourly NO_2 concentrations throughout the modeling period were determined following methodologies that are accepted by the EPA, and which are considered appropriate and conservative for this review. The methodology used to determine the compliance of total 1-hour NO_2 concentrations from the proposed source with the 1-hour NO_2 NAAQS[2] was based on adding the monitored background measured at the Queens College II monitoring station to modeled concentrations, as follows: hourly modeled concentrations from proposed source were first added to the seasonal hourly background monitored concentrations; then, the highest combined daily 1-hour NO_2 concentration was determined at each receptor location and the 98th percentile daily 1-hour maximum concentration for each modeled year was then calculated at each receptor within the AERMOD model, finally the 98th percentile concentrations were averaged over the latest five years. These methodologies are recognized by EPA and the City and are referenced in EPA modeling guidance. The highest five-year average was then compared with the 1-hour NO_2 NAAQS standard.

The AERMOD analysis was performed for the South Tower with North Tower as the closest receptor. Discrete receptors (i.e., locations at which concentrations are calculated) were modeled along the facades of the North tower. Rows of receptors were placed at spaced intervals at multiple elevations.

Emission Rates and Stack Parameters for South Tower

Table I-2 presents the emission rates and stack exhaust parameters used in the refined analysis.

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[1] EPA, Notice Regarding Modeling for New Hourly NO_2 NAAQS, Updated Feb. 25, 2010; EPA, Guidance Concerning the Implementation of the 1-hour NO_2 NAAQS for the Prevention of Significant Deterioration Program; and EPA, Applicability of Appendix W Modeling Guidance for the 1-hour NO_2 NAAQS.

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

Table I-2
Emission Rates and Stack Parameters

Parameter	Value
Stack Height (ft)(1)	431
Stack Diameter (ft)	1.5
Exhaust Velocity (ft/s)	34.6
Exhaust Temperature (F)(2)	307.8
NO_x Emission Rate (g/s)(3) (24-hour)	0.135
NO_x Emission Rate (g/s)(3) (Annual)	0.037
$PM_{2.5}$ Emission Rate (g/s)(3) (24-hour)	0.0103
$PM_{2.5}$ Emission Rate (g/s)(3) (Annual)	0.0028

Notes:
(1) The stack would be located at least 433 feet from the lot line facing Jackson Avenue.
(2) The exhaust temperature was estimated based on typical exhaust temperature for similar boilers.
(3) Emission rate is based on EPA AP-42 emission factor and energy consumption provided in the *CEQR Technical Manual Air Quality Appendix.*

INDUSTRIAL SOURCES

To assess air quality impacts on the proposed development associated with emissions from nearby industrial sources, an investigation of industrial sources was conducted. Initially, land use and Sanborn maps were reviewed to identify potential sources of emissions from manufacturing/industrial operations. Next, a field survey was conducted to identify buildings within 400 feet of the project site that have the potential for emitting air pollutants. The survey was conducted on May 31, 2011. To completely cover the study area, all of the blocks bounded by 21st street to the west, Court Square to the east, the MTA-New York City Transit Authority elevated 7 subway to the south, and 45th Avenue to the north were surveyed to observe uses and to identify visible emissions.

The *CEQR Technical Manual* also requires an assessment of any actions that could result in the location of sensitive uses within 1,000 feet of a "large" emission source (examples of large emission sources provided in the *CEQR Technical Manual* include solid and medical waste incinerators, cogeneration plants, asphalt and concrete plants, or power plants). To assess the potential effects of these existing sources on the proposed project, a review of existing permitted facilities was conducted. Within the study area boundaries, sources permitted under NYSDEC's Title V program and State Facility permit program were considered.

A list of the identified businesses was then submitted to the New York City Department of Environmental Protection's (DEP) Bureau of Environmental Compliance (BEC) to obtain all the available certificates of operation for these locations and to determine whether manufacturing or industrial emissions occur. In addition, a search of federal and state-permitted facilities within the study area was conducted using the EPA's Envirofacts database.[1] An air quality dispersion model screening database, ISC3, was used to estimate maximum potential impacts from different sources at various distances from the site. Impact distances selected for each source were the minimum distances between the boundary of the project site and the source site. Predicted worst-case impacts

[1] http://oaspub.epa.gov/enviro/ef_home2.air

on the proposed development would be compared with the short-term guideline concentrations (SGCs) and annual guideline concentrations (AGCs) recommended in DEC's *DAR-1 AGC/SGC Tables.*[1] These guideline concentrations present the airborne concentrations, which are applied as a screening threshold to determine whether future occupants of the proposed project could be significantly impacted from nearby sources of air pollution.

E. PROBABLE IMPACTS OF THE PROPOSED PROJECT

MOBILE SOURCES

A screening analysis was performed to assess potential impacts from the proposed project parking facilities. Based on the methodology previously discussed, the maximum future CO 1-hour and 8-hour average concentrations, including ambient background levels and potential contributions from nearby on-street traffic, would be 6.0 ppm and 3.0 ppm, respectively. The contribution from the proposed parking lot to the total 1-hour and 8-hour average concentrations is 2.6 ppm and 1.0 ppm, respectively. These maximum predicted CO levels are in compliance with the applicable CO standards.

The above analysis assumes that the proposed garage vents would not exhaust to the project's interior courtyard proposed between the two towers. To ensure that there are no significant adverse impacts from the proposed garage vents, an (E) designation would be applied to the project site that would avoid impacts on the courtyard due to the proposed garage vents (see the discussion below under Stationary Sources"). With this (E) designation, emissions from the project garage vents would not result in any significant adverse air quality impacts.

Therefore, the proposed parking facility would not result in any significant adverse air quality impacts.

STATIONARY SOURCES

HVAC SYSTEMS

CEQR Screening Analysis

An initial screening analysis was performed following the *CEQR Technical Manual* to assess the potential for air quality impacts from the proposed project's HVAC systems. The primary stationary source of air pollutants associated with the proposed project would be emissions from the combustion of natural gas by the boiler systems. The proposed project consists of two towers namely, the North Tower and the South Tower. The analysis considered that both the towers would have separate HVAC systems with exhaust stacks located on their respective rooftops.

The analysis for the North Tower was based on the use of natural gas as fuel and an exhaust that is assumed to be located three feet above the proposed building rooftop. The nearest building of similar or greater height was determined to be beyond 400 feet. Using natural gas would not result in any significant stationary source air quality impacts, based on the screening methodology in the *CEQR Technical Manual*, because it is below the maximum size determined using Figure 17-7 of the Air Quality Appendix of the *CEQR Technical Manual*.

[1] NYSDEC Division of Air Resources, October 2010.

For the South Tower, the screening methodology assumed the use of natural gas and exhaust stack located three feet above the proposed building rooftop. The nearest building of a similar or greater height was determined to be the North Tower, located approximately 184 feet away. Burning natural gas would not result in any significant stationary source air quality impacts because the proposed project is below the maximum development size shown in Figure 17-7 of the Air Quality Appendix of the *CEQR Technical Manual*. Therefore, no potential significant adverse stationary source annual NO_2 impacts are predicted from the proposed South Tower. Due to the proximity of the sensitive receptors on North tower, further analysis of 1-hour NO_2 and $PM_{2.5}$ was performed for South Tower, as discussed below.

Dispersion Modeling

An AERSCREEN modeling analysis was performed to determine potential 1-hour NO_2, 24-hour $PM_{2.5}$ and annual $PM_{2.5}$ impacts from the exhaust stack for the boiler system associated with the proposed South Tower. Since the model output provides 1-hour average concentrations, 24-hour and annual $PM_{2.5}$ concentrations were obtained by converting the 1-hour average concentrations using meteorological persistence factors (i.e., 0.60 for the 24-hour averaging period and 0.10 for the annual averaging period) recommended by EPA. Maximum predicted concentrations were added to the design ambient background concentration and compared to the NAAQS.

The AERSCREEN analysis determined that further analysis was required for 1-hour NO_2 and 24-hour $PM_{2.5}$. Therefore, potential 1-hour NO_2 and 24-hour $PM_{2.5}$ impacts from the proposed South Tower's boiler system on nearby North Tower were evaluated using the AERMOD model.

Maximum modeled concentrations for 1-hour NO_2, 24-hour $PM_{2.5}$ and annual $PM_{2.5}$ are presented in **Table I-3**.

Table I-3
Maximum Modeled Pollutant Concentrations (in μg/m^3)

Pollutant	Averaging Period	Modeled Concentration	Background Concentration	Total Concentration	NAAQS / SIL
NO_2	1-hour	-	Included in model run(1)	186.3	188
	Annual (3)	0.41	43	43.4	100
$PM_{2.5}$	24-hour	1.65	-	1.65	5/2(2)
	Annual	0.04	-	0.04	0.3

Notes:

(1) Total hourly NO_2 concentrations were determined by combining the hourly modeled concentrations to the seasonal hourly background NO_2 concentrations for each corresponding hour. The concentration presented for the 1-hour NO_2 averaging period represents a five-year average of the 98th percentile of maximum daily 1-hour concentrations from the project combined with the concurrent hourly background, in accordance with EPA guidance.

(2) 24-hour $PM_{2.5}$ interim guidance criterion, > 2 μg/m^3 (5 μg/m^3 not-to-exceed value), depending on the magnitude, frequency, duration, location, and size of the area of the predicted concentrations.

(3) The annual NO_2 concentration is presented for informational purposes since it was determined to be not significant based on the *CEQR Technical Manual* screening procedure.

As shown in **Table I-3**, the maximum potential increase in concentrations associated with the proposed South Tower's boiler system, when added to background concentrations, would be less than the NAAQS.

As shown in **Table I-3**, the maximum 24-hour incremental $PM_{2.5}$ impacts at any discrete receptor location would be less than the applicable interim guidance criterion of 2 μg/m^3 and 5 μg/m^3. On an annual basis, the maximum projected $PM_{2.5}$ increments would be less than the applicable interim guidance criterion of 0.3 μg/m^3.

Therefore, the proposed South Tower's boiler system would not have a significant adverse impact on air quality.

To ensure that there are no significant adverse air quality impacts with respect to the 1-hour NO_2 from the South Tower's boiler system, and also for CO with the proposed garage vents (see the discussion above), an (E) designation containing restrictions would be required, as follows:

"**Any new development on Block 86, Lots 1, 6-8, 22 and Block 72, Lot 80, must ensure that fossil fuel-fired heating and hot water equipment utilize only natural gas, and that exhaust stack(s) on the South Tower are located on the highest rooftop, and at are least 433 from the lot line facing Jackson Avenue, to avoid any potential significant air quality impacts. In addition, any new development on Block 86, Lots 1, 6-8, 22 and Block 72, Lot 80 must also ensure that vents from the proposed garage do not exhaust to the on-site interior courtyard."**

With these (E) designation restrictions, emissions from the proposed project's HVAC systems and garage would not result in any significant adverse air quality impacts.

INDUSTRIAL AND LARGE SOURCES

As discussed above, a review of land use, Sanborn maps, and a field survey was conducted to identify manufacturing and industrial uses within 400 feet of the project site, and a review of permitted large sources within 1,000 feet of the project site was performed. Addresses with potential industrial emissions were identified based on existing on-site businesses, as well as the presence of visible venting apparatus.

No large emission sources were identified within the 1,000-foot study area. Of the 27 addresses identified to have the potential for industrial source emissions, 2 businesses were identified with permits on file with DEP and/or NYSDEC that have potential air pollutant emissions. One other business with a potential for industrial source emissions, for which no permits was found, was also included in the analysis for conservative purposes. The pollutant and estimated emissions for this business was characterized based on DEP permits from similar uses. The screening methodology in the *CEQR Technical Manual* was utilized for the analysis, with the air contaminant emission rates from the source at the industrial facilities and the distances to the proposed building. **Table I-4** shows the air contaminants, calculated concentrations, and the respective SGCs and AGCs.

As shown in **Table I-4**, the maximum predicted short-term and annual concentrations are below the respective SCGs and AGCs. Therefore, the results of the industrial source analysis demonstrate that there would be no predicted significant adverse air quality impacts on the proposed project from existing industries in the area.

Table I-4
Maximum Predicted Concentrations from Industrial and Large Sources

Potential Contaminants	Estimated Short-term Impact (ug/m^3)	SGC[a] (ug/m^3)	Estimated Long-term Impact (ug/m^3)	AGC[a] (ug/m^3)
1-Butanol	79.16	--	0.722	1,500
1-Methoxy-2-Propanol Acetate	39.17	55,000	0.361	2,000
2-Butoxyethanol	50.00	14,000	0.456	1,600
2-Methyl-1-Propanol	283.33	--	2.567	360
2-Propanol (Isopropyl Alcohol)	146.09	98,000	1.406	7,000
Amyl Acetate	29.17	53,000	0.266	630
Butyl Benzyl Phthalate	5.37	--	0.062	0.42
Ethanol	79.16	--	0.722	45,000
Ethyl Acetate	15.44	--	0.177	3,400
Formaldehyde	4.17	30	0.038	0.06
Isobutyl Acetate	208.33	--	1.901	17,000
Lt. Aliphatic Solvent	108.33	--	1.008	3,200
Methyl Ethyl Ketone	75.00	13,000	0.722	5,000
Methyl Isobutyl Ketone	482.32	31,000	4.449	3,000
Methyl n-Amyl Ketone	45.83	--	0.418	550
Mineral Spirits	25.00	--	0.228	900
Naptha	16.78	--	0.192	900
Particulate	15.42	380	0.141	45
Toluene	253.19	37,000	2.453	5,000
VM&P Naptha	158.33	--	1.502	900
Xylene	343.31	4,300	3.719	100

Notes:
[a] DEC DAR-1 (Air Guide-1) AGC/SGC Tables, October, 2010.
AGC-Annual Guideline Concentrations.
SGC-Short-term Guideline Concentrations.

✶

A. INTRODUCTION

As discussed in Attachment K, "Transportation," the proposed action would not generate sufficient traffic to have the potential to cause a significant noise impact (i.e., it would not result in a doubling of noise passenger car equivalents [PCEs] which would be necessary to cause a 3 dBA increase in noise levels).

However, in connection with the *Long Island City Zoning Changes and Related Actions Final EIS* (May 2001), a Noise (E) designation was placed on Block 86 Lots 1, 6, 7, 8, and 22 and Block 72 Lot 80. Specifically, in order to maintain an interior noise level of 45 dBA or less for residential uses (50 dBA or less for commercial uses) the Noise (E) designation specifies that:

- At facades to Davis Street future uses should provide a closed window condition with a minimum window/wall attenuation of 45 dBA;
- At facades to Crane Street, future uses should provide a closed window condition with a minimum window/wall attenuation of 25 dBA; and
- At facades to other roadways (i.e., Jackson Avenue) and Sunnyside Yard, future uses should provide a closed window condition with a minimum window/wall attenuation of 35 dBA.

In addition, as per the FEIS, the minimum window/wall attenuation at each façade should extend around the corner of the identified façade to include any windows located within 15 feet of the corner on adjacent facades.

Since the noise measurements performed as part of the *Long Island City Zoning Changes and Related Actions Final EIS* are more than 10 years old, and since there has been significant development in the Long Island City neighborhood as a result of the rezoning, and since building attenuation requirements have been revised in the latest 2012 *City Environmental Quality Review (CEQR) Technical Manual*, a site-specific noise survey and associated analyses have been performed to determine current noise abatement requirements for the proposed project.

B. ACOUSTICAL 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 (DBA)

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

Table J-1
Common Noise Levels

Sound Source	(dBA)
Military jet, air raid siren	130
Amplified rock music	110
Jet takeoff at 500 meters	100
Freight train at 30 meters	95
Train horn at 30 meters	90
Heavy truck at 15 meters	80–90
Busy city street, loud shout	80
Busy traffic intersection	70–80
Highway traffic at 15 meters, train	70
Predominantly industrial area	60
Light car traffic at 15 meters, city or commercial areas, or residential areas close to industry	50–60
Background noise in an office	50
Suburban areas with medium-density transportation	40–50
Public library	40
Soft whisper at 5 meters	30
Threshold of hearing	0

Note: A 10 dBA increase in level appears to double the loudness, and a 10 dBA decrease halves the apparent loudness.
Sources: Cowan, James P. *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 dBA scale is logarithmic, meaning that each increase of 10 dBA describes a doubling of perceived loudness. Thus, the background noise in an office, at 50 dBA, is perceived as twice as loud as a library at 40 dBA. For most people to perceive an increase in noise, it must be at least 3 dBA. At 5 dBA, the change will be readily noticeable.

EFFECTS OF DISTANCE ON SOUND

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

between the noise source and receiver (for hard ground the outdoor drop-off rate is 6 dBA for point sources).

SOUND LEVEL DESCRIPTORS

Because the sound pressure level unit of dBA describes a noise level at just one moment and very few noises are constant, other ways of describing noise that fluctuates over extended periods have been developed. One way is to describe the fluctuating sound heard over a specific time period as if it had been a steady, unchanging sound. For this condition, a descriptor called the "equivalent sound level," L_{eq}, can be computed. L_{eq} is the constant sound level that, in a given situation and time period (e.g., 1 hour, denoted by $L_{eq(1)}$, or 24 hours, denoted by $L_{eq(24)}$), conveys the same sound energy as the actual time-varying sound. The descriptor for cumulative 24-hour exposure is the Day-Night Sound Level (i.e., L_{dn}). 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 very 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}.

The L_{dn} is a 24-hour measure that accounts for the moment-to-moment fluctuations in sound levels due to all sound sources during a 24-hour period.

For purposes of the proposed action, the L_{10} descriptor has been selected as the noise descriptor to be used in this noise impact evaluation. The 1-hour L_{10} is the noise descriptor used in the *CEQR Technical Manual* 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 level (see **Table J-2**, "Required Attenuation Values to Achieve Acceptable Interior Noise Levels"). Recommended noise attenuation values for buildings are designed to maintain interior noise levels of 45 dBA or lower for residential uses and 50 dBA or lower for commercial uses and are determined based on exterior $L_{10(1)}$ noise levels.

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

	Marginally Unacceptable				Clearly Unacceptable
Noise Level With Proposed Action	$70 < L_{10} \leq 73$	$73 < L_{10} \leq 76$	$76 < L_{10} \leq 78$	$78 < L_{10} \leq 80$	$80 < L_{10}$
Attenuation[A]	(I) 28 dB(A)	(II) 31 dB(A)	(III) 33 dB(A)	(IV) 35 dB(A)	$36 + (L_{10} - 80)$[B] dB(A)

Notes:
[A] The above composite window-wall attenuation values are for residential dwellings. 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 dBA.
Source: New York City Department of Environmental Protection.

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

10 * LOG[Energy Sum of the 24 Hourly Equivalent Sound Levels] -13.8

where 10 dB is added to the A-weighted sound levels measured between 10 PM and 7 AM (i.e., nighttime).

D. METHODOLOGY

The CadnaA model was used to determine the amount of window/wall attenuation required to achieve 45 dB(A)/50 dB(A) L_{10} interior at various facades and elevations. The CadnaA model is a computerized model developed by DataKustik for sound prediction and assessment. The model can be used for the analysis of a wide variety of sound sources, including stationary sources (e.g., construction equipment, industrial equipment, HVAC equipment, etc.), transportation sources (e.g., roads, highways, railroad lines, busways, airports, etc.), and other specialized sources (e.g., sporting facilities, etc.). The model takes into account the reference sound pressure levels at a known distance/sound power levels, attenuation with distance, ground contours, reflections from barriers and structures, attenuation due to shielding, etc. The CadnaA model is based on the acoustic propagation standards promulgated in International Standard ISO 9613-2. The CadnaA model is a state-of-the-art tool for acoustical analysis.

ANALYSIS PROCEDURE

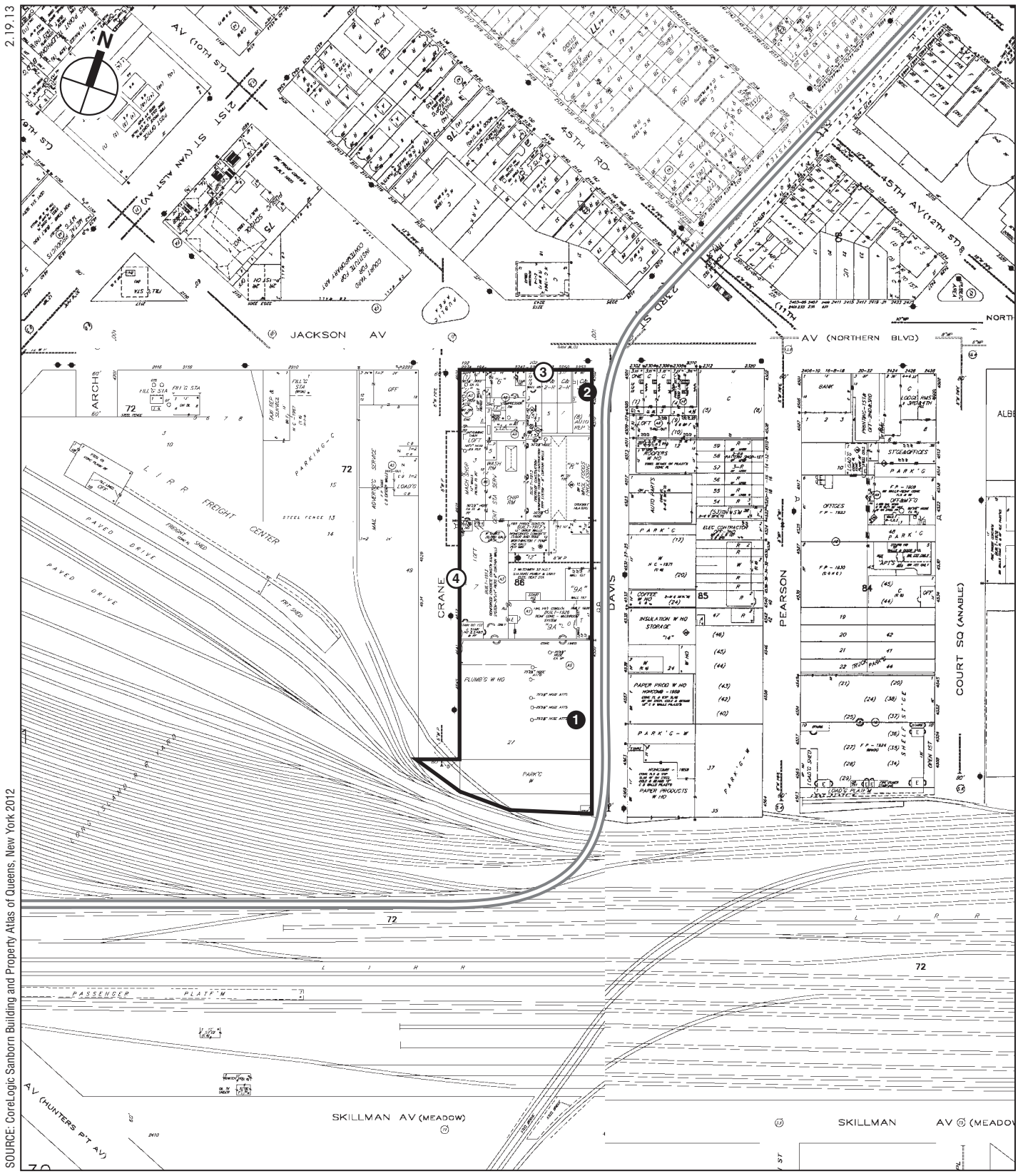
In general, the following procedure was used in performing the CEQR building attenuation analysis:

- Noise survey locations were selected by examining the proposed project geometry, the location of the dominant sources of ambient noise (ex: elevated No. 7 subway train), the existing buildings' geometry and availability for access to existing buildings;
- Existing noise levels were determined at each noise survey location by performing field measurements;
- Using GIS data, the project site's existing conditions were input to the CadnaA model;
- To reflect existing rail and vehicular traffic conditions, the existing conditions CadnaA model was calibrated/adjusted based on the worst-case 1-hour L_{10} measurement at each receptor location;
- Using CAD files supplied by the architect, the proposed project's geometry was input to the CadnaA model;
- The CadnaA model was used to calculate worst-case 1-hour L_{10} noise levels on all facades and elevations of the proposed project (using a line-source to represent the elevated No. 7 subway rail component and RLS-90 traffic inputs); and
- The CadnaA results were used to determine minimum window/wall attenuation requirements to satisfy CEQR interior noise level criteria.

E. EXISTING NOISE LEVELS

Existing noise levels at the project site were measured at four (4) locations as shown below in **Table J-3** (also see **Figure J-1**).

At Receptor Sites 1 and 2, 24-hour continuous noise level measurements were made. At Receptor Sites 3 and 4, noise levels were measured for 1-hour periods during the three weekday peak periods—AM (7:00 – 9:00 AM), midday (MD) (12:00 PM to 2:00 PM), and PM (4:30 – 6:30 PM). Measurements were taken on June 7 and 8, 2011.



SOURCE: CoreLogic Sanborn Building and Property Atlas of Queens, New York 2012

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Project Site Boundary

Elevated 7 Train Line

1 *Elevated Noise Receptor*

3 *Street Level Noise Receptor*

Noise Receptor Locations

Figure J-1

Table J-3
Receptor Locations

Receptor	Location	Approximate Elevation (feet)	Approximate Distance from elevated 7 train (feet)
1	Southeast section of Rooftop at 45-46 Davis Street	35	42
2	Extended out of a fourth floor window at 45-06 Davis Street	35	22
3	Jackson Avenue between Crane and Davis Streets	Street-Level	98
4	Crane Street south of Jackson Avenue	Street-Level	NA

EQUIPMENT USED DURING NOISE MONITORING

Measurements were performed using a Brüel & Kjær Sound Level Meter (SLM) Type 2260 (S/N 2001692), two Brüel & Kjær SLMs Type 2270 (S/Ns 2706757 and 2644638), Brüel & Kjær ½-inch microphones Type 4189 (S/Ns 2021267, 2695523, and 2643218), and a Brüel & Kjær Sound Level Calibrator Type 4231 (S/N 2688762). The SLMs have laboratory calibration dates of July 15, 2010, February 23, 2011, and August 25, 2010 which are valid through July of 2011, February of 2012, and August of 2011, respectively. The Brüel & Kjær SLM is a Type 1 instrument according to ANSI Standard S1.4-1983 (R2006). For Site 1, the microphone was mounted on a tripod at a height of approximately 5 feet above the roof of the existing building (or about 35 feet above street level). For Sites 3 and 4, the microphone was mounted on a tripod at a height of approximately 5 feet above the ground and was mounted at least approximately 5 feet away from any large reflecting surfaces. For Site 2, the microphone was extended on a pole approximately 3 feet out from a 4th floor window. The SLMs' calibration was field checked before and after readings with a Brüel & Kjær Type 4231 Sound Level Calibrator using the appropriate adaptor. Measurements at each location were made on the A-scale (dBA). The data were digitally recorded by the SLMs and displayed at the end of the measurement period in units of dBA. Measured quantities included L_{eq}, L_1, L_{10}, L_{50}, L_{90}, and 1/3 octave band levels. A windscreen was used during all sound measurements except for calibration. All measurement procedures were based on the guidelines outlined in ANSI Standard S1.13-2005.

The results of the existing noise level measurements are summarized in **Figures J-2** and **J-3** and **Table J-4**.

Table J-4
Existing Noise Levels at Sites 1, 2, 3 and 4 (in dBA)

Site	Measurement Location	Time	L_{eq}	L_1	L_{10}	L_{50}	L_{90}
1	45-46 Davis Street (Southeast Section of Rooftop)	AM	76.1	84.9	**81.6**	64.6	56.6
		MD	72.4	83.4	78.1	58.1	55.2
		PM	75.9	84.6	81.4	65.3	56.1
2	45-06 Davis Street (Extended 3 feet out of a Fourth Floor Window)	AM	90.2	99.7	**95.7**	69.6	62.3
		MD	86.9	98.3	93.2	66.7	62.5
		PM	91.0	101.6	95.6	69.4	62.7
3	Jackson Avenue between Crane and Davis Streets	AM	76.5	84.6	**80.5**	72.8	65.5
		MD	74.2	84.0	78.2	69.7	62.9
		PM	75.3	84.0	79.7	70.4	63.7
4	Crane Street south of Jackson Avenue	AM	64.4	73.7	65.6	61.9	58.3
		MD	65.4	74.6	**66.5**	62.3	59.7
		PM	65.2	74.0	66.1	63.0	61.2

Note: Measurements were conducted by AKRF Acoustics Department on June 7 and 8, 2011.
Bold type denotes highest measured $L_{10(1)}$ noise levels for each receptor site.

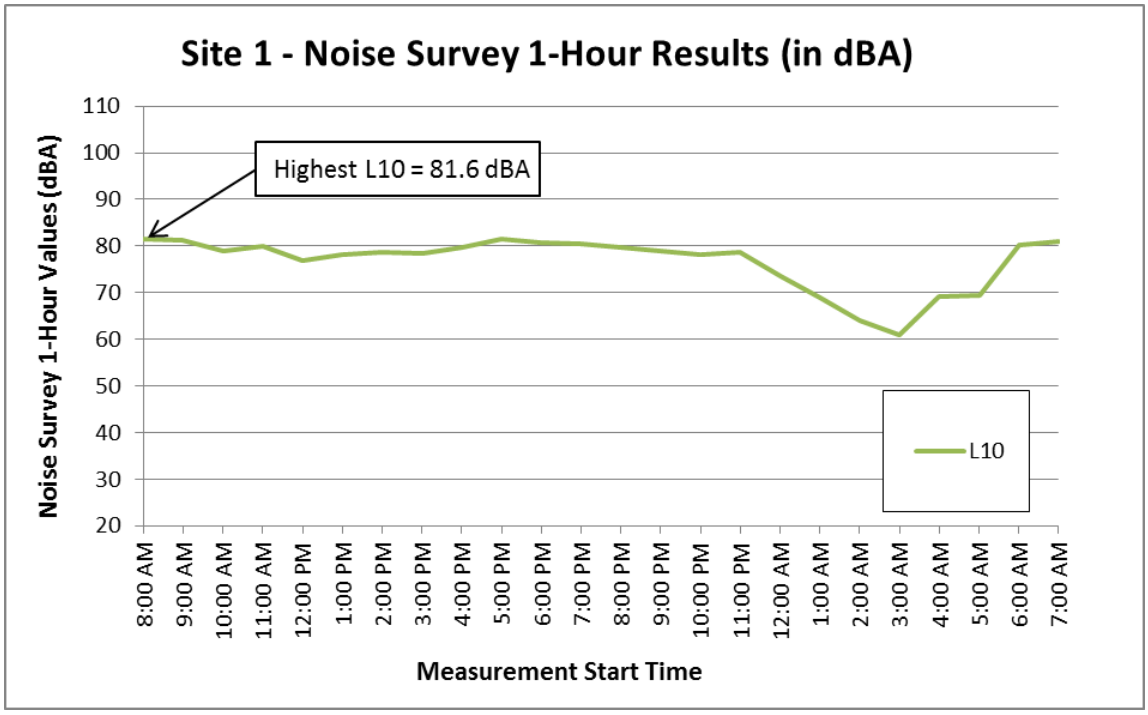


Figure J-2

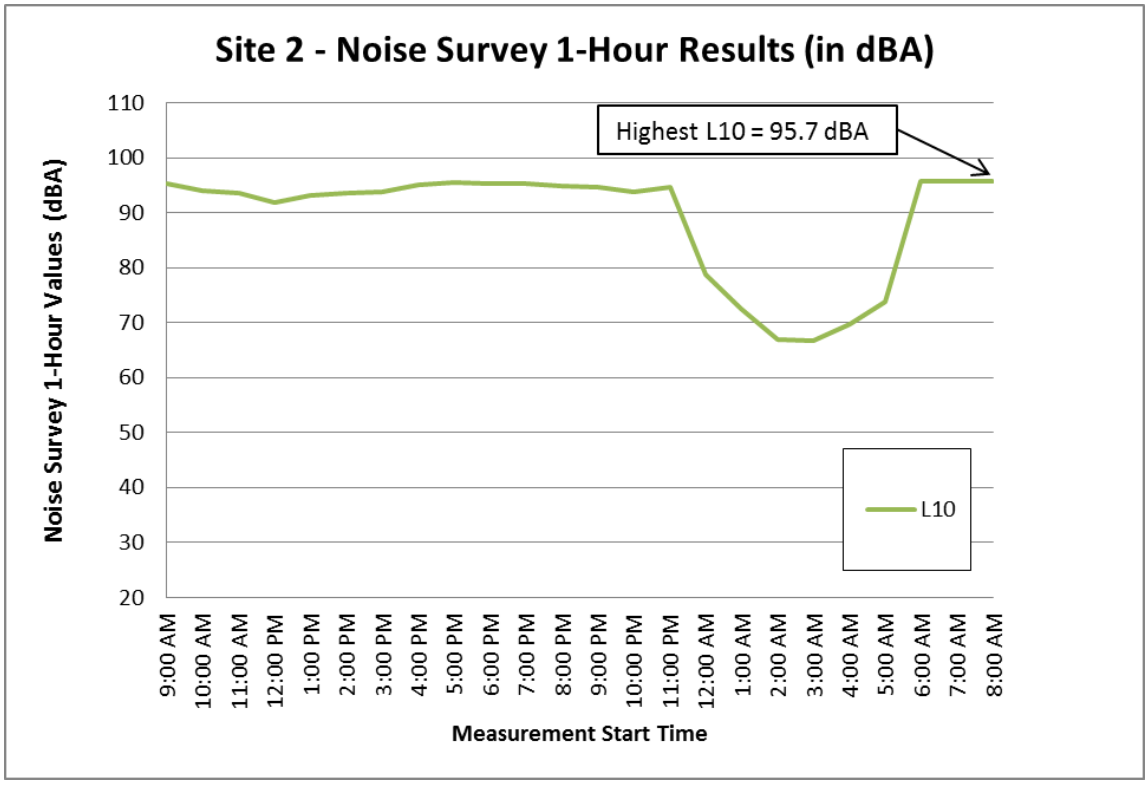


Figure J-3

At Site 1, rail noise from the nearby elevated No. 7 subway train was the dominant noise source. Rail noise from Sunnyside Yards and vehicular traffic noise from Davis Street also contributed to the measured noise levels. At Site 2, rail noise from the nearby elevated No. 7 subway train was the dominant noise source. Vehicular traffic noise from Jackson Avenue also contributed to the measured noise levels. At Site 3, rail noise from the nearby elevated No. 7 subway train was the dominant noise source. Vehicular traffic noise from Jackson Avenue also contributed to the measured noise levels. At Site 4 vehicular traffic noise from Crane Street was the dominant noise source. Vehicular traffic noise from Jackson Avenue and rail noise from the nearby elevated No. 7 subway train also contributed to the measured noise levels. Measured levels range from moderately low (Site 4) to very high (Site 2) and reflect the level of vehicular activity on the adjacent streets as well as rail activity from the elevated No. 7 subway train and Sunnyside Yards. In terms of the CEQR criteria, in accordance with *CEQR Technical Manual* guidelines, the existing noise levels at Sites 1, 2, and 3 are in the "clearly unacceptable" category and existing noise levels at Site 4 are in the "marginally acceptable" category. To account for activity in the Sunnyside Rail Yard, an L_{dn} value was calculated for Site 1. Based on the measured values, the calculated L_{dn} value at Site 1 was 78.1 dBA. At Site 1, the highest measured 1-hour L_{10} value of 81.6 dB(A). Since the highest measured L_{10} value is greater than the L_{dn} value, the L_{10} descriptor was used at Site 1 for purposes of determining building attenuation values at Site 1 (as well as at the other locations).

The decreases in $L_{10(1)}$ noise levels shown in **Figures J-2** and **J-3** between the hours of approximately 12 AM and 5 AM are due to less frequent No. 7 subway train service during the late night hours. Based on a review of No. 7 subway train schedules, during these hours approximately 6 to 13 train pass-bys per hour occur. For comparison, during the daytime AM and PM peak periods the number of train pass-bys can exceed 60 per hour. Consequently, daytime noise levels are greater than late-night noise levels at Sites 1 and 2 due to the difference in No. 7 subway train's daytime (more frequent) and nighttime (less frequent) schedules.

For Site 2, the measurement microphone was located at approximately the same elevation of the No. 7 subway and had a direct line-of-sight to the tracks. The highest measured noise levels at Site 2 are due to the curve in the elevated No. 7 subway track above Davis Street and Jackson Avenue. Trains were observed to travel through this curve at fast speeds, which resulted in a significant amount of curve squeal and subway viaduct structure-borne noise.

For Site 1, the measurement microphone was located at approximately the same elevation of the No. 7 subway and had a direct line-of-sight to the tracks. South of the proposed project site the elevated No. 7 subway track also contains a curve, however measured noise levels at Site 1 were lower than those measured at Site 2 for the following reasons: 1) compared with the radius of curvature above Davis Street and Jackson Avenue, the radius of curvature for this section of the elevated No. 7 subway track is different, 2) compared with the elevated No. 7 subway curve above Davis Street and Jackson Avenue, this curve is physically further from the proposed project site, and 3) trains were observed to travel at slower speeds through this section of the elevated No. 7 subway tracks.

F. THE FUTURE WITHOUT THE PROPOSED ACTION

Absent the proposed action, the project site would be redeveloped with a mixed-use development including approximately 628,749 gross square feet (gsf) of residential uses or 628 units, approximately 50,240 gsf of retail space, and a 225-space accessory parking garage. In the future without the proposed action, the neighborhood and surrounding area would continue to operate as it does today. There will be no increase in noise from transportation, including vehicular and rail traffic. Noise levels in the future without the proposed action will likely be

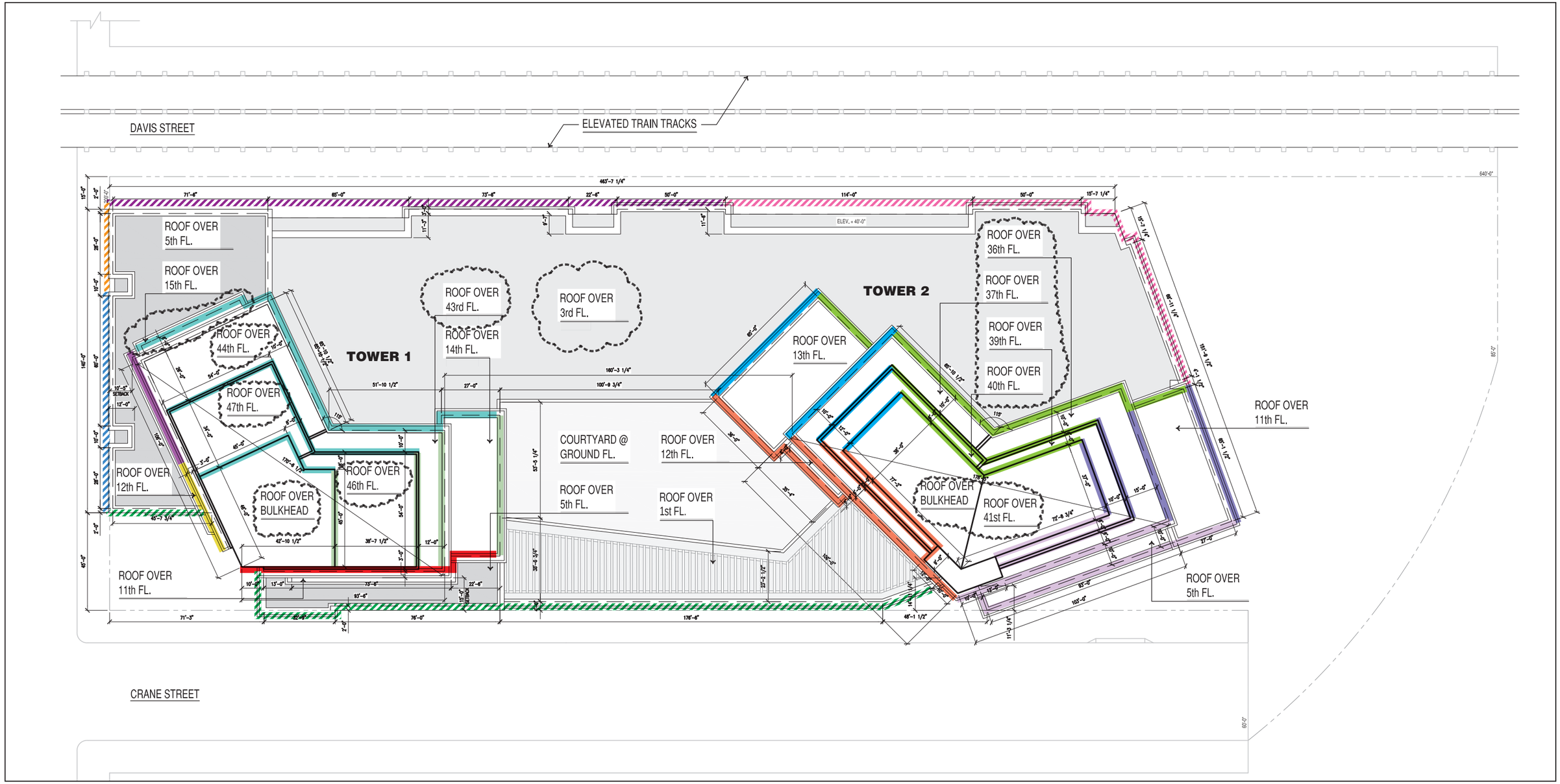
identical to existing noise levels, or only slightly increased due to any growth in the vehicular traffic in the surrounding area.

G. PROBABLE IMPACTS OF THE PROPOSED ACTION

NOISE ATTENUATION MEASURES

As shown in **Table J-2**, the *CEQR Technical Manual* has set noise attenuation quantities for buildings based on exterior $L_{10(1)}$ noise levels in order to maintain interior noise levels of 45 dBA or lower for residential uses and 50 dBA or lower for commercial uses. The CadnaA results confirmed the noise measurements results and demonstrated that noise levels were highest at locations with a direct line-of-site and/or in proximity to the elevated No. 7 subway train. At some elevated locations, noise levels were higher than those at street-level as a result of the elevated No. 7 subway train immediately adjacent to the project site. Other variables that affected calculated noise levels at various facades were line-of-sight to nearby streets and reflections from the proposed development facades. At higher elevations, noise levels decrease as the distance between the noise source (i.e., elevated No. 7 subway train) and receptor is increased. The CadnaA results were used to calculate the noise level at various elevations and floors in order to determine the necessary attenuation to satisfy CEQR interior noise level guidelines. The results of the building attenuation analysis are summarized in **Table J-5** and **Figure J-4** and the complete CadnaA calculation results are in **Appendix A**.

The attenuation of a composite structure is a function of the attenuation provided by each of its component parts and how much of the area is made up of each part. Normally, a building façade consists of wall, glazing, and any vents or louvers associated with the building mechanical systems in various ratios of area. The proposed development's design will include acoustically rated windows and an alternate means of ventilation (i.e., air conditioning) that does not degrade the acoustical performance of the facade. The proposed development's façades, including these elements, would be designed to provide a composite Outdoor-Indoor Transmission Class (OITC) rating greater than or equal to the attenuation requirements listed in **Table J-5**. The OITC classification is defined by ASTM International (ASTM E1332-10a) and provides a single-number rating that is used for designing a building façade including walls, doors, glazing, and combinations thereof. The OITC rating is designed to evaluate building elements by their ability to reduce the overall loudness of vehicular, rail, and air transportation noise. By adhering to these design specifications, the proposed buildings will thus provide sufficient attenuation to achieve the CEQR interior noise level guideline of 45 dBA or lower for residential uses and 50 dBA or lower for commercial uses.



Building Facade Section	TOWER 1	TOWER 2	BASE
A			
B			
C			
D			
E			

Facade Attenuation Summary
Figure J-4

Table J-5
CEQR Building Attenuation Analysis Summary

Building Massing[1]	Use	Building Façade Section[1]	Floors	Attenuation Required (in dBA)[2, 5]
Base	Commercial	A	All	Up to 28[4]
		B	All	35 to 40
		C	All	45 to 48
		D	All	35 to 40
Tower 1	Residential	A	Up to Floor 15	45 to 48
			Floor 16 to 43	40 to 45
			Floor 44 to top	28 to 31[3]
		B	Up to Floor 14	40 to 45
			Floor 15 to top	35 to 40
		C	All	35 to 40
		D	All	Up to 28[4]
		E	Up to Floor 12, Floor 44 to top	31 to 33
			Floor 13 to 43	33 to 35
Tower 2	Residential	A	Up to Floor 37	35 to 40
			Floor 38 to top	Up to 28[3, 4]
		B	Up to Floor 37	40 to 45
			Floor 38 to top	35 to 40
		C	Up to Floor 12	33 to 35
			Floor 13 to 36	28 to 31
			Floor 37 to top	Up to 28[4]
		D	Up to Floor 12	28 to 31
			Floor 13 to top	Up to 28[4]
		E	Up to Floor 37	35 to 40
			Floor 38 to top	31 to 33[3]

Notes:
(1) See **Figure J-4**.
(2) CEQR attenuation requirements do not apply to parking, corridors, mechanical space, etc. uses.
(3) Reduced attenuation requirements due to building set backs.
(4) At certain locations, predicted CadnaA noise levels are less than or equal to 70 dBA L_{10}. The 2012 *CEQR Technical Manual* does not contain guidance for noise levels that are less than or equal to 70 dBA L_{10}.
(5) Attenuation requirements based on proposed building use and predicted CadnaA noise levels.
Source:
Based on H. Thomas O'Hara architectural plan A-103 dated 12/16/2011.

Based upon the $L_{10(1)}$ values measured at the project site, designing the proposed development to provide a composite OITC rating greater than or equal to the attenuation requirements listed in **Table J-5** would be expected to provide sufficient attenuation to achieve the CEQR interior noise level requirements.

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

"In order to ensure an acceptable interior noise environment, future residential/commercial uses must provide up to 48 dBA of window/wall attenuation to achieve interior noise levels of 45 dBA. Design requirements to attain this attenuation may include a closed window condition with alternate means of ventilation. Alternate means of ventilation include, but are not limited to, central air conditioning. In addition, special design features may be necessary (i.e., windows with small sizes, windows with air gaps, windows with thicker glazing, etc.) to provide additional building attenuation. The specific attenuation requirements to be implemented throughout the project building facades are

provided in the 22-44 Jackson Avenue EAS, Table J-5 and Figure J-4 (CEQR No. 13DCP094Q, April 2013).

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 Mechanical Code) and to avoid producing levels that would result in any significant increase in ambient noise levels. ✷

A. INTRODUCTION

As discussed in Attachment A, "Project Description," the proposed project would redevelop a site that is currently a complex of former manufacturing and commercial mixed-use buildings with approximately 1,000 housing units (an increment of 372 units), a 250-space public parking garage, local retail and service uses, some artist work space, and approximately 32,099 square feet of at-grade publicly accessible open space in Hunters Point, Queens. The project site comprises the block bounded by Jackson Avenue to the north, Davis Street to the east, the Sunnyside Yards to the south, and Crane Street to the west. The assessment of the proposed project's potential transportation impacts is based on the methodologies set forth in the *2012 City Environmental Quality Review (CEQR) Technical Manual*. As detailed below, the analysis results show that with the project improvements at the intersection of Jackson Avenue and Davis Street in place, no significant adverse transportation-related impacts would occur as a result of the proposed project. In addition, the proposed project parking supply and utilization analysis shows that there would be parking shortfalls during the weekday AM, midday, PM, and overnight periods. However, as stated in the *CEQR Technical Manual*, for proposed projects located in Manhattan and other CBD neighborhoods, including Long Island City, the parking shortfall would not be considered significant due to the magnitude of available alternative modes of transportation.

B. PRELIMINARY ANALYSIS METHODOLOGY

The *CEQR Technical Manual* describes a two-tier screening procedure for the preparation of a "preliminary analysis" to determine if quantified analyses of transportation conditions are warranted. As discussed below, the preliminary analysis begins with a trip generation analysis (Level 1) to estimate the volume of person and vehicle trips attributable to the proposed project. According to the *CEQR Technical Manual*, if the 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. When these thresholds are exceeded, detailed trip assignments (Level 2) are 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 project would generate 50 or more peak hour vehicle trips at an intersection, 200 or more peak hour subway trips at a 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 pedestrian element, then further quantified 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 volume of person and vehicle trips by mode expected to be generated by the proposed project during the weekday

AM, midday, and PM peak hours. These estimates were then compared to the *CEQR Technical Manual* thresholds to determine if a Level 2 screening and/or quantified analyses would be warranted.

BACKGROUND

In the future without the proposed action ("No Build"), the project site could be redeveloped as-of-right to include approximately 628 residential dwelling units, approximately 50,240 gsf of retail space, and a 225-space accessory parking garage with access and egress on Davis Street. The proposed action would primarily increase the residential dwelling units by approximately 372 units and provide for a 250-space public parking garage. Overall, in the future with the proposed action ("Build"), the project site would be redeveloped to include approximately 1,000 residential dwelling units, approximately 2,280 gsf of artist work space (which was conservatively assumed to function as general local retail use), approximately 50,302 gsf of retail space, approximately 32,099 sf of open space (0.74 acres), and a 250-space public parking garage with access and egress on Crane Street and Davis Street. It is anticipated that construction of the entire project would be completed by 2017. **Table K-1** provides a comparison of the future without and with the proposed project, as was used in this analysis.

Table K-1
Comparison of the Future Without and With the Proposed Action

Development Components	Future Without the Proposed Action (As-of-Right Development)	Future With the Proposed Action (Proposed Project)	Increment for Analysis
Residential	628 Units	1,000 Units	372 Units
Local Retail	50,240 gsf	50,302 gsf (1)	62 gsf
Artist Work Space	0	2,280 gsf	2,280 gsf
Open Space	0	32,099 sf	32,099 sf
Public Parking	0	250 spaces	250 spaces
Accessory Parking	225 spaces	0	-225 spaces

Note: (1) 51,440 gsf was conservatively assumed for the transportation analysis and as stated above, the artist work space was conservatively assumed to function as general local retail use. Shortly prior to the certification of this EAS, the artist work space was increased from 936 gsf to 2,280 gsf (+1,344 gsf). Because this artist work space functions more similarly to an office space and typically generates substantially fewer trips than the local retail use, the conservative trip estimates developed for analysis are expected to adequately incorporate the minimally additional trip-making associated with the increased artist work space.

TRANSPORTATION PLANNING ASSUMPTIONS

Travel demand projections were prepared for each of the No Build and Build conditions for the weekday AM, midday, and PM peak hours. The resulting trip increments (proposed project trips minus No Build trips) were compared with the applicable *CEQR Technical Manual* screening thresholds to determine if additional quantified analyses were warranted. The transportation planning assumptions used in calculating the trip estimates are described below and detailed in **Table K-2**. These assumptions are based on travel demand factors from established and published sources, including the *CEQR Technical Manual*, U.S. Census data, and other approved studies, including the *Dutch Kills Rezoning and Related Actions FEIS*, *Hunter's Point South Rezoning and Related Actions FEIS*, and *LIC Gotham Center Garage EAS*.

Table K-2
Travel Demand Assumptions

USE	Residential			Local Retail			Public Open Space		
Daily	(1)			(1)			(1)		
Person Trip	8.075			205			139		
Generation Rate	Person Trips / Dwelling Unit			Person Trips / KSF			Person Trips / Acre		
Trip Linkage	0%			25%			0%		
Person Trip	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Temporal	AM	MD	PM	AM	MD	PM	AM	MD	PM
Distribution	10%	5%	11%	3%	19%	10%	3%	5%	6%
Directional Distribution	(2)	(2)	(2)	(2)	(2)	(2)	(4)	(4)	(4)
In	20%	51%	65%	50%	50%	50%	55%	50%	45%
Out	80%	49%	35%	50%	50%	50%	45%	50%	55%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%
Modal Split	(3)	(3)	(3)	(2)	(2)	(2)	(4)	(4)	(4)
Auto	20%	20%	20%	2%	2%	2%	5%	5%	5%
Taxi	0%	0%	0%	3%	3%	3%	0%	0%	0%
Subway	72%	72%	72%	6%	6%	6%	5%	5%	5%
Bus	3%	3%	3%	6%	6%	6%	5%	5%	5%
Railroad	2%	2%	2%	0%	0%	0%	0%	0%	0%
Walk	3%	3%	3%	83%	83%	83%	85%	85%	85%
Work at Home	0%	0%	0%	0%	0%	0%	0%	0%	0%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%
Vehicle Occupancy	(2)(3)			(2)			(4)		
Auto	1.12			2.00			2.80		
Taxi	1.50			2.00			2.80		
Daily	(1)			(1)			(4)		
Delivery Trip	0.06			0.35			0.02		
Generation Rate	Trips / Dwelling Unit			Trips / KSF			Trips / Acre		
Delivery Trip	(1)	(1)	(1)	(1)	(1)	(1)	(4)	(4)	(4)
Temporal	AM	MD	PM	AM	MD	PM	AM	MD	PM
Distribution	12%	9%	2%	8%	11%	2%	6%	6%	1%
Directional Distribution	(1)	(1)	(1)	(1)	(1)	(1)	(4)	(4)	(4)
In	50%	50%	50%	50%	50%	50%	50%	50%	50%
Out	50%	50%	50%	50%	50%	50%	50%	50%	50%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source:
(1) 2012 *City Environmental Quality Review (CEQR) Technical Manual*
(2) *Dutch Kills Rezoning and Related Actions FEIS* (2008)
(3) US Census Bureau 2006-2010 American Community Survey 5-Year Estimates
(4) *Hunter's Point South Rezoning and Related Actions FEIS* (2008)
(5) *LIC Gotham Center Garage EAS* (2010)
Note:
The approximately 1,000 square feet of artist work space were conservatively assumed to function as general local retail use.

RESIDENTIAL

For the residential component, trip generation rates of 8.075 daily person trips per dwelling unit per weekday and a temporal distribution of 10 percent for the weekday AM peak hour, 5 percent for the midday peak hour, and 11 percent for the PM peak hour were obtained from the *CEQR Technical Manual*. Directional distributions of 20 percent "in" during the weekday AM peak hour, 51 percent "in" during the midday peak hour, and 65 percent "in" during the PM peak hour were obtained from the *Dutch Kills Rezoning and Related Actions FEIS* (2008). Modal split information (20 percent by auto, 0 percent by taxi, 72 percent by subway, 3 percent by bus, 2 percent by railroad, and 3 percent by walk) and auto occupancy (1.12 persons per auto) were obtained from journey–to-work data from the U.S. Census American Community Survey (ACS) 2006-2010. A taxi occupancy rate of 1.50 passengers per taxi was obtained from the *Dutch Kills Rezoning and Related Actions FEIS*.

Daily truck trip generation rates of 0.06 trips per dwelling unit were obtained from the *CEQR Technical Manual*. Temporal distribution for trucks (12 percent during the weekday AM peak hour, 9 percent during the midday peak hour, and 2 percent during the PM peak hour) and directional distribution assumptions (50 percent "in" during all peak hours) were also obtained from the *CEQR Technical Manual.*

LOCAL RETAIL

For local retail use, daily person trip generation rates of 205 person trips per 1,000 square feet, and a temporal distribution of 3 percent for the weekday AM peak hour, 19 percent for the midday peak hour, and 10 percent for the PM peak hour were obtained from the *CEQR Technical Manual*. A directional distribution of 50 percent "in" during all peak hours, a modal split of 2 percent by auto, 3 percent by taxi, 6 percent by subway, 6 percent by bus, and 83 percent by walk, and vehicle occupancy rates of 2.00 persons per auto and taxi during all peak hours were all obtained from the *Dutch Kills Rezoning and Related Actions FEIS*. A 25 percent linked trip credit was assumed for all local retail trips.

For truck deliveries, a daily trip generation rate of 0.35 trips per 1,000 square feet was obtained from the *CEQR Technical Manual*. Temporal distribution (8 percent during the weekday AM peak hour, 11 percent during the midday peak hour, and 2 percent during the PM peak hour) and directional distribution assumptions (50 percent "in" during all peak hours) were also obtained from the *CEQR Technical Manual.*

PUBLIC OPEN SPACE

For the public open space use, daily person trip generation rates of 139 person trips per acre, and a temporal distribution of 3 percent for the weekday AM peak hour, 5 percent for the midday peak hour, and 6 percent for the PM peak hour were obtained from the *CEQR Technical Manual*. Directional distributions of 55 percent "in" during the AM peak hour, 50 percent "in" during the midday peak hour, and 45 percent "in" during the PM peak hour were obtained from *Hunter's Point South Rezoning and Related Actions FEIS* (2008). A modal split of 5 percent by auto, 0 percent by taxi, 5 percent by subway, 5 percent by bus, and 85 percent by walk, and vehicle occupancy rates of 2.80 persons per auto and taxi during all peak hours were also obtained from the *Hunter's Point South Rezoning and Related Actions FEIS*.

For truck deliveries, a daily trip generation rate of 0.02 trips per acre was obtained from the *Hunter's Point South Rezoning and Related Actions FEIS*. Truck temporal distribution (6 percent during the weekday AM peak hour, 6 percent during the midday peak hour, and 1 percent during the PM peak hour) and directional distribution assumptions (50 percent "in" during all peak hours) were also obtained from the *Hunter's Point South Rezoning and Related Actions FEIS*.

TRAVEL DEMAND ANALYSIS RESULTS

As summarized in **Table K-3**, in the future without the proposed action, a total of 736, 1,722, and 1,333 person trips would be generated during the weekday AM, midday, and PM peak hours, respectively. Approximately 104, 103, and 128 vehicle trips would be generated during the same respective time periods.

In the future with the proposed action, the proposed project (without the public parking component, which is discussed below) would, as shown in **Table K-4**, generate a total of 1,048, 1,937, and 1,696 person trips during the weekday AM, midday, and PM peak hours, respectively. Approximately 162, 134, and 189 vehicle trips would be generated during the same respective time periods.

Table K-3
Trip Generation Summary: Future Without the Proposed Action

Peak Hour Person Trip	AM			Midday			PM		
	In	Out	Total	In	Out	Total	In	Out	Total
Auto	22	83	105	41	40	81	81	47	128
Taxi	3	3	6	22	22	44	12	12	24
Subway	80	299	379	137	133	270	284	164	448
Bus	10	19	29	48	48	96	34	29	63
Railroad	2	8	10	3	2	5	7	4	11
Walk	99	108	207	613	613	1,226	332	327	659
Total	**216**	**520**	**736**	**864**	**858**	**1,722**	**750**	**583**	**1,333**
Peak Hour Vehicle Trip	**AM**			**Midday**			**PM**		
	In	Out	Total	In	Out	Total	In	Out	Total
Auto	19	73	92	30	29	59	69	39	108
Taxi	3	3	6	19	19	38	10	10	20
Delivery	3	3	6	3	3	6	0	0	0
Total	**25**	**79**	**104**	**52**	**51**	**103**	**79**	**49**	**128**

Table K-4
Trip Generation Summary: Future With the Proposed Action (w/o Public Parking Component)

Peak Hour Person Trip	AM			Midday			PM		
	In	Out	Total	In	Out	Total	In	Out	Total
Auto	34	131	165	56	55	111	123	70	193
Taxi	4	4	8	23	23	46	12	12	24
Subway	123	472	595	194	188	382	440	248	688
Bus	12	26	38	52	52	104	41	33	74
Railroad	3	13	16	4	4	8	12	6	18
Walk	106	120	226	643	643	1,286	353	346	699
Total	**282**	**766**	**1,048**	**972**	**965**	**1,937**	**981**	**715**	**1,696**
Peak Hour Vehicle Trip	**AM**			**Midday**			**PM**		
	In	Out	Total	In	Out	Total	In	Out	Total
Auto	30	116	146	45	43	88	107	60	167
Taxi	3	3	6	19	19	38	10	10	20
Delivery	5	5	10	4	4	8	1	1	2
Total	**38**	**124**	**162**	**68**	**66**	**134**	**118**	**71**	**189**

As mentioned above, the proposed project would replace an existing 100-space public parking lot with a 250-space public parking garage. Demand for parking by transient motorists at the on-site public parking garage is shown in **Table K-5**. The proposed public parking garage would generate a total of 35, 21, and 54 transient vehicle trips during the weekday AM, midday, and PM peak hours, respectively. These vehicle trips would also yield, based on 2000 Census Reverse Journey-to-Work (RJTW) statistics, approximately 39, 24, and 62 person trips walking to/from the on-site public parking garage during the same peak hours. The total person and vehicle trips generated by the proposed project and the transients to the public parking garage are shown in **Table K-6**.

Table K-5
Proposed Project Parking Demand Analysis

Proposed Project	Residential												Local Retail				Public Open Space				Public Parking [1][2]				On-Site Garage Total			
	Total Parking Demand				On-Site Demand				Off-Site Demand																			
Hour	In	Out	Total	Parking Demand	In	Out	Total	Parking Demand	In	Out	Total	Parking Demand	In	Out	Total	Parking Demand	In	Out	Total	Parking Demand	In	Out	Total	Parking Demand	In	Out	Total	Accum.
12 AM-01 AM	11	11	22	470	6	6	12	250	5	5	10	220	0	0	0	0	0	0	0	0	0	0	0	0	6	6	12	250
01 AM-02 AM	5	5	10	470	3	3	6	250	2	2	4	220	0	0	0	0	0	0	0	0	0	0	0	0	3	3	6	250
02 AM-03 AM	3	3	6	470	2	2	4	250	1	1	2	220	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4	250
03 AM-04 AM	2	2	4	470	1	1	2	250	1	1	2	220	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	250
04 AM-05 AM	2	2	4	470	1	1	2	250	1	1	2	220	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	250
05 AM-06 AM	2	2	4	470	1	1	2	250	1	1	2	220	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	250
06 AM-07 AM	4	4	8	470	2	2	4	250	2	2	4	220	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4	250
07 AM-08 AM	6	51	57	425	3	27	30	226	3	24	27	199	1	0	1	1	0	0	0	0	24	1	25	23	28	28	56	250
08 AM-09 AM	29	115	144	339	15	61	76	180	14	54	68	159	1	1	2	1	0	0	0	0	32	3	35	52	48	65	113	233
09 AM-10 AM	19	76	95	282	10	40	50	150	9	36	45	132	1	0	1	2	0	0	0	0	28	1	29	79	39	41	80	231
10 AM-11 AM	18	54	72	246	10	29	39	131	8	25	33	115	0	0	0	2	0	0	0	0	9	4	13	84	19	33	52	217
11 AM-12 PM	25	38	63	233	13	20	33	124	12	18	30	109	1	1	2	2	0	0	0	0	7	7	14	84	21	28	49	210
12 PM-01 PM	37	35	72	235	20	19	39	125	17	16	33	110	8	8	16	2	0	0	0	0	15	6	21	93	43	33	76	220
01 PM-02 PM	33	33	66	235	18	18	36	125	15	15	30	110	6	6	12	2	0	0	0	0	7	7	14	93	31	31	62	220
02 PM-03 PM	30	30	60	235	16	16	32	125	14	14	28	110	3	3	6	2	0	0	0	0	4	8	12	89	23	27	50	216
03 PM-04 PM	40	38	78	237	21	20	41	126	19	18	37	111	3	3	6	2	0	0	0	0	2	8	10	83	26	31	57	211
04 PM-05 PM	62	42	104	257	33	22	55	137	29	20	49	120	3	3	6	2	0	0	0	0	4	11	15	76	40	36	76	215
05 PM-06 PM	103	56	159	304	55	30	85	162	48	26	74	142	4	4	8	2	0	0	0	0	4	50	54	30	63	84	147	194
06 PM-07 PM	95	41	136	358	51	22	73	191	44	19	63	167	4	4	8	2	0	0	0	0	4	34	38	0	59	60	119	193
07 PM-08 PM	84	34	118	408	45	19	64	217	39	15	54	191	3	3	6	2	0	0	0	0	0	0	0	0	48	22	70	219
08 PM-09 PM	36	16	52	428	19	9	28	227	17	7	24	201	1	2	3	1	0	0	0	0	0	0	0	0	20	11	31	228
09 PM-10 PM	29	13	42	444	15	7	22	235	14	6	20	209	0	1	1	0	0	0	0	0	0	0	0	0	15	8	23	235
10 PM-11 PM	24	10	34	458	13	5	18	243	11	5	16	215	0	0	0	0	0	0	0	0	0	0	0	0	13	5	18	243
11 PM-12 AM	20	8	28	470	11	4	15	250	9	4	13	220	0	0	0	0	0	0	0	0	0	0	0	0	11	4	15	250

Notes:
(1) Travel demand assumptions for the public parking component were based on surveys of ins and outs conducted in June 2011 at the site's existing parking lot, located at 45-66 Davis Street.
(2) Average vehicle occupancy of 1.13 based on 2000 U.S. Census Reverse Journey-to-Work (RJTW) statistics.

Table K-6
Trip Generation Summary: Future With the Proposed Action Total

Peak Hour Person Trip	AM			Midday			PM		
	In	Out	Total	In	Out	Total	In	Out	Total
Auto	37	167	204	63	72	135	180	75	255
Taxi	4	4	8	23	23	46	12	12	24
Subway	123	472	595	194	188	382	440	248	688
Bus	12	26	38	52	52	104	41	33	74
Railroad	3	13	16	4	4	8	12	6	18
Walk	106	120	226	643	643	1,286	353	346	699
Total	**285**	**802**	**1,087**	**979**	**982**	**1,961**	**1,038**	**720**	**1,758**
Peak Hour Vehicle Trip	**AM**			**Midday**			**PM**		
	In	Out	Total	In	Out	Total	In	Out	Total
Auto	62	119	181	60	49	109	111	110	221
Taxi	3	3	6	19	19	38	10	10	20
Delivery	5	5	10	4	4	8	1	1	2
Total	**70**	**127**	**197**	**83**	**72**	**155**	**122**	**121**	**243**

LEVEL 1 SCREENING

As per the criteria established in the *CEQR Technical Manual*, a quantified transportation analysis may be warranted if the proposed project is expected to result in 50 or more vehicle trips, 200 or more transit trips (200 or more peak hour transit riders at any given subway station or 50 or more peak hour bus trips on a particular route in one direction), and/or 200 or more pedestrian trips during a given peak hour.

TRAFFIC

As shown in **Table K-7**, the net difference in trips generated in the future without and with the proposed action (including transient trips associated with the on-site public parking garage) would total 93, 52, and 115 vehicle trips during the weekday AM, midday, and PM peak hours, respectively. Since the net incremental vehicle trips would be at or greater than 50 during all three peak hours, a Level 2 screening assessment (presented in the section below) was conducted to determine if there is a need for additional quantified traffic analyses.

Table K-7
Trip Generation Summary: Project Increments

Peak Hour Person Trip	AM			Midday			PM		
	In	Out	Total	In	Out	Total	In	Out	Total
Auto	15	84	99	22	32	54	99	28	127
Taxi	1	1	2	1	1	2	0	0	0
Subway	43	173	216	57	55	112	156	84	240
Bus	2	7	9	4	4	8	7	4	11
Railroad	1	5	6	1	2	3	5	2	7
Walk	7	12	19	30	30	60	21	19	40
Total	**69**	**282**	**351**	**115**	**124**	**239**	**288**	**137**	**425**
Peak Hour Vehicle Trip	**AM**			**Midday**			**PM**		
	In	Out	Total	In	Out	Total	In	Out	Total
Auto	43	46	89	30	20	50	42	71	113
Taxi	0	0	0	0	0	0	0	0	0
Delivery	2	2	4	1	1	2	1	1	2
Total	**45**	**48**	**93**	**31**	**21**	**52**	**43**	**72**	**115**

TRANSIT

As shown in **Table K-7**, compared to the future without the proposed action, the proposed project would result in net increments of 216, 112, and 240 person trips by subway and 9, 8, and 11 person trips by bus during the weekday AM, midday, and PM peak hours, respectively. Since the incremental subway trips would be greater than 200 during the weekday AM and PM peak hours, a Level 2 screening assessment (presented in the section below) was conducted to determine if there is a need for additional quantified subway analysis. The incremental bus trips would be below the CEQR threshold of 50 peak hour bus trips on a particular route in one direction, a quantified bus analysis is not warranted.

PEDESTRIANS

Other than the person trips by autos that are made directly to/from the on-site parking, all person trips generated by the proposed project would traverse the pedestrian elements surrounding the project site. A Level 2 screening assessment (presented in the section below) was conducted to determine if there is a need for additional quantified pedestrian analyses.

D. LEVEL 2 SCREENING ASSESSMENT

A Level 2 screening assessment involves the distribution and assignment of projected trips to the transportation network and the determination of whether specific locations are expected to incur incremental trips exceeding CEQR thresholds. If the results of this analysis show that the proposed project would generate 50 or more peak hour vehicle trips through an intersection, 50 or more peak hour bus riders on a bus route in a single direction, 200 or more peak hour subway passengers per station, or 200 or more peak hour pedestrian trips per pedestrian element, further quantified analyses may be warranted to evaluate the potential for significant adverse traffic,

transit, pedestrian, and parking impacts. For the proposed project, trips projected for the 2017 build year were allocated to the area's roadways, transit facilities, and pedestrian elements. The comparison of these trips to those of the No Build condition formed the basis for identifying the various study areas for which detailed analyses of potential impacts would be prepared.

TRAFFIC

The project site is bounded by Jackson Avenue to the north, the Sunnyside Yards to the south, Davis Street to the east, and Crane Street to the west. Access and egress to the proposed public parking garage would be provided on the east side of Crane Street and the west side of Davis Street, approximately at the location of the current access points to the existing on-site parking lot. Crane Street and Davis Street are two-ways north-south-bound, and Jackson Avenue is two-ways east-west-bound. Near the project site, Thomson Avenue and 21st Street, which are two-ways north-south-bound, are also key corridors providing access to the area. The site is inaccessible from the immediate south, as it abuts the Sunnyside Yards. Left turns are not permitted from southwest-bound Jackson Avenue to Crane Street. As shown in **Figures K-1** to **K-6**, as-of-right generated and project-generated vehicle trips to and from the project site were assigned to the area's street network based on existing travel patterns and major corridors in the area. As-of-right generated auto trips were assigned to and from the proposed accessory parking garage located on Davis Street and to other public parking facilities in the area. While, the proposed project generated auto trips were assigned to and from the proposed site public parking garage located on Crane and Davis Streets and to other public parking facilities in the area. Taxi trips were assigned to various project block fronts, and delivery trips were assigned to the site via New York City Department of Transportation (NYCDOT) designated truck routes.

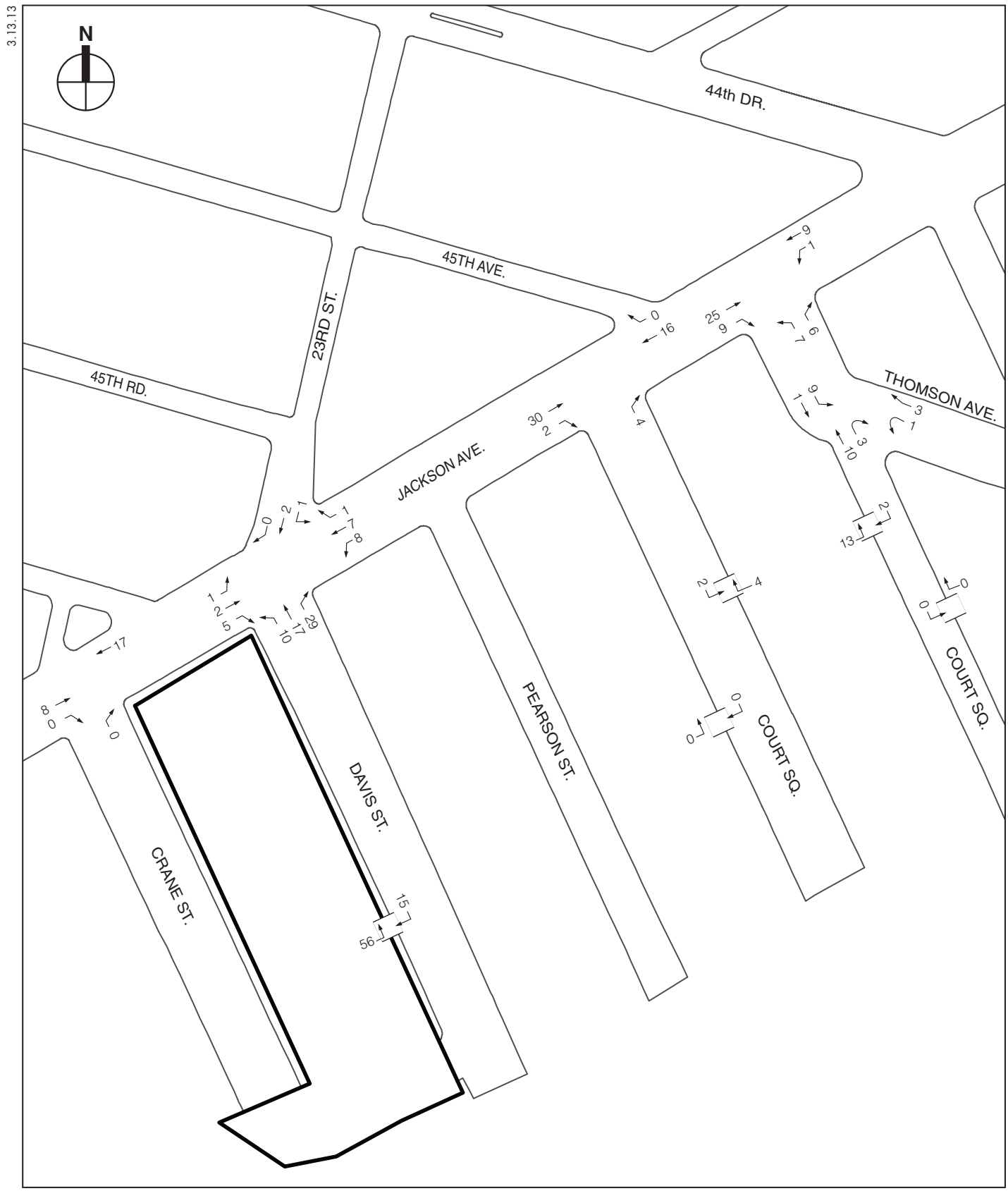
As shown in **Figures K-7** to **K-9** and summarized in **Table K-8**, during the weekday AM and PM peak hours, the intersection of Thomson Avenue at Jackson Avenue is expected to incur greater than 50 net incremental vehicle trips. During the PM peak hour, the intersections of Davis Street/23rd Street at Jackson Avenue and Court Square at Jackson Avenue are expected to incur greater than 50 net incremental vehicle trips. The intersection of Court Square at Jackson Avenue would experience more than 50 net incremental vehicle trips during the weekday PM peak hour. Based on criteria described in the *CEQR Technical Manual*, a detailed traffic analysis with intersection capacity and delay results was conducted at these three locations during all three weekday peak periods (see **Figure K-10**). In addition, the unsignalized intersection of Jackson Avenue at Crane Street, which is directly adjacent to the project site, was analyzed.

Table K-8
Locations Exceeding the CEQR Traffic Analysis Threshold

Analysis Location	AM	Midday	PM
Thomson Avenue at Jackson Avenue	✓ (+60)		✓ (+60)
Davis Street/23rd Street at Jackson Avenue			✓ (+61)
Court Square at Jackson Avenue			✓ (+58)

TRANSIT

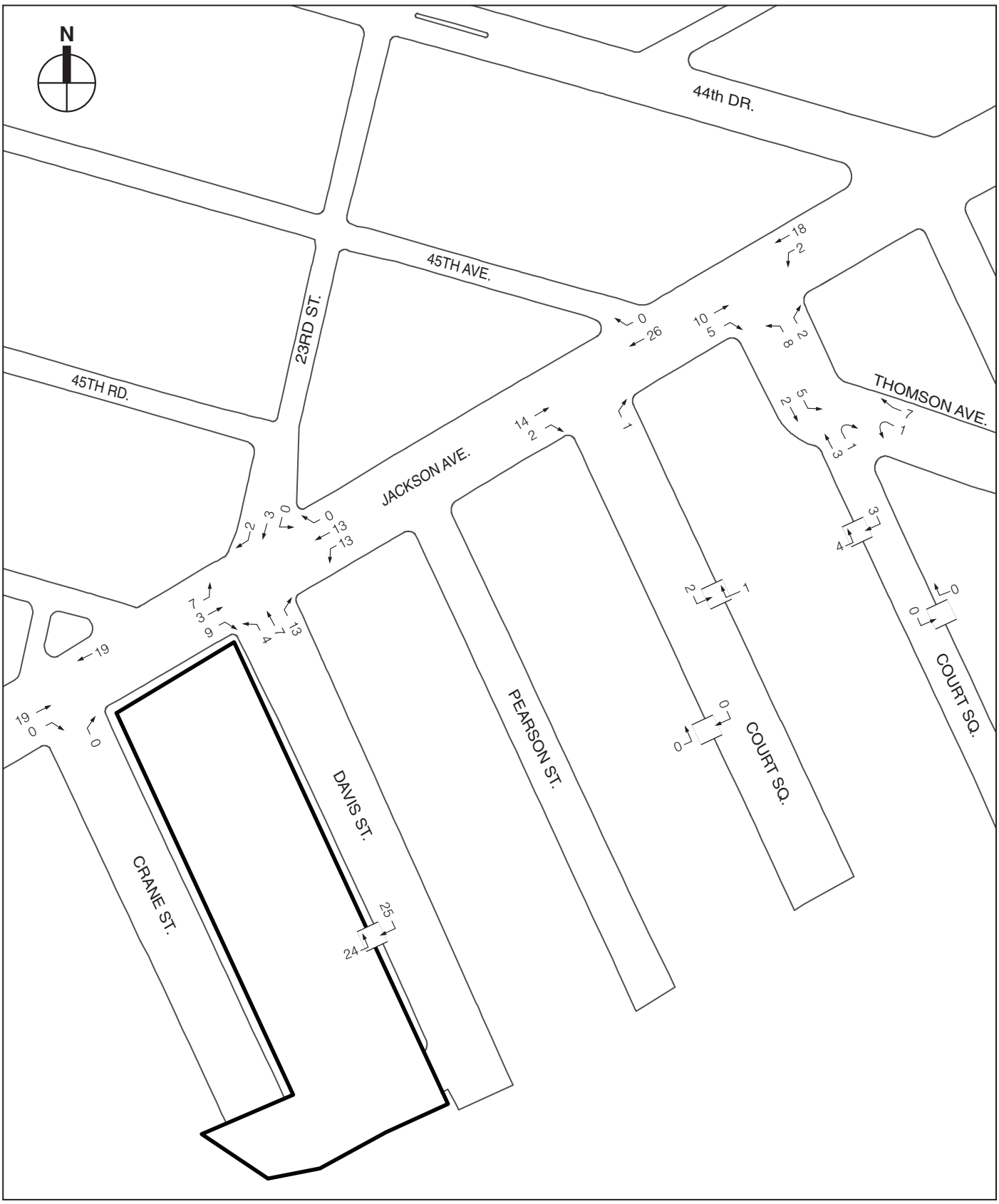
As presented in **Table K-7**, compared to the future without the proposed action, the proposed project would result in net increments of 216, 112, and 240 person trips by subway. The projected subway trips were assigned to the Court Square (No. 7, E, G, M) Station complex with



2017 As-of-Right Project Generated Vehicle Trips
Weekday AM Peak Hour

22-44 JACKSON AVENUE

Figure K-1

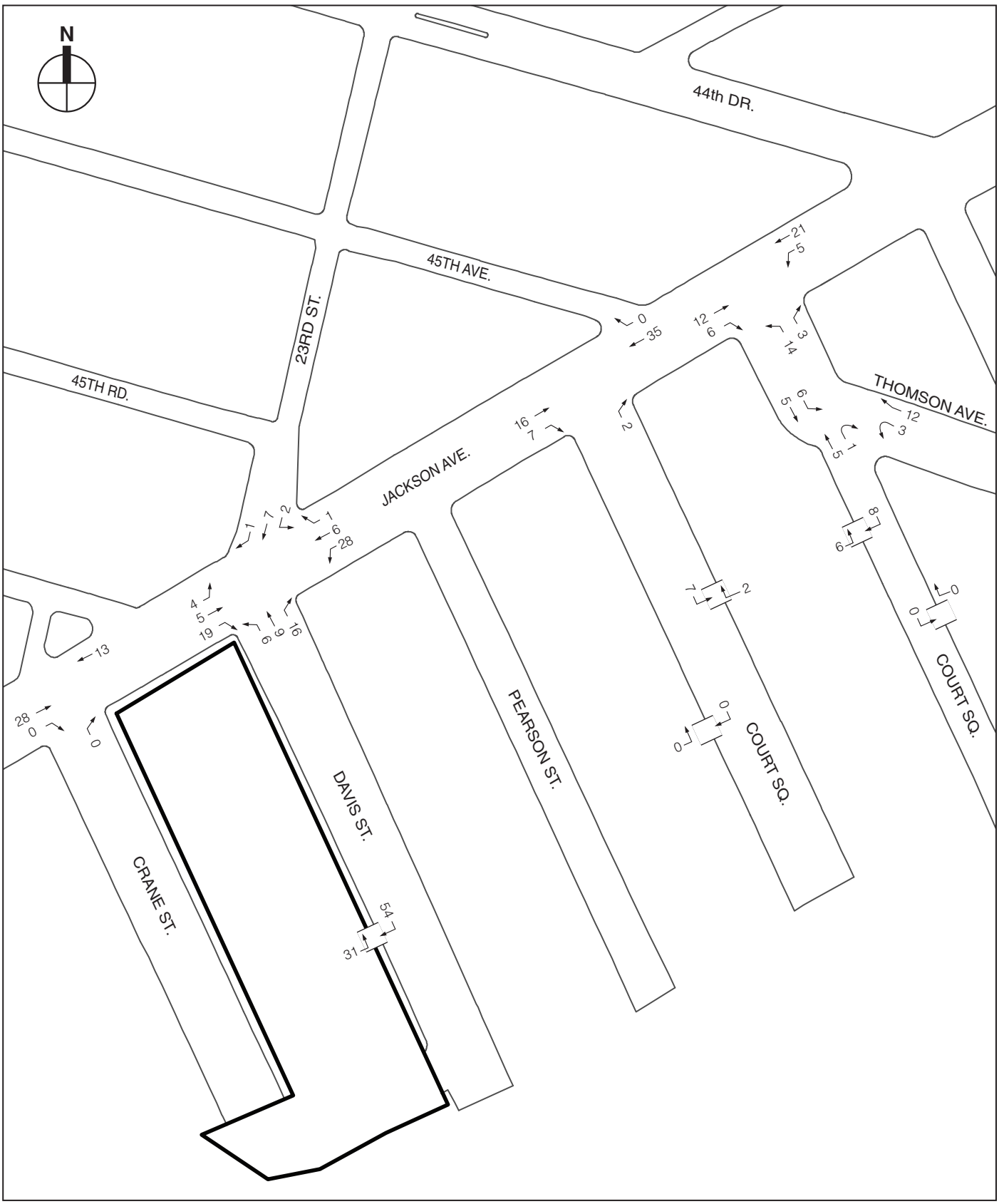


2017 As-of-Right Project Generated Vehicle Trips
Weekday Midday Peak Hour

22-44 JACKSON AVENUE

Figure K-2

3.13.13



NOT TO SCALE

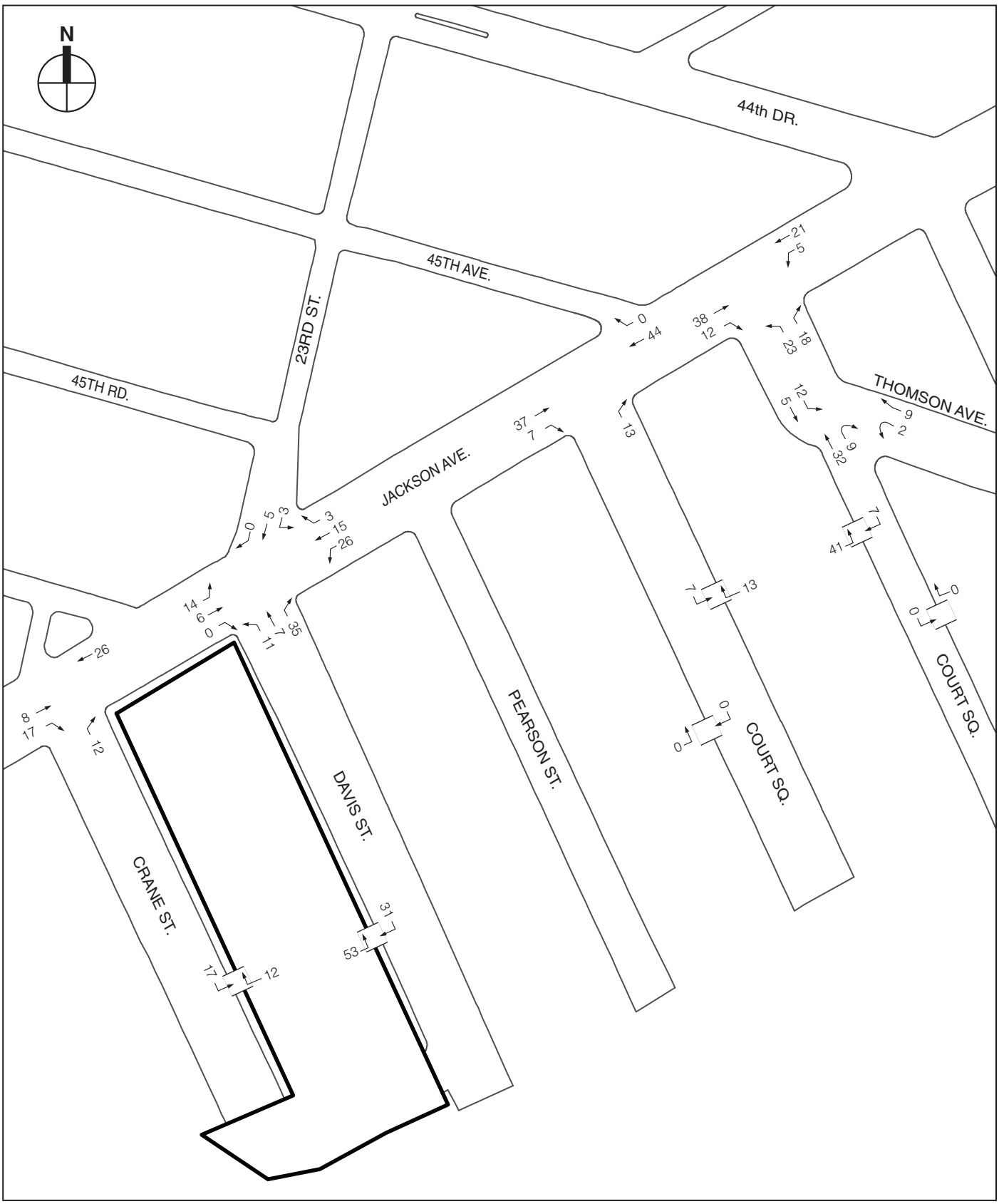
Project Site

Driveway

2017 As-of-Right Project Generated Vehicle Trips
Weekday PM Peak Hour

22-44 JACKSON AVENUE

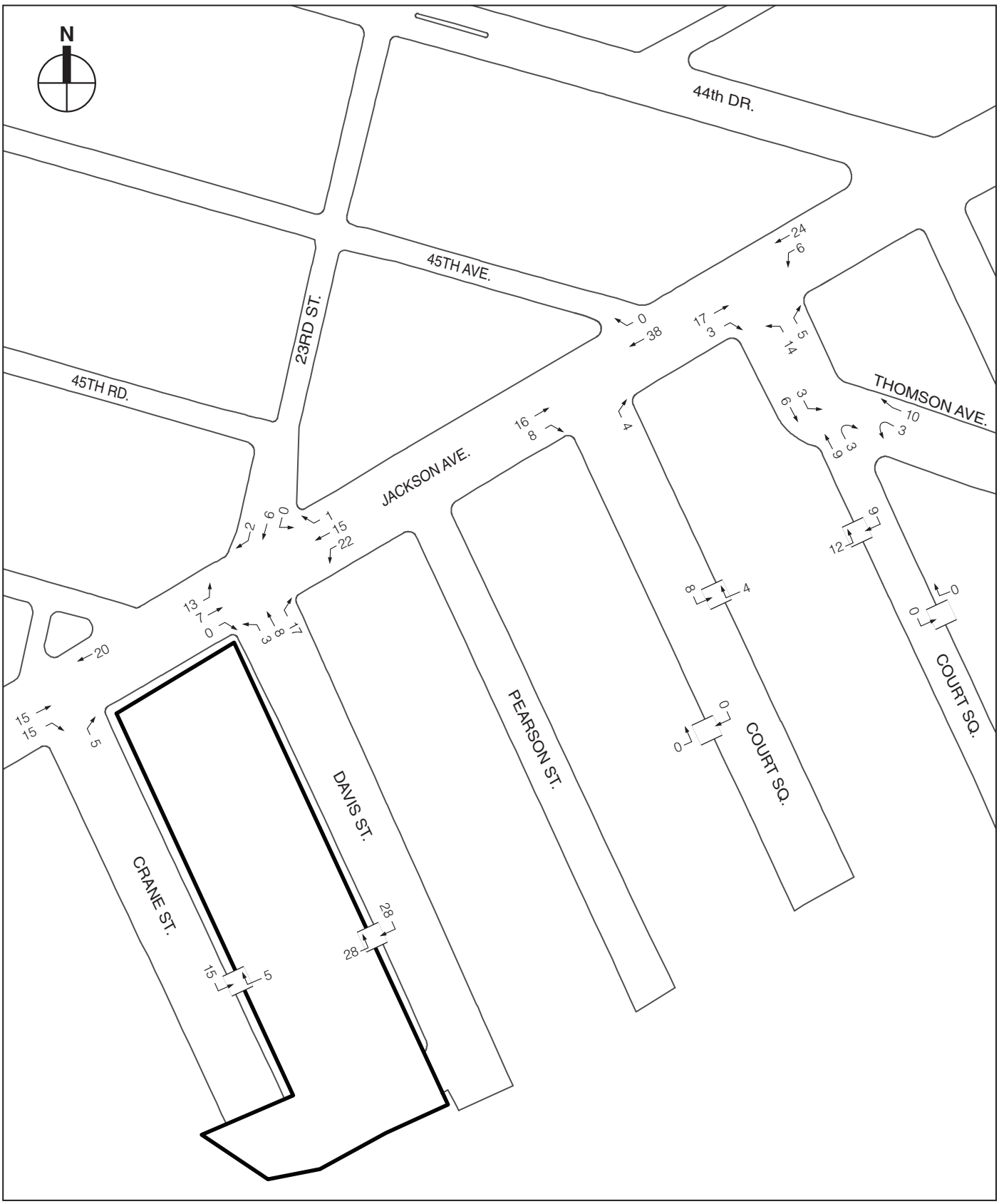
Figure K-3



2017 Proposed Project Generated Vehicle Trips
Weekday AM Peak Hour

22-44 JACKSON AVENUE

Figure K-4



NOT TO SCALE

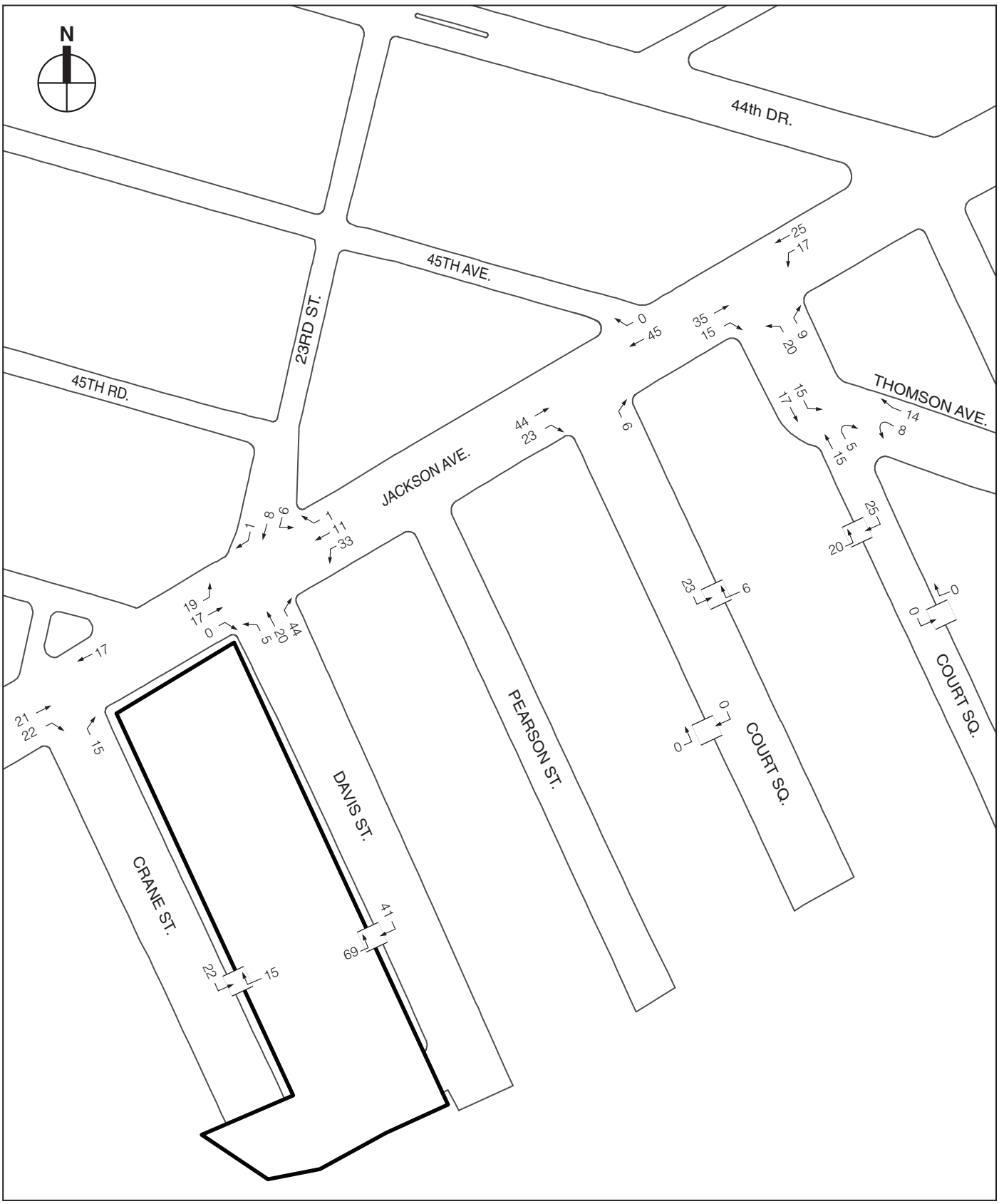
Project Site

Driveway

2017 Proposed Project Generated Vehicle Trips
Weekday Midday Peak Hour

22-44 JACKSON AVENUE

Figure K-5



NOT TO SCALE

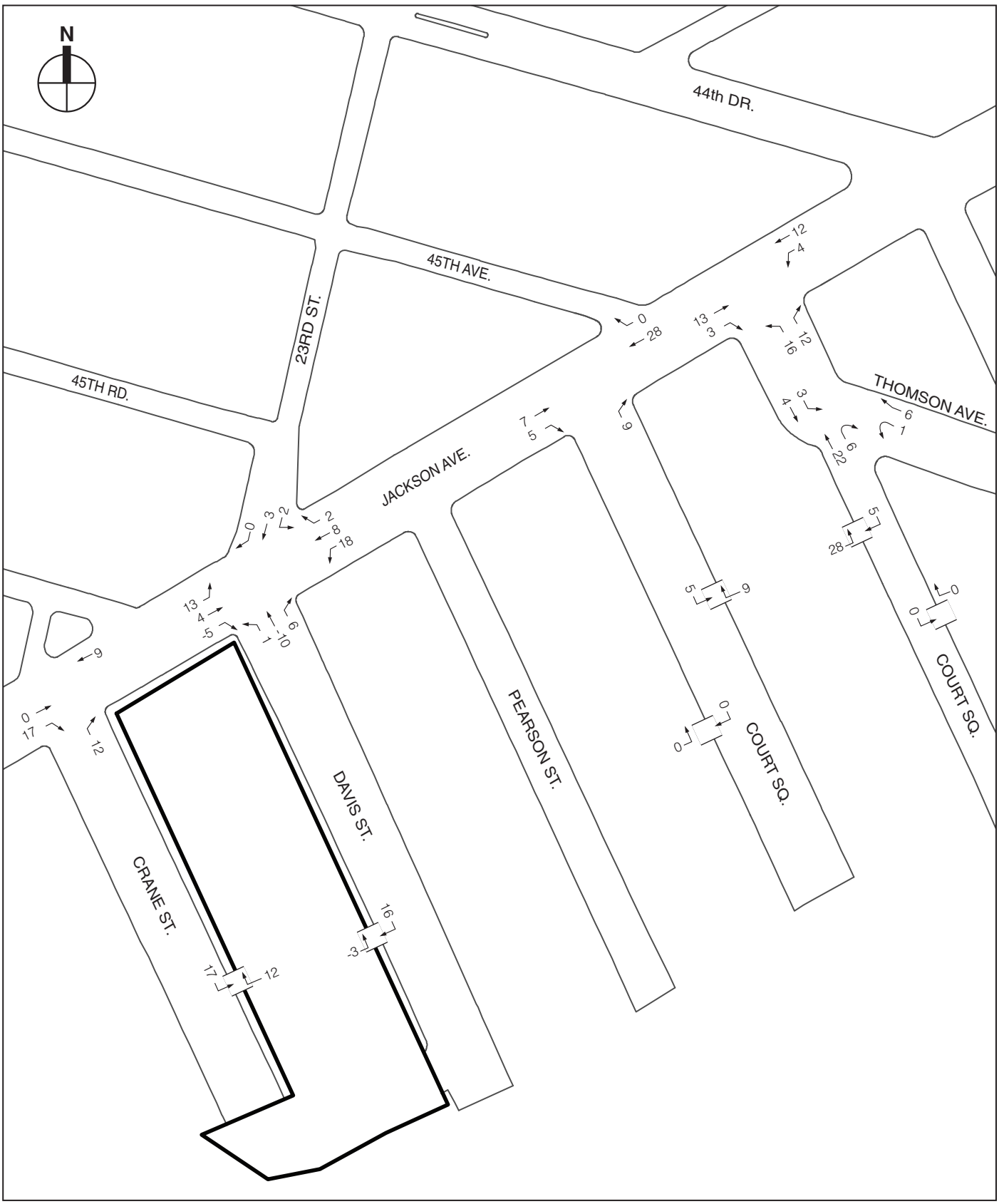
Project Site

Driveway

2017 Proposed Project Generated Vehicle Trips
Weekday PM Peak Hour

22-44 JACKSON AVENUE

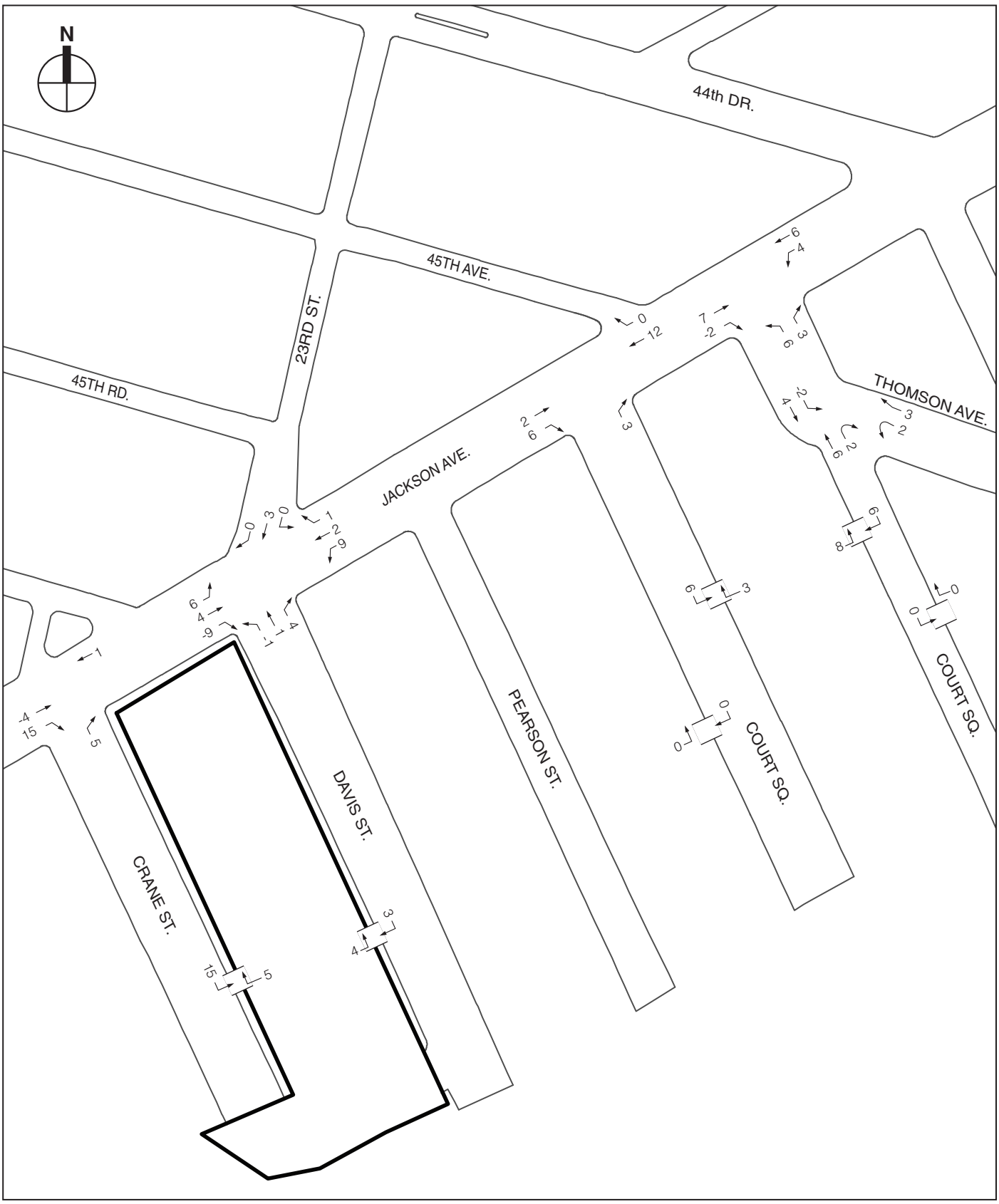
Figure K-6



2017 Proposed Project Net Incremental Vehicle Trips
Weekday AM Peak Hour

22-44 JACKSON AVENUE

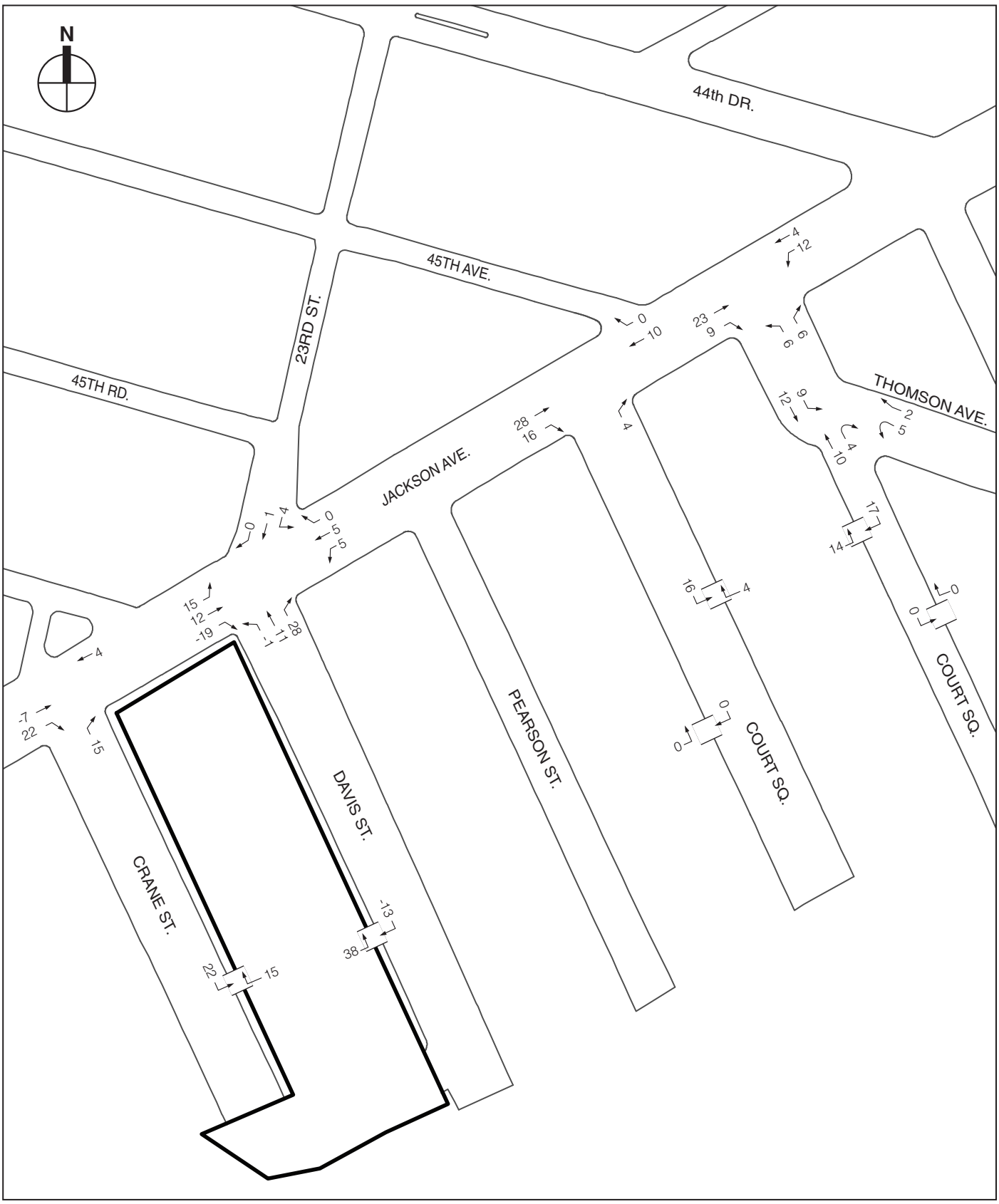
Figure K-7



2017 Proposed Project Net Incremental Vehicle Trips
Weekday Midday Peak Hour

22-44 JACKSON AVENUE

Figure K-8



NOT TO SCALE

Project Site

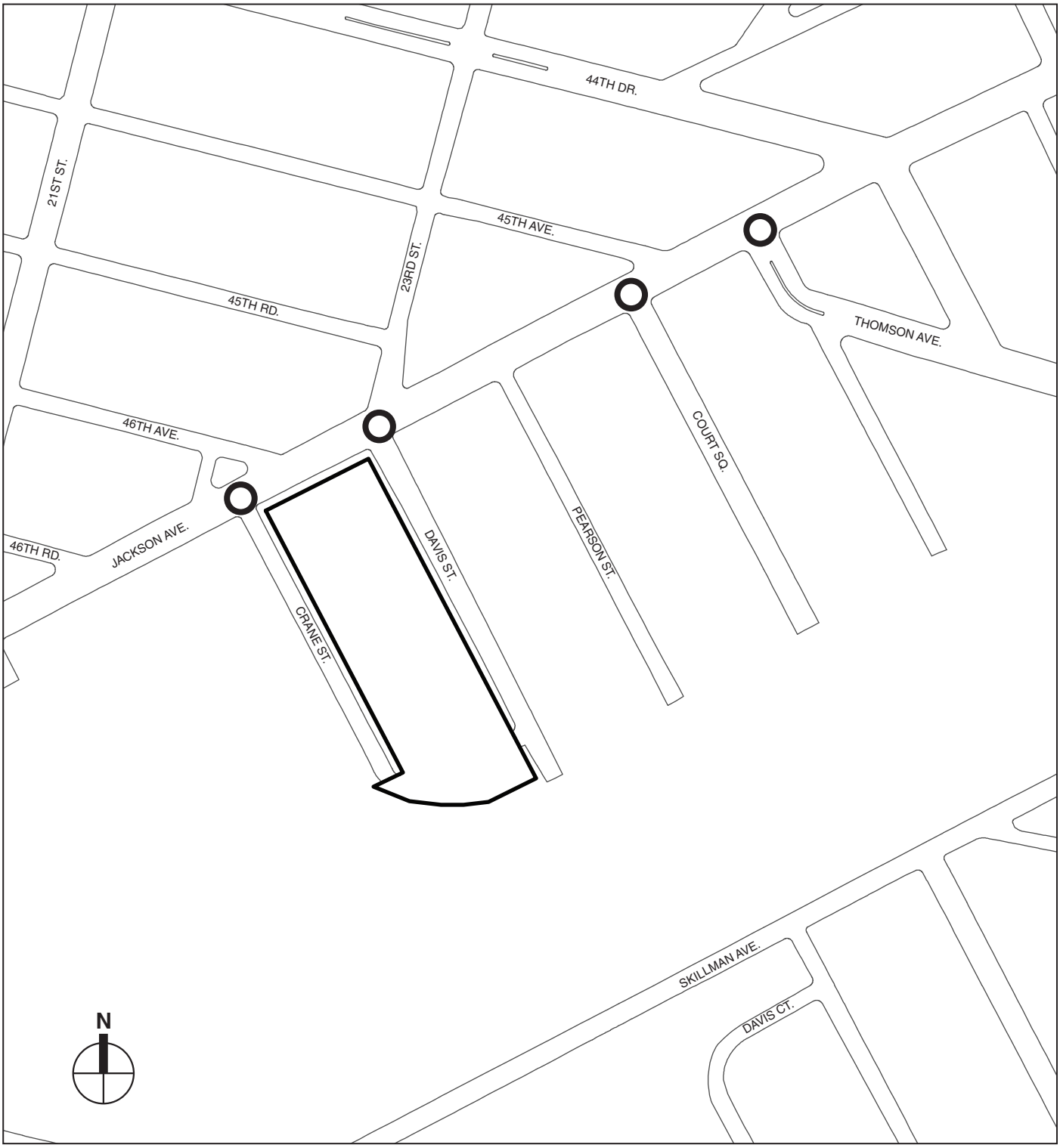
Driveway

2017 Proposed Project Net Incremental Vehicle Trips
Weekday PM Peak Hour

22-44 JACKSON AVENUE

Figure K-9

3.13.13



Traffic Study Area

Figure K-10

multiple entrances/exits serving the four subway lines.[1] The Court Square Station was recently renovated in 2011 to allow free in-system transfers between all four subway lines. All four subway lines can now be accessed from the No. 7 train entrance located at the northeast corner of Jackson Avenue and Davis Street/23rd Street. However, based on the location of the various other entrances/exits and the location of the lines served, the configuration of the underground passageway, and the geographical areas that each of the four subway lines would serve, the Court Square Station complex essentially operates as two distinct stations—with No. 7 riders utilizing the No. 7 train subway entrance/exits nearest the project site, and E, G, and M riders utilizing the more direct street level entrances/exits located on Jackson Avenue and at Court Square. Based on the preliminary distribution of subway trips, the incremental project-generated peak hour subway trips are not expected to add 5 or more riders per car during the weekday morning and evening peak hours; therefore, a detailed subway line-haul analysis would not be required. However, based on the distribution of project-generated subway trips, it is anticipated that the Court Square Station complex would require detailed analysis of station elements (i.e., control areas, escalators, and stairways) for the weekday morning and evening peak hours.

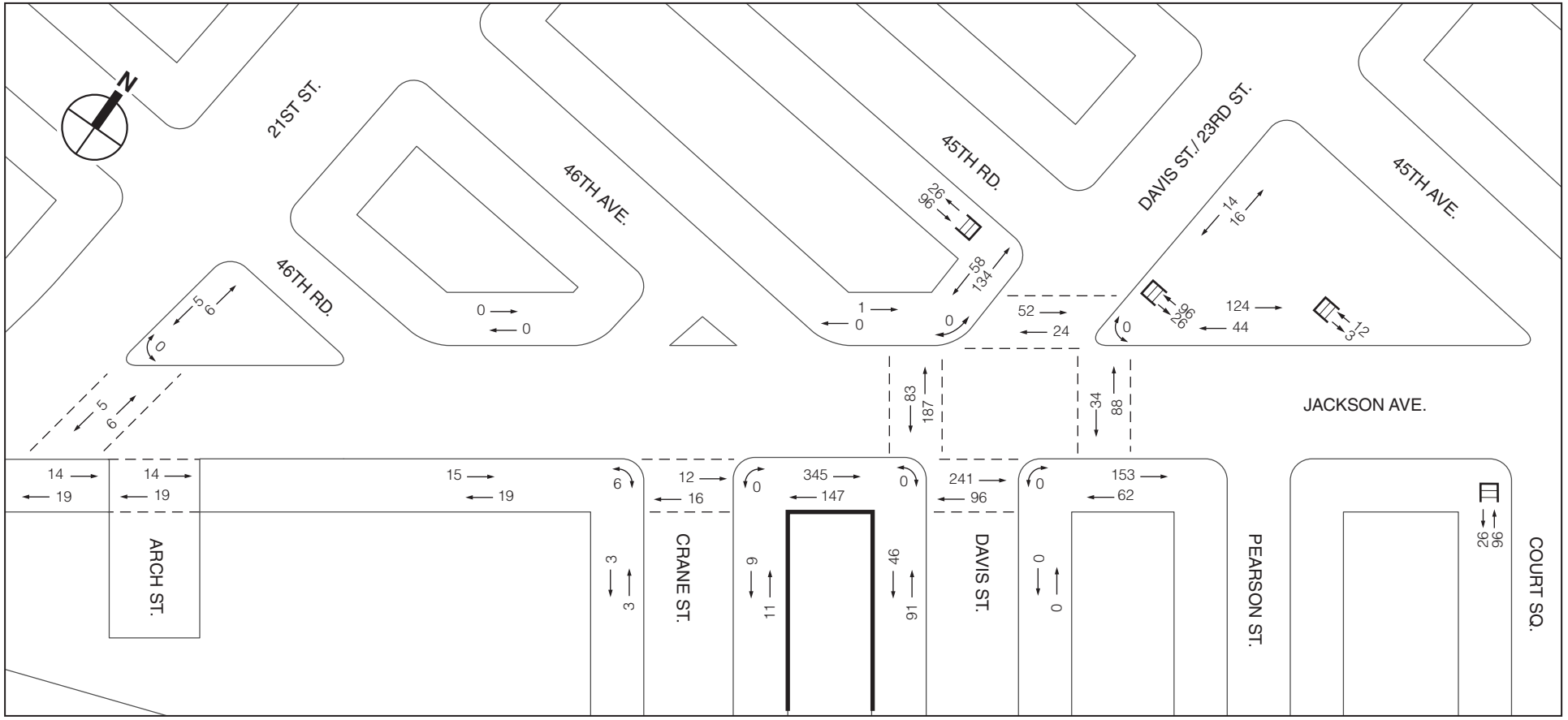
PEDESTRIANS

The incremental pedestrian trips were assigned to surrounding pedestrian facilities, including area sidewalks, crosswalks, and corner reservoirs. With primary pedestrian access to the project site provided along Jackson Avenue, Davis Street, and 21st Street, between 45th Avenue and 47th Avenue, project generated pedestrian trips would be the most concentrated at these locations. There are no existing crosswalks across Jackson Avenue at Crane Street, directly adjacent to the project site. Therefore, no pedestrian crosswalk trips were assigned to this intersection.

In addition to access locations, the pedestrian trip assignments considered different travel patterns by use and by mode of transportation. Since a large majority of the project generated residential and retail auto trips would use the on-site public parking garage, the associated person trips that could be accommodated by the on-site garage were assumed to not add pedestrian traffic to the area's pedestrian network. Project generated auto trips in excess of the project garage's parking supply were assigned to nearby public parking facilities. Trips made by taxis were assumed to utilize the sidewalks adjacent to the respective entrances. The assignment of subway trips considered nearby station locations, the subway lines available, and transfer opportunities within the New York City subway system. Bus trips were similarly allocated to the nearby bus routes. Walk-only trips were distributed to the surrounding neighborhood. In addition, transient motorists parking at the on-site public parking garage were incorporated into the pedestrian network as walk trips with destinations in the surrounding area. The as-of-right and proposed project pedestrian assignment figures are shown in **Figures K-11** to **K-16**.

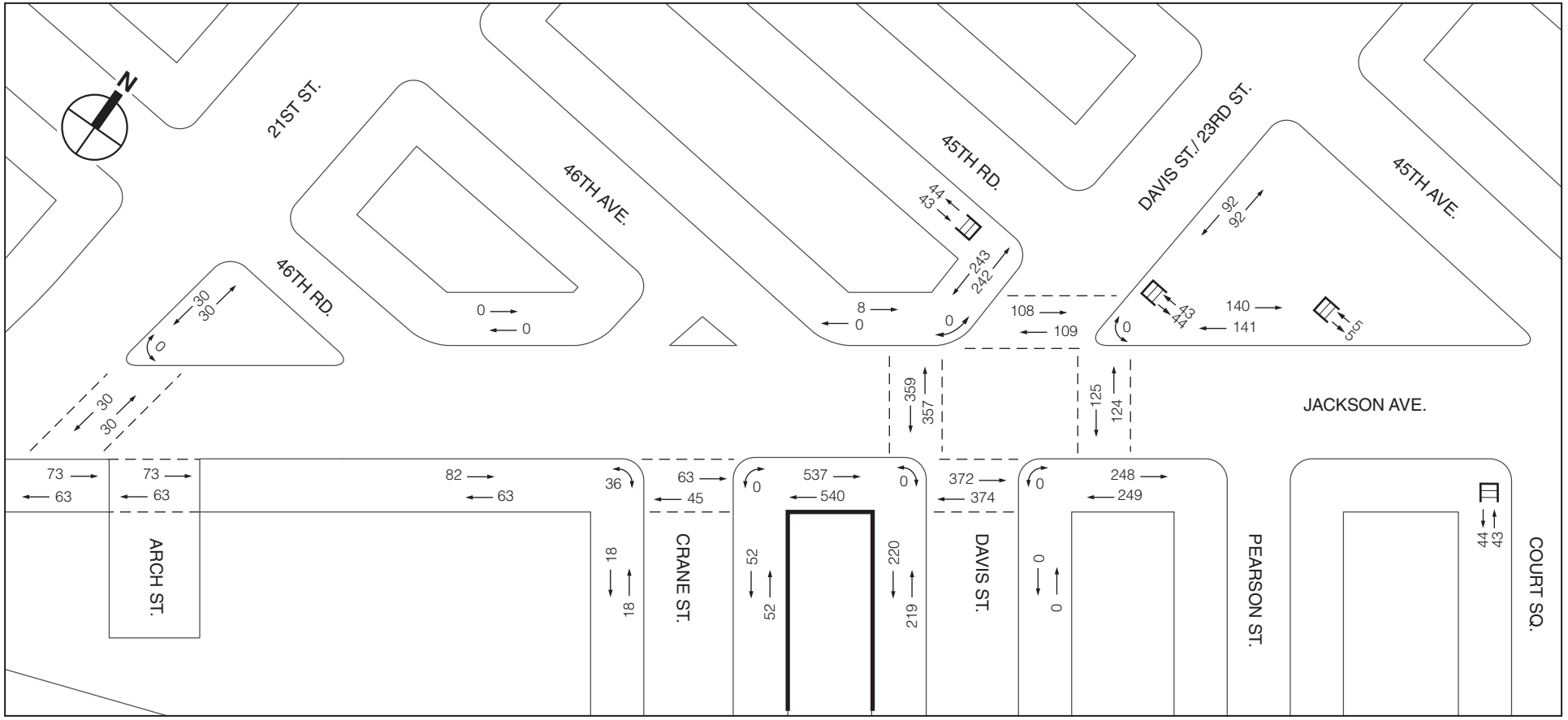
As shown in **Figures K-17** to **K-19** and summarized in **Table K-9** and **Figure K-20**, the combined peak hour pedestrian volumes resulting from the proposed project are expected to be the highest on the southeast and southwest corners and south crosswalk of Jackson Avenue and Davis Street, and on the south sidewalk of Jackson Avenue between Davis Street and Crane Street.

[1] Based on a review of the 2011 average weekday subway ridership numbers between the 21st Street (G) Station and the Court Square (No. 7, E, G, M) Station, the distribution of riders is approximately 5 percent and 95 percent, respectively. However, for conservative analysis purposes, 100 percent of the subway trips were assigned to the Court Square Station complex.



2017 As-of-Right Project Generated Pedestrian Trips
Weekday AM Peak Hour

Figure K-11



NOT TO SCALE

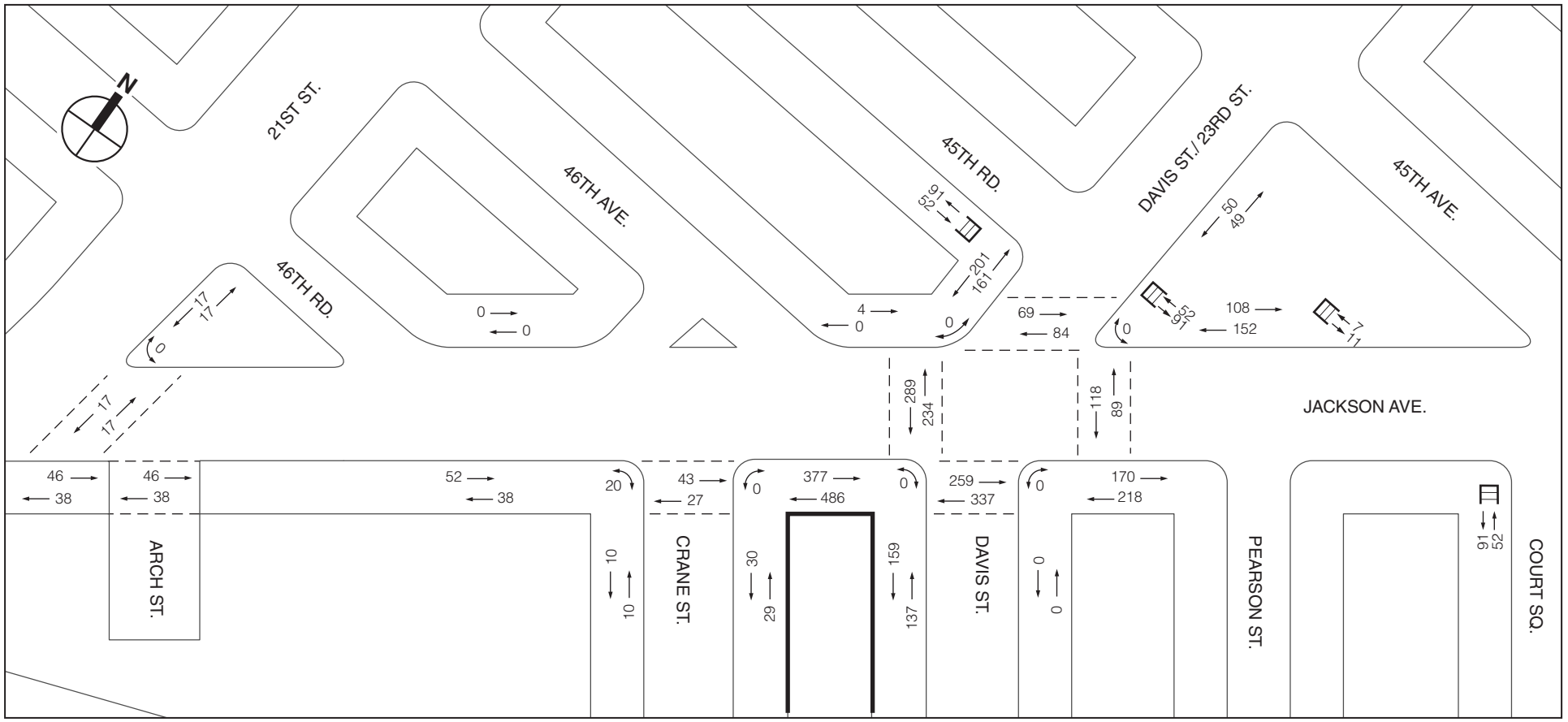
Project Site Boundary

Subway Stairs

2017 As-of-Right Project Generated Pedestrian Trips
Weekday Midday Peak Hour

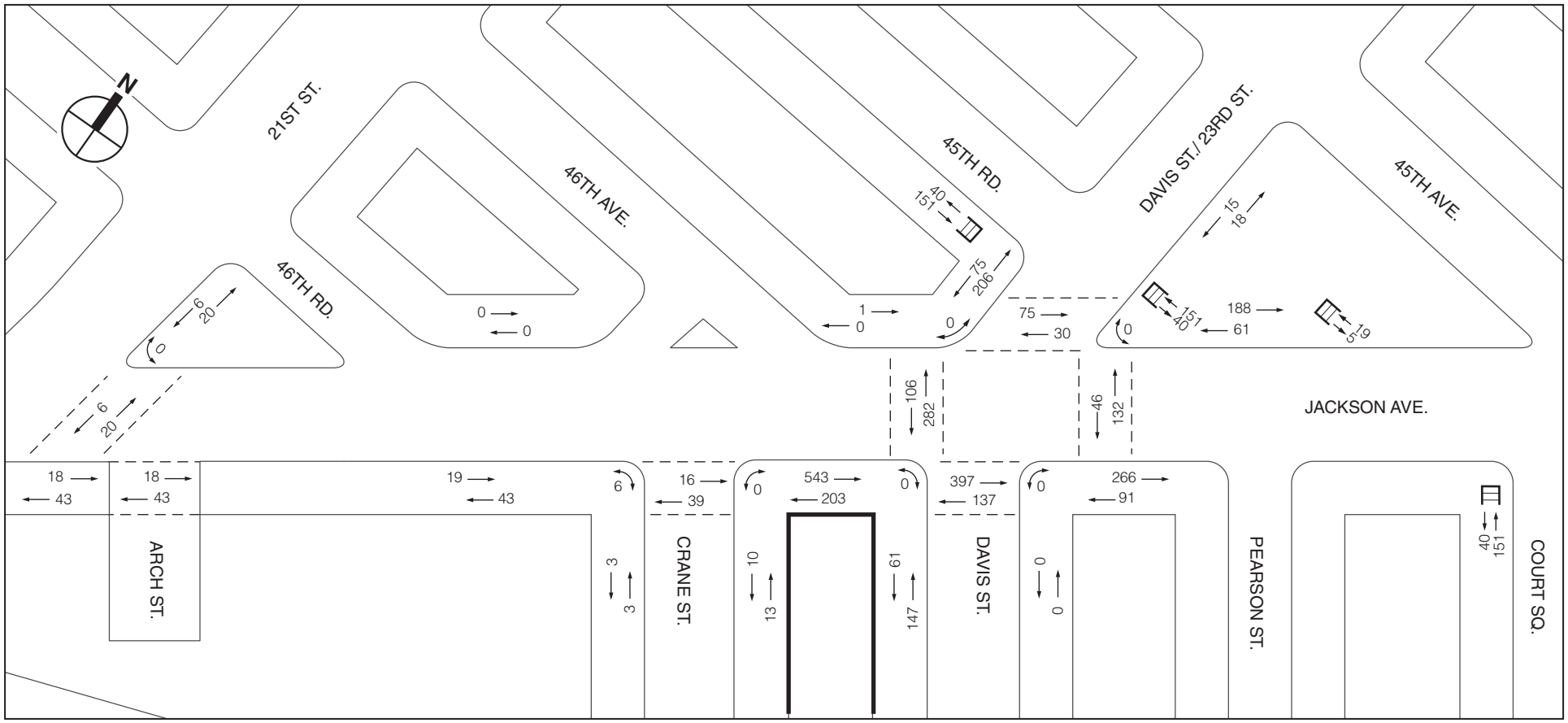
Figure K-12

2.26.13



2017 As-of-Right Project Generated Pedestrian Trips
Weekday PM Peak Hour
Figure K-13

2.26.13

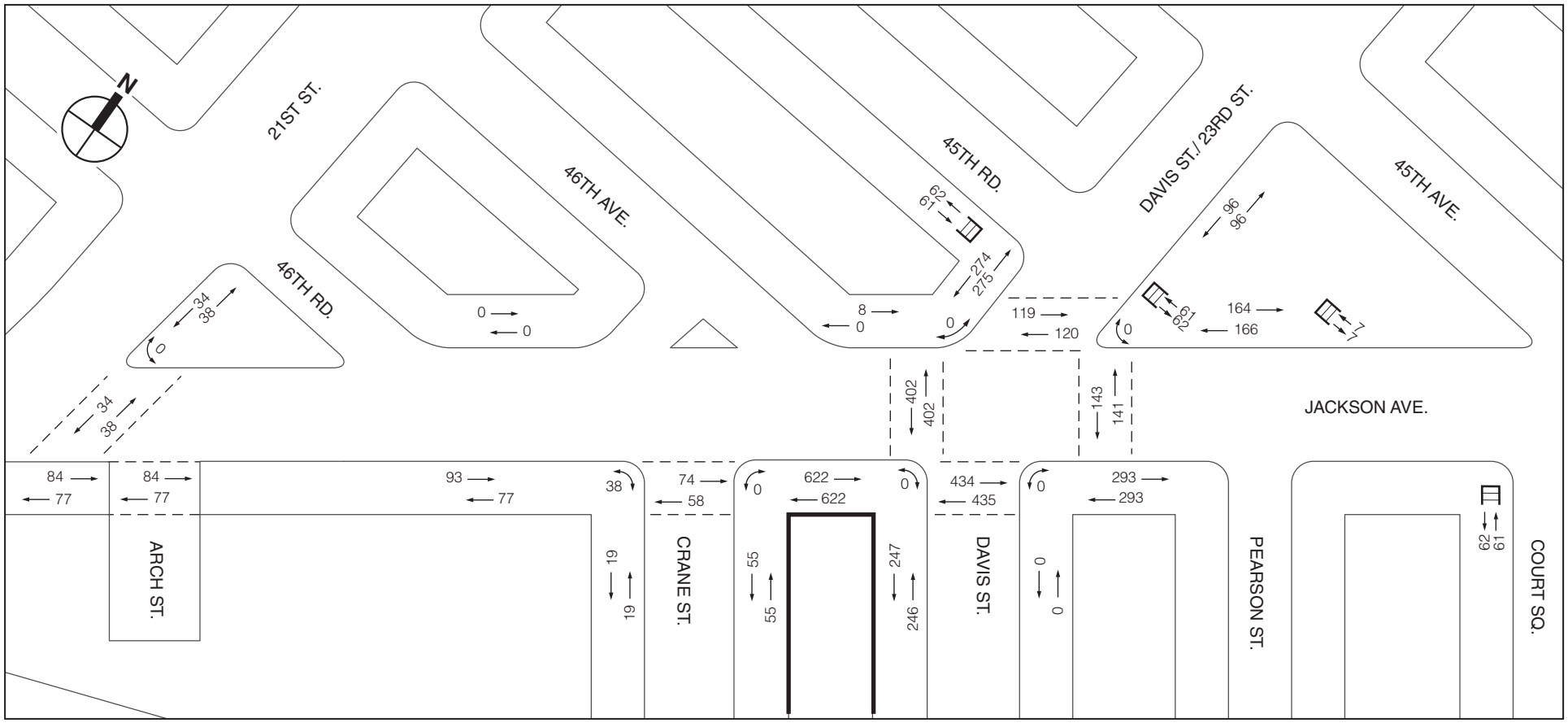


Project Site Boundary

Subway Stairs

2017 Proposed Project Generated Pedestrian Trips
Weekday AM Peak Hour
Figure K-14

2.26.13



Project Site Boundary

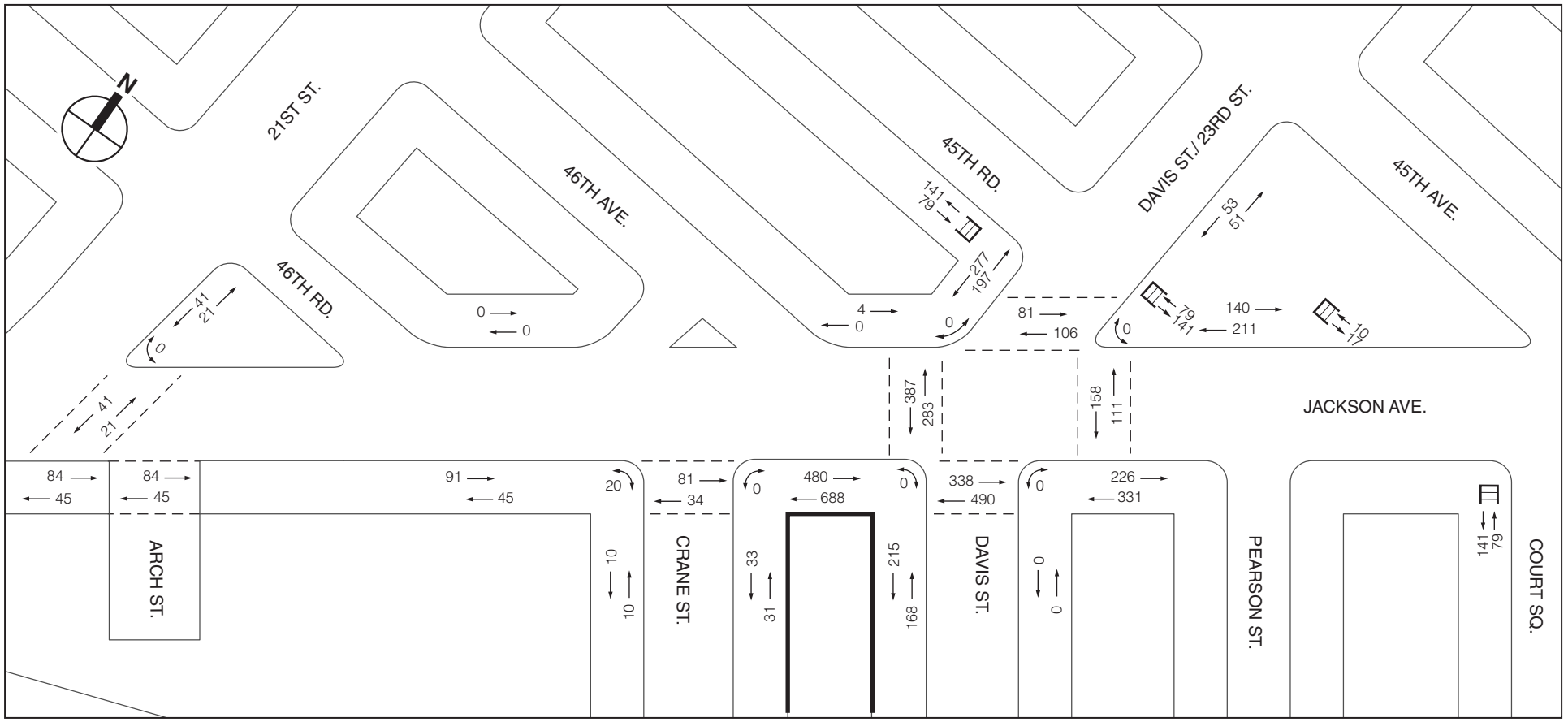
Subway Stairs

2017 Proposed Project Generated Pedestrian Trips
Weekday Midday Peak Hour

22-44 JACKSON AVENUE

Figure K-15

2.26.13



NOT TO SCALE

Project Site Boundary

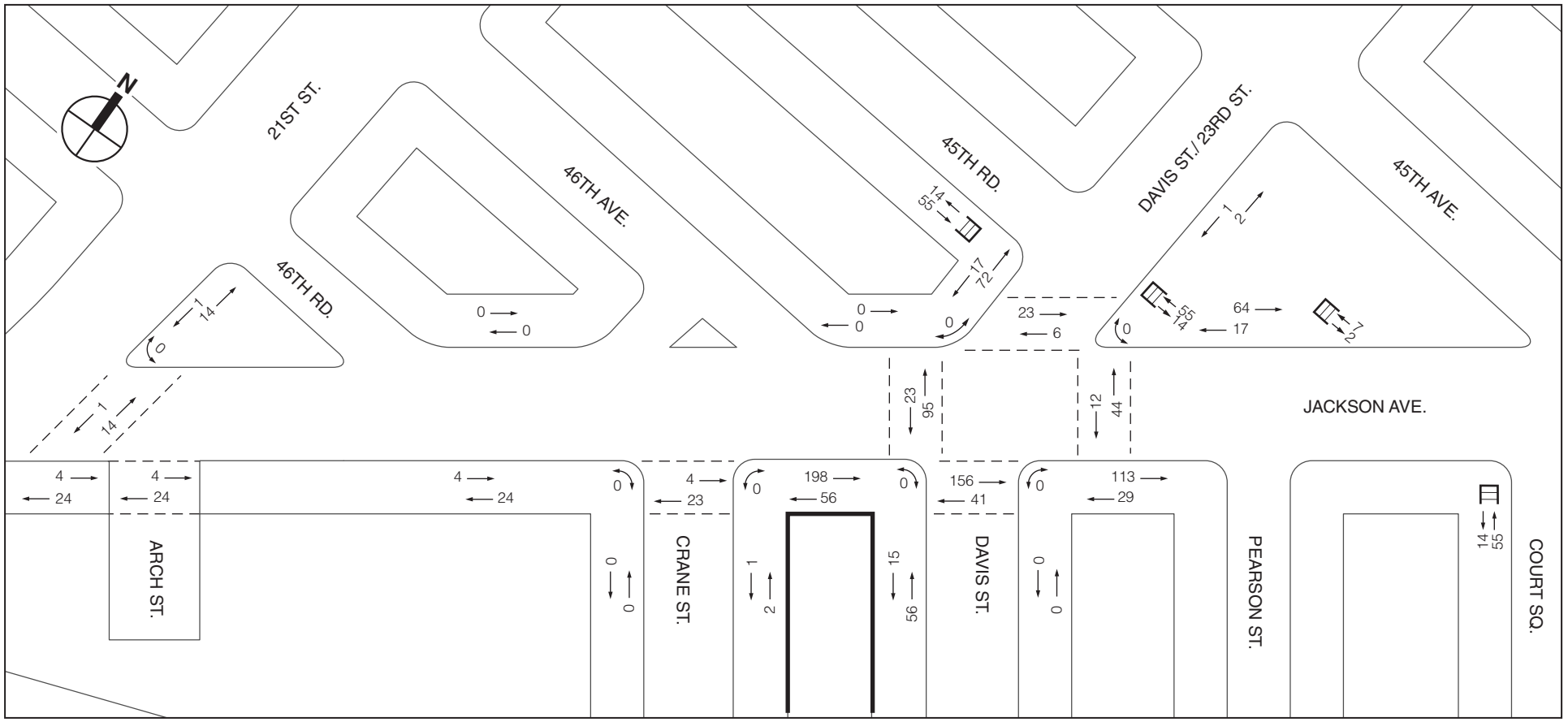
Subway Stairs

2017 Proposed Project Generated Pedestrian Trips
Weekday PM Peak Hour

22-44 JACKSON AVENUE

Figure K-16

2.26.13

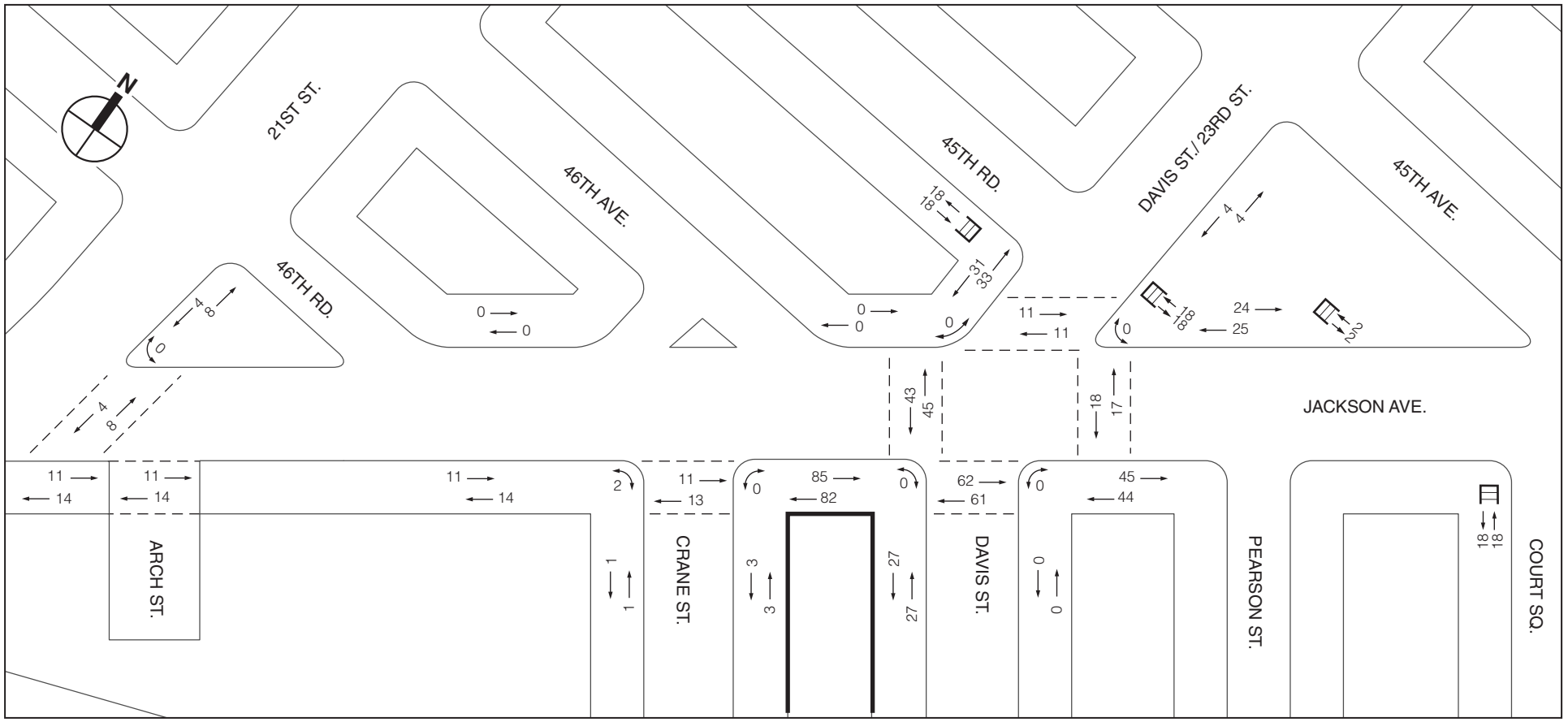


2017 Proposed Project Net Incremental Pedestrian Trips
Weekday AM Peak Hour

22-44 JACKSON AVENUE

Figure K-17

2.26.13

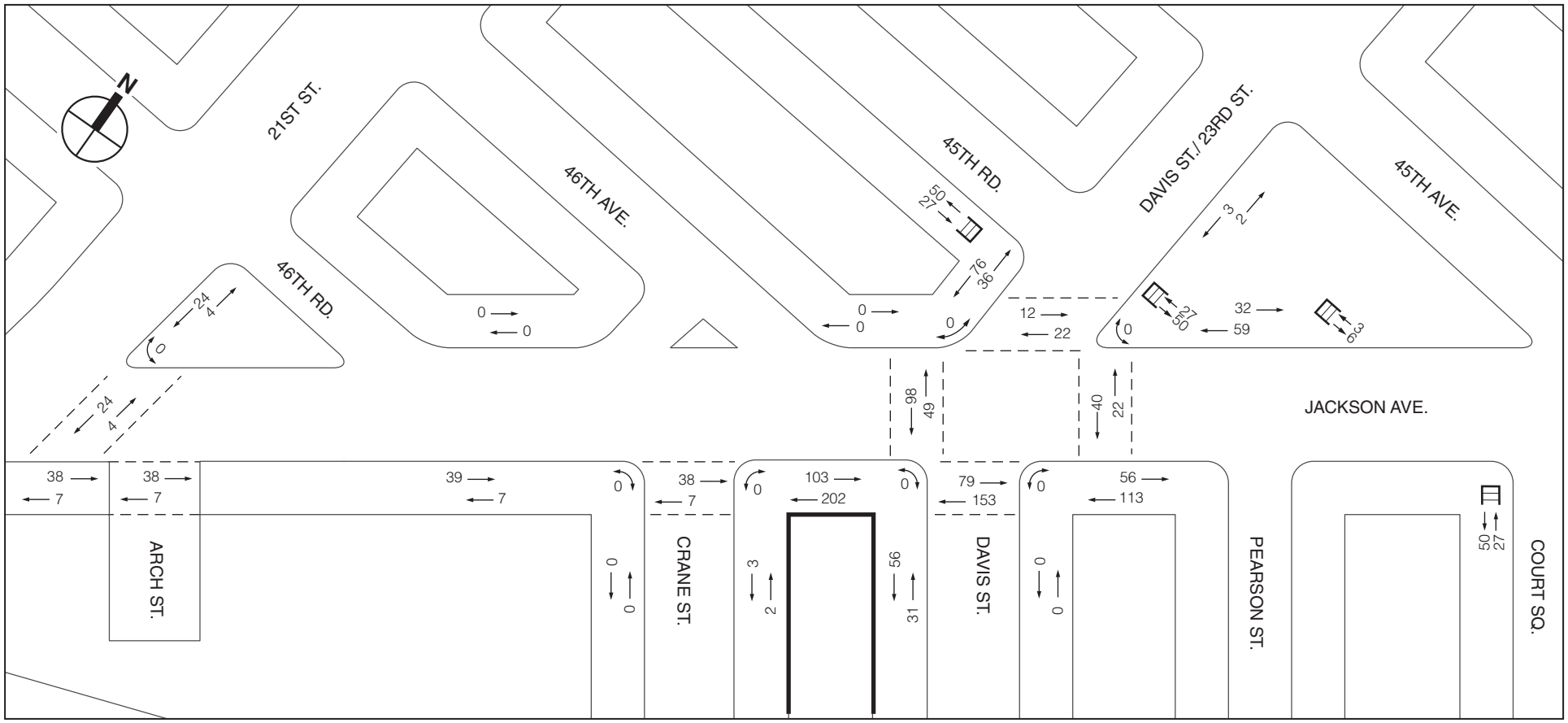


2017 Proposed Project Net Incremental Pedestrian Trips
Weekday Midday Peak Hour

22-44 JACKSON AVENUE

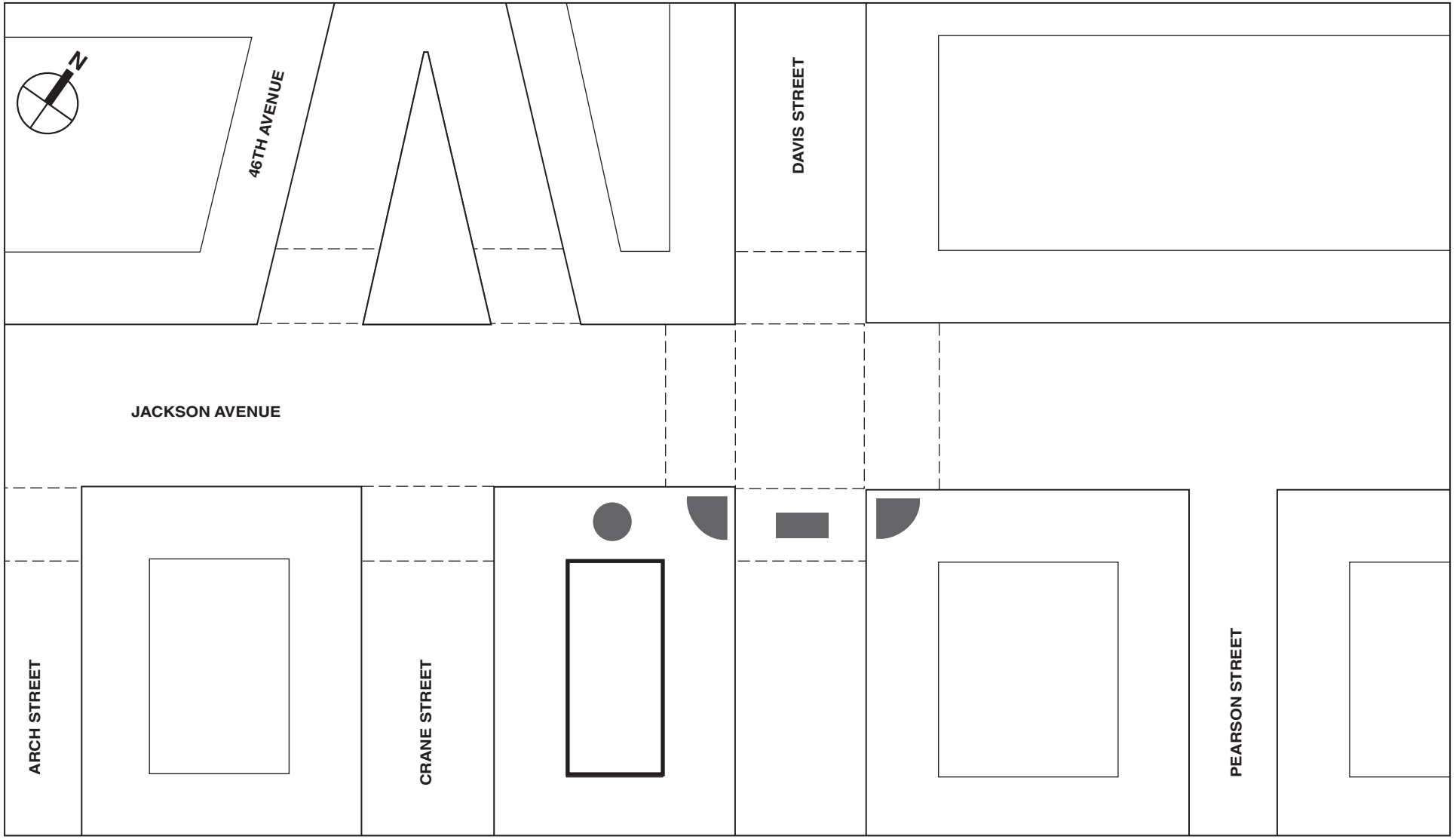
Figure K-18

2.26.13



2017 Proposed Project Net Incremental Pedestrian Trips
Weekday PM Peak Hour

Figure K-19



Pedestrian Analysis Locations

Figure K-20

Table K-9
Locations Exceeding the CEQR Pedestrian Analysis Threshold

Analysis Location		AM	Midday	PM
Intersection of Jackson Avenue and Davis Street	SW Corner	✓ (+315)	✓ (+212)	✓ (+380)
Intersection of Jackson Avenue and Davis Street	SE Corner	✓ (+339)	✓ (+204)	✓ (+391)
Intersection of Jackson Avenue and Davis Street	South Crosswalk	✓ (+249)		✓ (+290)
Jackson Avenue between Davis Street and Crane Street	South Sidewalk	✓ (+254)		✓ (+305)

The above crosswalk and sidewalk are expected to incur greater than 200 peak hour pedestrian trips as a result of the proposed project during the weekday AM and PM peak hours. The above corner reservoirs are expected to incur greater than 200 peak hour pedestrian trips as a result of the proposed project during all three weekday peak hours. Based on criteria described in the *CEQR Technical Manual*, a detailed analysis would be warranted and will be conducted at these four pedestrian elements during the weekday AM, midday, and PM peak periods.

E. TRANSPORTATION ANALYSIS METHODOLOGIES

TRAFFIC OPERATIONS

The operation of all of the signalized intersections and unsignalized intersections in the study area were assessed using methodologies presented in the *2000 Highway Capacity Manual (HCM)* using the *Highway Capacity Software (HCS+ 5.5)*. The *HCM* procedure evaluates the levels of service (LOS) for signalized and unsignalized intersections using average stop control delay, in seconds per vehicle, as described below.

SIGNALIZED INTERSECTIONS

The average control delay per vehicle is the basis for LOS determination for individual lane groups (grouping of movements in one or more travel lanes), the approaches, and the overall intersection. The levels of service are defined in **Table K-10**.

Table K-10
LOS Criteria for Signalized Intersections

LOS	Average Control Delay
A	≤ 10.0 seconds
B	>10.0 and ≤ 20.0 seconds
C	>20.0 and ≤ 35.0 seconds
D	>35.0 and ≤ 55.0 seconds
E	>55.0 and ≤ 80.0 seconds
F	>80.0 seconds

Source: Transportation Research Board. *Highway Capacity Manual*, 2000.

Although the HCM methodology calculates a volume-to-capacity (v/c) ratio, there is no strict relationship between v/c ratios and LOS as defined in the *HCM*. A high v/c ratio indicates substantial traffic passing through an intersection, but a high v/c ratio combined with low average delay actually represents the most efficient condition in terms of traffic engineering standards, where an approach or the whole intersection processes traffic close to its theoretical maximum capacity with minimal delay. However, very high v/c ratios—especially those

approaching or greater than 1.0—are often correlated with a deteriorated LOS. Other important variables affecting delay include cycle length, progression, and green time. LOS A and B indicate good operating conditions with minimal delay. At LOS C, the number of vehicles stopping is higher, but congestion is still fairly light. LOS D describes a condition where congestion levels are more noticeable and individual cycle failures (a condition where motorists may have to wait for more than one green phase to clear the intersection) can occur. Conditions at LOS E and F reflect poor service levels, and cycle breakdowns are frequent. The *HCM* methodology also provides for a summary of the total intersection operating conditions. The analysis chooses the two critical movements (the worst case from each roadway) and calculates a summary critical v/c ratio. The overall intersection delay, which determines the intersection's LOS, is based on a weighted average of control delays of the individual lane groups. Within New York City, the midpoint of LOS D (45 seconds of delay) is generally considered as the threshold between acceptable and unacceptable operations.

Significant Impact Criteria

According to the criteria presented in the *CEQR Technical Manual*, impacts are considered significant and require examination of mitigation if they result in an increase in the Build condition of 5 or more seconds of delay in a lane group over No Build levels beyond mid-LOS D. For No Build LOS E, a 4-second increase in delay is considered significant. For No Build LOS F, a 3-second increase in delay is considered significant. In addition, impacts are considered significant if levels of service deteriorate from acceptable A, B, or C in the No Build condition to marginally unacceptable LOS D (a delay in excess of 45 seconds, the midpoint of LOS D), or unacceptable LOS E or F in the Build condition.

UNSIGNALIZED INTERSECTIONS

For unsignalized intersections, the average control delay is defined as the total elapsed time from which a vehicle stops at the end of the queue until the vehicle departs from the stop line. This includes the time required for the vehicle to travel from the last-in-queue to the first-in-queue position. The average control delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation. The LOS criteria for unsignalized intersections are summarized in **Table K-11**.

Table K-11
LOS Criteria for Unsignalized Intersections

LOS	Average Control Delay
A	≤ 10.0 seconds
B	> 10.0 and ≤ 15.0 seconds
C	> 15.0 and ≤ 25.0 seconds
D	> 25.0 and ≤ 35.0 seconds
E	> 35.0 and ≤ 50.0 seconds
F	> 50.0 seconds

Source: Transportation Research Board. *Highway Capacity Manual*, 2000.

The LOS thresholds for unsignalized intersections are different from those for signalized intersections. The primary reason is that drivers expect different levels of performance from different types of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection; hence, the corresponding control delays are higher at a signalized intersection than at an unsignalized intersection for the same LOS. In addition, certain driver behavioral considerations combine to

make delays at signalized intersections less onerous than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, whereas drivers on minor approaches to unsignalized intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized intersections. For these reasons, the corresponding delay thresholds for unsignalized intersections are lower than those of signalized intersections. As with signalized intersections, within New York City, the midpoint of LOS D (30 seconds of delay) is generally perceived as the threshold between acceptable and unacceptable operations.

Significant Impact Criteria

The same sliding scale of significant delays described for signalized intersections applies for unsignalized intersections. For the minor street to trigger significant impacts, at least 90 passenger car equivalents (PCE) must be identified in the Build condition in any peak hour.

TRANSIT OPERATIONS

SUBWAY STATION ELEMENTS

The methodology for assessing station circulation (stairs, escalators, and passageways) elements compares the user volume with the analyzed element's design capacity, resulting in a volume-to-capacity (v/c) ratio.

For stairs, the design capacity considers the effective width of a tread, which accounts for railings or other obstructions, the friction or counter-flow between upward and downward pedestrians (up to 10-percent capacity reduction applied to account for counter-flow friction), surging of exiting pedestrians (up to 25-percent capacity reduction applied to account for detraining surges near platforms), and the average area required for circulation. For passageways, similar considerations are made. In the analysis for each of these elements, volumes and capacities are presented for 15-minute intervals.

The estimated v/c ratio is compared with NYCT criteria to determine a level-of-service (LOS) for the operation of an element, as summarized in **Table K-12**.

Table K-12
LOS Criteria for Subway Station Elements

LOS	V/C Ratio
A	0.00 to 0.45
B	0.45 to 0.70
C	0.70 to 1.00
D	1.00 to 1.33
E	1.33 to 1.67
F	Above 1.67

Source: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual* (2012).

At LOS A ("free flow") and B ("fluid flow"), there is sufficient area to allow pedestrians to freely select their walking speed and bypass slower pedestrians. When cross and reverse flow movement exists, only minor conflicts may occur. At LOS C ("fluid, somewhat restricted"), movement is fluid although somewhat restricted. While there is sufficient room for standing without personal contact, circulation through queuing areas may require adjustments to walking speed. At LOS D ("crowded, walking speed restricted"), walking speed is restricted and reduced.

Reverse and cross flow movement is severely restricted because of congestion and the difficult passage of slower moving pedestrians. At LOS E ("congested, some shuffling and queuing") and F ("severely congested, queued"), walking speed is restricted. There is also insufficient area to bypass others, and opposing movement is difficult. Often, forward progress is achievable only through shuffling, with queues forming.

Significant Impact Criteria

The determination of significant impacts for station elements varies based on their type and use. For stairs and passageways, significant impacts are defined in terms of width increment threshold (WIT) based on the minimum amount of additional capacity that would be required either to mitigate the location to its service conditions (LOS) under the future No Action levels, or to bring it to a v/c ratio of 1.00 (LOS C/D), whichever is greater. Significant impacts are typically considered to occur once the WITs in **Table K-13** are reached or exceeded.

Table K-13
Significant Impact Guidance for Stairs and Passageways

No Action V/C Ratio	WIT for Significant Impact (inches)	
	Stairway	Passageway
1.00 to 1.09	8.0	13.0
1.10 to 1.19	7.0	11.5
1.20 to 1.29	6.0	10.0
1.30 to 1.39	5.0	8.5
1.40 to 1.49	4.0	6.0
1.50 to 1.59	3.0	4.5
1.60 and up	2.0	3.0

Notes: WIT = Width Increment Threshold
Sources: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual* (2012).

PEDESTRIAN OPERATIONS

The adequacy of the study area's sidewalks, crosswalks, and corner reservoir capacities in relation to the demand imposed on them is evaluated based on the methodologies presented in the 2010 *Highway Capacity Manual* (HCM), pursuant to procedures detailed in the *CEQR Technical Manual*.

Sidewalks are analyzed in terms of pedestrian flow. The calculation of the average pedestrians per minute per foot (PMF) of effective walkway width is the basis for a sidewalk level-of-service (LOS) analysis. The determination of walkway LOS is also dependent on whether the pedestrian flow being analyzed is best described as "non-platoon" or "platoon." Non-platoon flow occurs when pedestrian volume within the peak 15-minute period is relatively uniform, whereas, platoon flow occurs when pedestrian volumes vary significantly with the peak 15-minute period. Such variation typically occurs near bus stops, subway stations, and/or where adjacent crosswalks account for much of the walkway's pedestrian volume. Crosswalks and street corners are not easily measured in terms of free pedestrian flow, as they are influenced by the effects of traffic signals. Street corners must be able to provide sufficient space for a mix of standing pedestrians (queued to cross a street) and circulating pedestrians (crossing the street or moving around the corner). The HCM methodologies apply a measure of time and space availability based on the area of the corner, the timing of the intersection signal, and the estimated space used by circulating pedestrians.

The total "time-space" available for these activities, expressed in square feet-second, is calculated by multiplying the net area of the corner (in square feet) by the signal's cycle length. The analysis then determines the total circulation time for all pedestrian movements at the corner per signal cycle (expressed as pedestrians per second). The ratio of net time-space divided by the total pedestrian circulation volume per signal cycle provides the LOS measurement of square feet per pedestrian (SFP).

Crosswalk LOS is also a function of time and space. Similar to the street corner analysis, crosswalk conditions are first expressed as a measurement of the available area (the crosswalk width multiplied by the width of the street) and the permitted crossing time. This measure is expressed in square feet-second. The average time required for a pedestrian to cross the street is calculated based on the width of the street and an assumed walking speed. The ratio of time-space available in the crosswalk to the total crosswalk pedestrian occupancy time is the LOS measurement of available square feet per pedestrian. The LOS analysis also accounts for vehicular turning movements that traverse the crosswalk. The LOS standards for sidewalks, corner reservoirs, and crosswalks are summarized in **Table K-14**. The *CEQR Technical Manual* specifies that acceptable LOS in Central Business District (CBD) areas is mid-LOS D or better.

Table K-14
Level of Service Criteria for Pedestrian Elements

LOS	Sidewalks		Corner Reservoirs and Crosswalks
	Non-Platoon Flow	Platoon Flow	
A	≤ 5 PMF	≤ 0.5 PMF	> 60 SFP
B	> 5 and ≤ 7 PMF	> 0.5 and ≤ 3 PMF	> 40 and ≤ 60 SFP
C	> 7 and ≤ 10 PMF	> 3 and ≤ 6 PMF	> 24 and ≤ 40 SFP
D	> 10 and ≤ 15 PMF	> 6 and ≤ 11 PMF	> 15 and ≤ 24 SFP
E	> 15 and ≤ 23 PMF	> 11 and ≤ 18 PMF	> 8 and ≤ 15 SFP
F	> 23 PMF	> 18 PMF	≤ 8 SFP

Notes: PMF = pedestrians per minute per foot; SFP = square feet per pedestrian.
Source: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual* (2012).

SIGNIFICANT IMPACT CRITERIA

The determination of significant pedestrian impacts considers the level of predicted deterioration in pedestrian flow or decrease in pedestrian space between the No Action and With Action conditions. For different pedestrian elements, flow conditions, and area types, the CEQR procedure for impact determination corresponds with various sliding-scale formulas, as further detailed below.

Sidewalks

There are two sliding-scale formulas for determining significant sidewalk impacts. For non-platoon flow, the increase in average pedestrian flow rate (Y) in PMF needs to be greater or equal to 3.5 minus X divided by 8.0 (where X is the No Action pedestrian flow rate in PMF [$Y \geq 3.5 - X/8.0$]) for it to be a significant impact. For platoon flow, the sliding-scale formula is $Y \geq 3.0 - X/8.0$. Since deterioration in pedestrian flow within acceptable levels would not constitute a significant impact, these formulas would apply only if the With Action pedestrian flow exceeds LOS C in non-CBD areas or mid-LOS D in CBD areas. **Table K-15** summarizes the sliding scale guidance provided by the *CEQR Technical Manual* for determining potential significant sidewalk impacts.

Table K-15
Significant Impact Guidance for Sidewalks

Non-Platoon Flow				Platoon Flow			
Sliding Scale Formula: ***Y ≥ 3.5 – X/8.0***				**Sliding Scale Formula:** ***Y ≥ 3.0 – X/8.0***			
Non-CBD Areas		**CBD Areas**		**Non-CBD Areas**		**CBD Areas**	
No Action Ped. Flow (X, PMF)	**Action Ped. Flow Incr. (Y, PMF)**	**No Action Ped. Flow (X, PMF)**	**Action Ped. Flow Incr. (Y, PMF)**	**No Action Ped. Flow (X, PMF)**	**Action Ped. Flow Incr. (Y, PMF)**	**No Action Ped. Flow (X, PMF)**	**Action Ped. Flow Incr. (Y, PMF)**
7.5 to 7.8	≥ 2.6	–	–	3.5 to 3.8	≥ 2.6	–	–
7.9 to 8.6	≥ 2.5	–	–	3.9 to 4.6	≥ 2.5	–	–
8.7 to 9.4	≥ 2.4	–	–	4.7 to 5.4	≥ 2.4	–	–
9.5 to 10.2	≥ 2.3	–	–	5.5 to 6.2	≥ 2.3	–	–
10.3 to 11.0	≥ 2.2	10.4 to 11.0	≥ 2.2	6.3 to 7.0	≥ 2.2	6.4 to 7.0	≥ 2.2
11.1 to 11.8	≥ 2.1	11.1 to 11.8	≥ 2.1	7.1 to 7.8	≥ 2.1	7.1 to 7.8	≥ 2.1
11.9 to 12.6	≥ 2.0	11.9 to 12.6	≥ 2.0	7.9 to 8.6	≥ 2.0	7.9 to 8.6	≥ 2.0
12.7 to 13.4	≥ 1.9	12.7 to 13.4	≥ 1.9	8.7 to 9.4	≥ 1.9	8.7 to 9.4	≥ 1.9
13.5 to 14.2	≥ 1.8	13.5 to 14.2	≥ 1.8	9.5 to 10.2	≥ 1.8	9.5 to 10.2	≥ 1.8
14.3 to 15.0	≥ 1.7	14.3 to 15.0	≥ 1.7	10. to 11.0	≥ 1.7	10. to 11.0	≥ 1.7
15.1 to 15.8	≥ 1.6	15.1 to 15.8	≥ 1.6	11.1 to 11.8	≥ 1.6	11.1 to 11.8	≥ 1.6
15.9 to 16.6	≥ 1.5	15.9 to 16.6	≥ 1.5	11.9 to 12.6	≥ 1.5	11.9 to 12.6	≥ 1.5
16.7 to 17.4	≥ 1.4	16.7 to 17.4	≥ 1.4	12.7 to 13.4	≥ 1.4	12.7 to 13.4	≥ 1.4
17.5 to 18.2	≥ 1.3	17.5 to 18.2	≥ 1.3	13.5 to 14.2	≥ 1.3	13.5 to 14.2	≥ 1.3
18.3 to 19.0	≥ 1.2	18.3 to 19.0	≥ 1.2	14.3 to 15.0	≥ 1.2	14.3 to 15.0	≥ 1.2
19.1 to 19.8	≥ 1.1	19.1 to 19.8	≥ 1.1	15.1 to 15.8	≥ 1.1	15.1 to 15.8	≥ 1.1
19.9 to 20.6	≥ 1.0	19.9 to 20.6	≥ 1.0	15.9 to 16.6	≥ 1.0	15.9 to 16.6	≥ 1.0
20.7 to 21.4	≥ 0.9	20.7 to 21.4	≥ 0.9	16.7 to 17.4	≥ 0.9	16.7 to 17.4	≥ 0.9
21.5 to 22.2	≥ 0.8	21.5 to 22.2	≥ 0.8	17.5 to 18.2	≥ 0.8	17.5 to 18.2	≥ 0.8
22.3 to 23.0	≥ 0.7	22.3 to 23.0	≥ 0.7	18.3 to 19.0	≥ 0.7	18.3 to 19.0	≥ 0.7
> 23.0	≥ 0.6	> 23.0	≥ 0.6	> 19.0	≥ 0.6	> 19.0	≥ 0.6

Notes: PMF = pedestrians per minute per foot; Y = increase in average pedestrian flow rate in PMF; X = No Action pedestrian flow rate in PMF.
Sources: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual* (2012).

Corner Reservoirs and Crosswalks

The determination of significant corner and crosswalk impacts is also based on a sliding scale using the following formula: $Y \geq X/9.0 - 0.3$, where Y is the decrease in pedestrian space in SFP and X is the No Action pedestrian space in SFP. Since a decrease in pedestrian space within acceptable levels would not constitute a significant impact, this formula would apply only if the With Action pedestrian space falls short of LOS C in non-CBD areas or mid-LOS D in CBD areas. **Table K-16** summarizes the sliding scale guidance provided by the *CEQR Technical Manual* for determining potential significant corner reservoir and crosswalk impacts.

Table K-16
Significant Impact Guidance for Corners and Crosswalks

Sliding Scale Formula: *Y ≥ X/9.0 – 0.3*			
Non-CBD Areas		**CBD Areas**	
No Action Pedestrian Space (X, SFP)	**Action Pedestrian Space Reduction (Y, SFP)**	**No Action Pedestrian Space (X, SFP)**	**Action Pedestrian Space Reduction (Y, SFP)**
25.8 to 26.6	≥ 2.6	–	–
24.9 to 25.7	≥ 2.5	–	–
24.0 to 24.8	≥ 2.4	–	–
23.1 to 23.9	≥ 2.3	–	–
22.2 to 23.0	≥ 2.2	–	–
21.3 to 22.1	≥ 2.1	21.3 to 21.5	≥ 2.1
20.4 to 21.2	≥ 2.0	20.4 to 21.2	≥ 2.0
19.5 to 20.3	≥ 1.9	19.5 to 20.3	≥ 1.9
18.6 to 19.4	≥ 1.8	18.6 to 19.4	≥ 1.8
17.7 to 18.5	≥ 1.7	17.7 to 18.5	≥ 1.7
16.8 to 17.6	≥ 1.6	16.8 to 17.6	≥ 1.6
15.9 to 16.7	≥ 1.5	15.9 to 16.7	≥ 1.5
15.0 to 15.8	≥ 1.4	15.0 to 15.8	≥ 1.4
14.1 to 14.9	≥ 1.3	14.1 to 14.9	≥ 1.3
13.2 to 14.0	≥ 1.2	13.2 to 14.0	≥ 1.2
12.3 to 13.1	≥ 1.1	12.3 to 13.1	≥ 1.1
11.4 to 12.2	≥ 1.0	11.4 to 12.2	≥ 1.0
10.5 to 11.3	≥ 0.9	10.5 to 11.3	≥ 0.9
9.6 to 10.4	≥ 0.8	9.6 to 10.4	≥ 0.8
8.7 to 9.5	≥ 0.7	8.7 to 9.5	≥ 0.7
7.8 to 8.6	≥ 0.6	7.8 to 8.6	≥ 0.6
6.9 to 7.7	≥ 0.5	6.9 to 7.7	≥ 0.5
6.0 to 6.8	≥ 0.4	6.0 to 6.8	≥ 0.4
5.1 to 5.9	≥ 0.3	5.1 to 5.9	≥ 0.3
< 5.1	≥ 0.2	< 5.1	≥ 0.2

Notes: SFP = square feet per pedestrian; Y = decrease in pedestrian space in SFP; X = No Action pedestrian space in SFP.
Sources: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual* (2012).

VEHICULAR AND PEDESTRIAN SAFETY EVALUATION

An evaluation of vehicular and pedestrian safety is necessary for locations within the traffic and pedestrian study areas that have been identified as high accident locations, where 48 or more total reportable and non-reportable crashes or five or more pedestrian/bicyclist injury crashes occurred in any consecutive 12 months of the most recent 3-year period for which data are available. For these locations, accident trends are identified to determine whether projected vehicular and pedestrian traffic would further impact safety at these locations. The determination of potential significant safety impacts depends on the type of area where the project site is located, traffic volumes, accident types and severity, and other contributing factors. Where appropriate, measures to improve traffic and pedestrian safety are identified and coordinated with NYCDOT.

PARKING CONDITIONS ASSESSMENT

The parking analysis identifies the extent to which off-street parking is available and utilized under existing and future conditions. It takes into consideration anticipated changes in area parking supply and provides a comparison of parking needs versus availability to determine if a parking shortfall is likely to result from parking displacement attributable to or additional demand generated by a proposed project. Typically, this analysis encompasses a study area within ¼ mile of the project site. If the analysis concludes a shortfall in parking within the ¼ mile study area, the study area could sometimes be extended to ½ mile to identify additional parking supply.

For proposed projects located in Manhattan or other CBD areas, the inability of the proposed project or the surrounding area to accommodate the project's future parking demand is considered a parking shortfall, but is generally not considered significant due to the magnitude of available alternative modes of transportation. For other areas in New York City, a parking shortfall that exceeds more than half the available on-street and off-street parking spaces within ¼ mile of the project site may be considered significant. Additional factors, such as the availability and extent of transit in the area, proximity of the project to such transit, and patterns of automobile usage by area residents, could be considered to determine the significance of the identified parking shortfall. In some cases, if there is adequate parking supply within ½ mile of the project site, the projected parking shortfall may also not necessarily be considered significant.

F. TRAFFIC

2012 EXISTING CONDITIONS

ROADWAY NETWORK

The roadway network around the project site is generally a grid of local streets through the residential neighborhood of Long Island City, which also contains access points to major roadways, including the Queens Midtown Tunnel (QMT), Long Island Expressway (LIE), and the Ed Koch/Queensboro Bridge (QBB). Key north-south roadways within the study area include Jackson Avenue, 21st Street, and 23rd Street. Key east-west roadways in the study area include Thomson Avenue.

Jackson Avenue extends southwest to northeast between 51st Avenue and Queens Boulevard, north of which Jackson Avenue is named Queens Plaza East (until 41st Avenue) and then becomes Northern Boulevard. The Jackson Avenue/Northern Boulevard corridor extends into and through Long Island City and functions as a major traffic route along an important commercial strip. Jackson Avenue is a major connector to the Queens Plaza area, which contains the entrance to the Ed Koch Queensboro Bridge, providing access to Manhattan. Jackson Avenue/Northern Boulevard is a two-way street of generally consistent width; however, the allocation of moving lanes and parking lanes differs by direction and location. Jackson Avenue/Northern Boulevard typically contains either two travel lanes and a parking lane or three travel lanes and no parking lane in each direction. At its south end, Jackson Avenue provides access to the Queens Midtown Tunnel and the Long Island Expressway.

Thomson Avenue is an east-west feeder route to the upper roadway of the QBB and to parts of Long Island City west of Sunnyside Yard. It is one of the few roadways that cross over Sunnyside Yard with two to three lanes of traffic in each direction.

Other streets serving the study area are Crane Street, Davis Street, and Court Square, each of which is a dead-end street running two ways north-south between Jackson Avenue and the Sunnyside Yard.

TRAFFIC CONDITIONS

Existing traffic volumes for the study area intersections were established based on field counts (including manual turning movement counts and Automatic Traffic Recorder [ATR] counts) conducted from June 3 to June 14, 2011.

During the 2011 data collection, construction was underway to implement the New York City Economic Development Corporation's (EDC) Jackson Avenue Improvements Project. As part of this project, a landscaped median was being added to the middle of Jackson Avenue between Queens Plaza and Davis Street, with plans to extend the median to 21st Street. As a result of the introduction of this median, left turns to and from Court Square and Crane Street are permanently restricted to and from Jackson Avenue. These turn restrictions are reflected in the existing traffic volumes.

To be representative of current baseline conditions, the 2011 collected traffic volumes were grown by an annual background growth rate of 0.25 percent, as per *CEQR* guidelines, to bring them to 2012 levels. The 2012 Existing traffic volumes for the study area intersections are shown in **Figures K-21** to **K-23**.

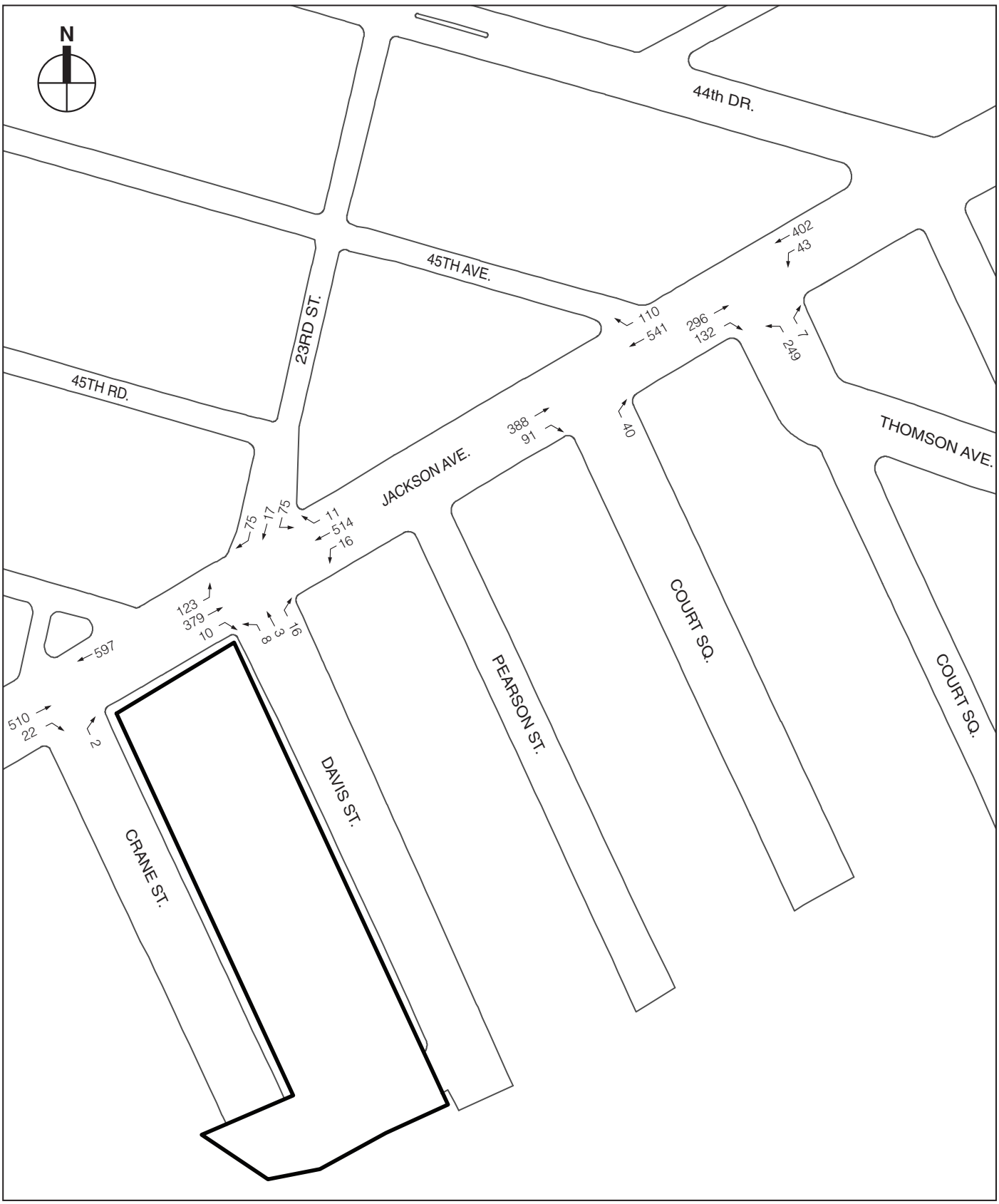
LEVELS OF SERVICE

Tables K-17 and **K-18** presents the service conditions for existing traffic study area intersections. The analysis results indicate that most of the study area's intersection approaches/lane groups operate acceptably—at mid-LOS D (delays of 45 seconds per vehicle [spv] or less for signalized intersections and 30 spv or less for unsignalized intersections) or better for the analysis peak hours. Approaches/lane groups operating at worse than mid-LOS D and those with v/c ratios of 0.90 or greater are listed below.

Table K-17
2012 Existing Conditions Level of Service Analysis
Signalized Intersections

	Weekday AM				Weekday Midday				Weekday PM			
Intersection	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Jackson Avenue & Davis Street/23rd Street												
Eastbound	L	0.32	8.0	A	L	0.23	7.3	A	L	0.27	7.6	A
	TR	0.46	10.7	B	TR	0.41	9.9	A	TR	0.41	9.9	A
Westbound	LTR	0.41	15.5	B	LTR	0.55	18.2	B	LTR	0.48	16.6	B
Northbound	LTR	0.13	36.6	D	LTR	0.19	37.8	D	LTR	0.16	37.4	D
Southbound	LTR	0.73	58.9	E	LTR	0.57	50.2	D	LTR	0.65	53.1	D
	Intersection		19.4	B	Intersection		18.5	B	Intersection		18.6	B
Jackson Avenue & Court Square												
Eastbound	TR	0.37	12.6	B	TR	0.31	11.9	B	TR	0.28	13.4	B
Westbound	TR	0.42	13.1	B	TR	0.46	13.8	B	TR	0.47	15.8	B
Northbound	R	0.15	31.0	C	R	0.17	31.6	C	R	0.18	28.7	C
	Intersection		13.5	B	Intersection		13.8	B	Intersection		15.6	B
Jackson Avenue & Thomson Avenue												
Eastbound	TR	0.32	12.0	B	TR	0.30	11.7	B	TR	0.31	13.7	B
Westbound	L	0.14	10.9	B	L	0.06	10.0-	A	L	0.04	11.3	B
	LT	0.27	11.4	B	LT	0.30	11.8	B	LT	0.33	13.9	B
Northbound	L	0.66	43.4	D	L	0.57	40.6	D	L	0.39	32.2	C
Southbound	R	0.03	29.1	C	R	0.10	30.3	C	R	0.08	27.2	C
	Intersection		19.0	B	Intersection		17.5	B	Intersection		17.1	B

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, LOS = Level of Service



2012 Existing Traffic Volumes
Weekday AM Peak Hour

22-44 JACKSON AVENUE

Figure K-21

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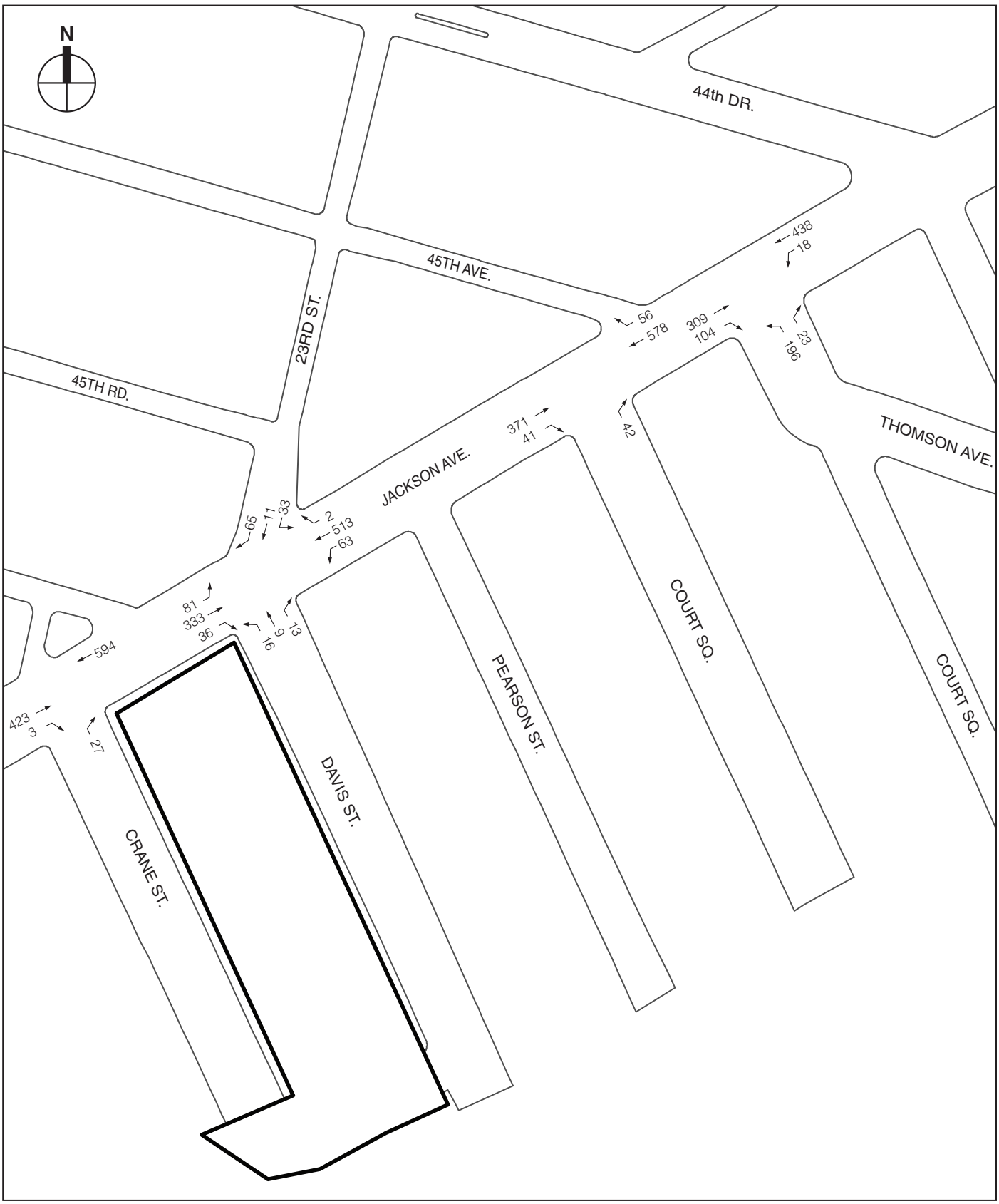


NOT TO SCALE

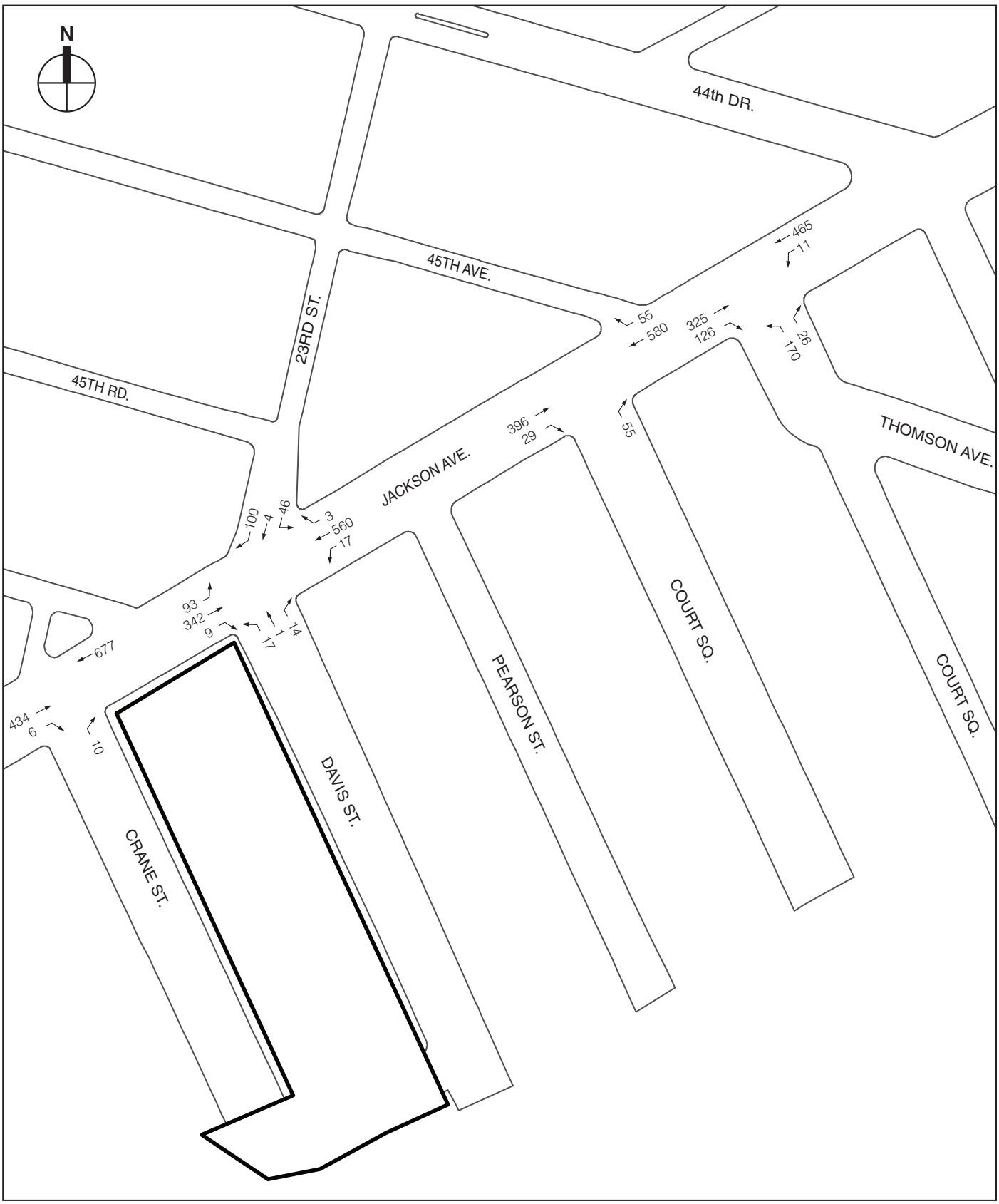
Project Site

Driveway

2012 Existing Traffic Volumes
Weekday Midday Peak Hour

22-44 JACKSON AVENUE

Figure K-22



2012 Existing Traffic Volumes
Weekday PM Peak Hour

22-44 JACKSON AVENUE

Figure K-23

Table K-18
2012 Existing Conditions Level of Service Analysis
Unsignalized Intersection

Intersection	Weekday AM				Weekday Midday				Weekday PM			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Jackson Avenue & Crane Street												
Northbound	R	0.01	10.2	B	R	0.05	11.2	B	R	0.02	10.6	B
Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, LOS = Level of Service												

- Southbound approach at the Jackson Avenue and Davis Street/23rd Street intersection, with LOS E during the weekday AM peak hour; LOS D with a delay of 50.2 spv during the weekday midday peak hour, and LOS D with a delay of 53.1 spv during the weekday PM peak hour.

THE FUTURE WITHOUT THE PROPOSED ACTION

The No Build condition was developed by increasing existing (2012) traffic levels by the expected growth in overall travel through and within the study area. As per *CEQR* guidelines, an annual background growth rate of 0.25 percent was assumed for the first five years (year 2013 to year 2017). In addition, a total of 19 development projects expected to occur in the No Build condition (No Build projects) were identified in coordination with the New York City Department of City Planning (DCP) as being planned for the study area (see **Figure K-24**). Person and vehicle trips generated by the projects, which include trips associated with the as-of-right project, were then determined and incorporated into the No Build traffic analysis. **Table K-19** summarizes the projects that were accounted for in this future 2017 baseline.

Table K-19
Planned Projects Within or Near the Study Area by 2017

Map No.	Location	Description	Transportation Assumptions	Build Year
1	Hotel on Jackson Ave (Block 80, Lots 4, 17, 20-23)	708-room hotel	Assumptions from CEQR 2012 and Dutch Kills Rezoning and Related Actions FEIS (2008)	2016
2	Queens West 1 (NW corner of Center Blvd. and 46th Ave.)	Mixed use development with 345 units and 4,181 sf local retail	Assumptions from CEQR 2012 and Dutch Kills Rezoning and Related Actions FEIS (2008) with updated modal splits and vehicle occupancies based on 2006-2010 ACS Estimates	2012[(1)]
3	Queens West 2 (NE corner of Center Blvd. and 46th Ave.)	Mixed use development with 820 units; 13,053 sf local retail; and1,000 parking spaces	Same assumptions as Site 2	2013
4	Queens West 3 (SW corner of Center Blvd. and 46th Ave.)	Mixed use development with 585 units and 7,550 sf local retail	Same assumptions as Site 2	2014
5	Queens West 4 (SE corner of Center Blvd. and 46th Ave.)	Mixed use development with 367 units and 1,557 sf local retail	Same assumptions as Site 2	2012[(1)]
6	Gotham Center Phase II (Block 420, Lot 1)	Mixed use development with 28,658 sf retail; 974,957 sf office; and 388 public parking spaces	Assumptions from Gotham Center EAS	2014
7	Hunter's Point South (waterfront parcels between 50th Ave. on the north, Newtown Creek on the south, 2nd Street on the east, and the East River on the west)	Mixed use development with 900 residential units; 20,000 sf retail; and 1,071-seat middle school/high school	Assumptions from Hunter's Point South FEIS	2014

Future Development Projects in the No Build Condition

Figure K-24

Table K-19 (cont'd)
Planned Projects Within or Near the Study Area by 2017

Map No.	Location	Description	Transportation Assumptions	Build Year
8	Rockrose (24-02 43rd Ave; Block 435, Lot 13)	Mixed use development with 709 units; 16,339 sf local retail; and 204 accessory parking spaces	Residential and Retail assumptions from CEQR 2012 and Dutch Kills Rezoning and Related Actions FEIS (2008), with updated residential modal splits and vehicle occupancies based on 2006-2010 ACS Estimates	2013
10	Star Tower (27-17 42nd Rd; Block 422, Lot 31)	400-room hotel	Same assumptions as Site 1	2016
11	27-story residential (rental) tower (27-03 42nd Rd; Block 422, Lots 1, 5, and 6)	Residential development with 143 units and 38 accessory parking spaces	Same assumptions as Site 2	2016
12	Silvercup West (Block 477, Lots 7, 13, 15, 20, 24)	Mixed use development with 1,000 units; 161,490 sf retail; 1,001,622 sf office; 126,401 sf community facility; and 1,400 accessory parking spaces	Assumptions from Silvercup West FEIS	2016
13	42-37 27th St (Block 431, Lot 14)	Residential development with 28 units and 7 accessory parking spaces	Same assumptions as Site 2	2016
14	21-45 44th Drive (The Industry)	Residential development with 76 units	Same assumptions as Site 2	2012[(2)]
15	Rockrose – Second Phase (25-25 44th Dr; Block 433, Lot 12)	Residential development with 974 units and 100 accessory parking spaces	Same assumptions as Site 2	2015
16	Purves (44-41 Purves St; Block 267, Lot 9)	Residential development with 150 units	Same assumptions as Site 2	2017[(3)]
17	Gene Kaufman Project (44-11 Purves St or 44-15 Purves St; Block 267, Lot 17)	Residential development with 47 units	Same assumptions as Site 2	2017[(3)]
18	NYPD School Safety Division Off-Street Accessory Parking (43-30 Dutch Kills St; Block 267, Lot 25)	60 Accessory parking spaces	Background growth	2017
19	45-56 Pearson St (Block 85, Lot 41)	Residential development with 197 units and 26 accessory parking spaces	Same assumptions as Site 2	2017

Sources: AKRF, Inc., New York City Department of City Planning, New York City Department of Buildings.
Notes: (1) It is noted that these buildings were completed and occupied in 2012; however, since they were completed after the baseline transportation data was collected in June 2011, they are included in the No Build list.
(2) This project was built in 2010 and was open for occupancy in September 2011. Existing traffic data was collected in June 2011, prior to the occupancy of the site. Therefore, this project was included in the No Build condition for the transportation analysis.
(3) Since the build year for these projects is unknown, they are assumed to be completed by the proposed project's build year.

TRAFFIC OPERATIONS

The No Build condition traffic volumes are shown in **Figures K-25** to **K-27** for the weekday AM, midday, and PM peak hours**. Tables K-20** and **K-21** present a comparison of the Existing and the No Build level of service conditions at the traffic study area intersections. The analysis results indicate that, for the analysis peak hours in 2017 No Build condition, most of the study area's intersection approaches/lane groups continue to operate at the same LOS as existing conditions or within acceptable levels —at mid-LOS D (delays of 45 seconds per vehicle [spv] or less for signalized intersections and 30 spv or less for unsignalized intersections) or better except:

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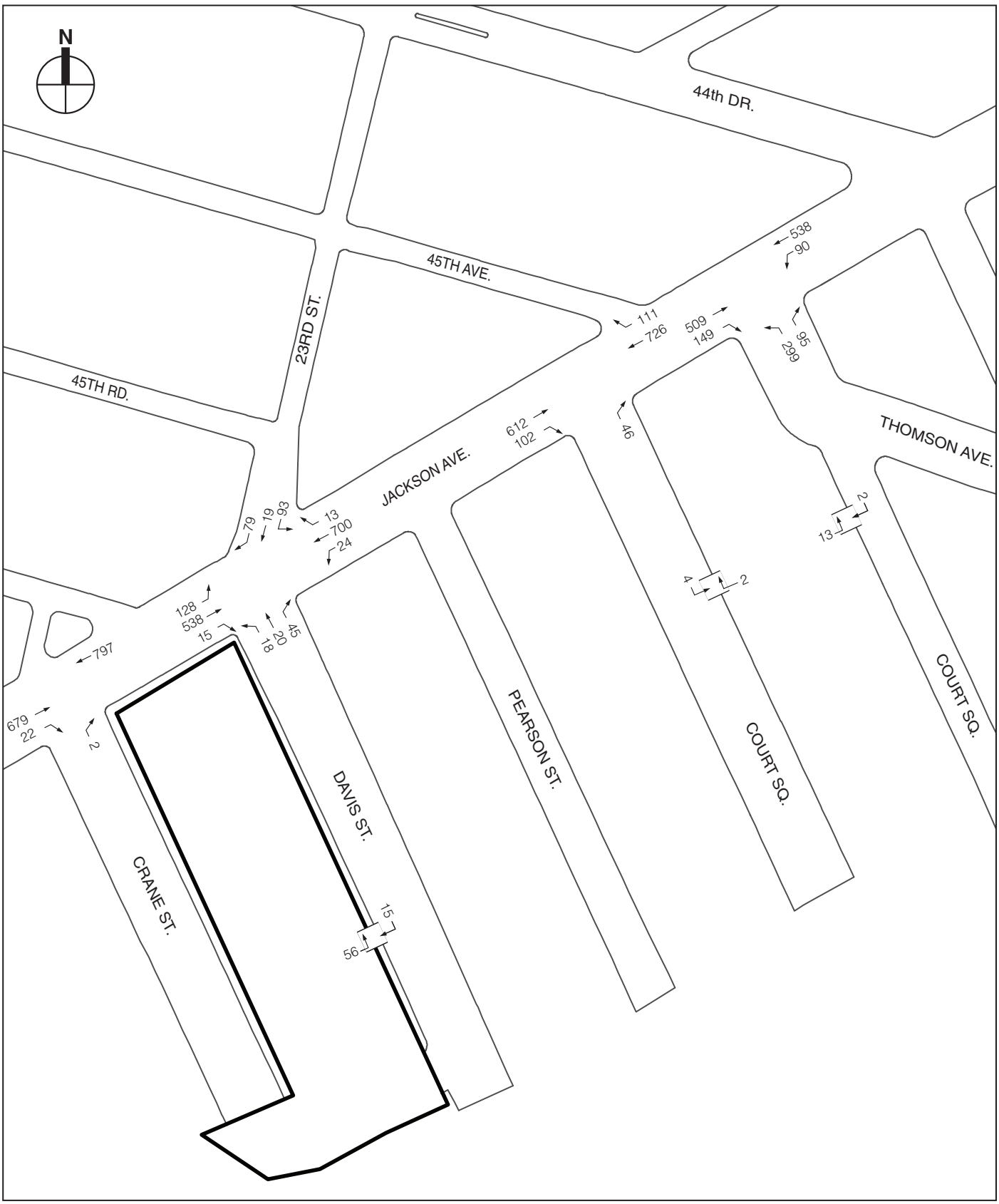


NOT TO SCALE

Project Site

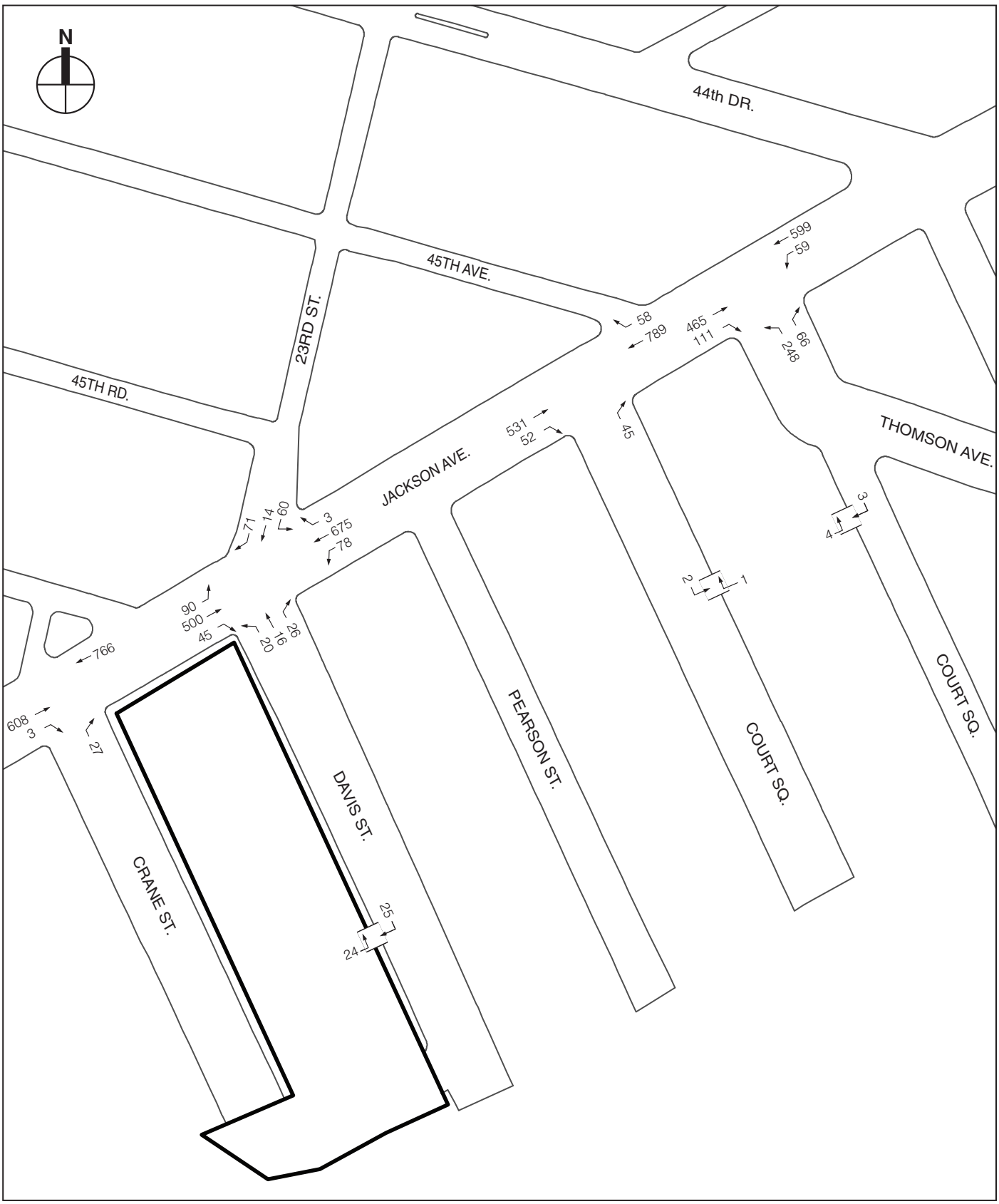
Driveway

2017 No Build Traffic Volumes
Weekday AM Peak Hour

22-44 JACKSON AVENUE

Figure K-25

3.13.13



NOT TO SCALE

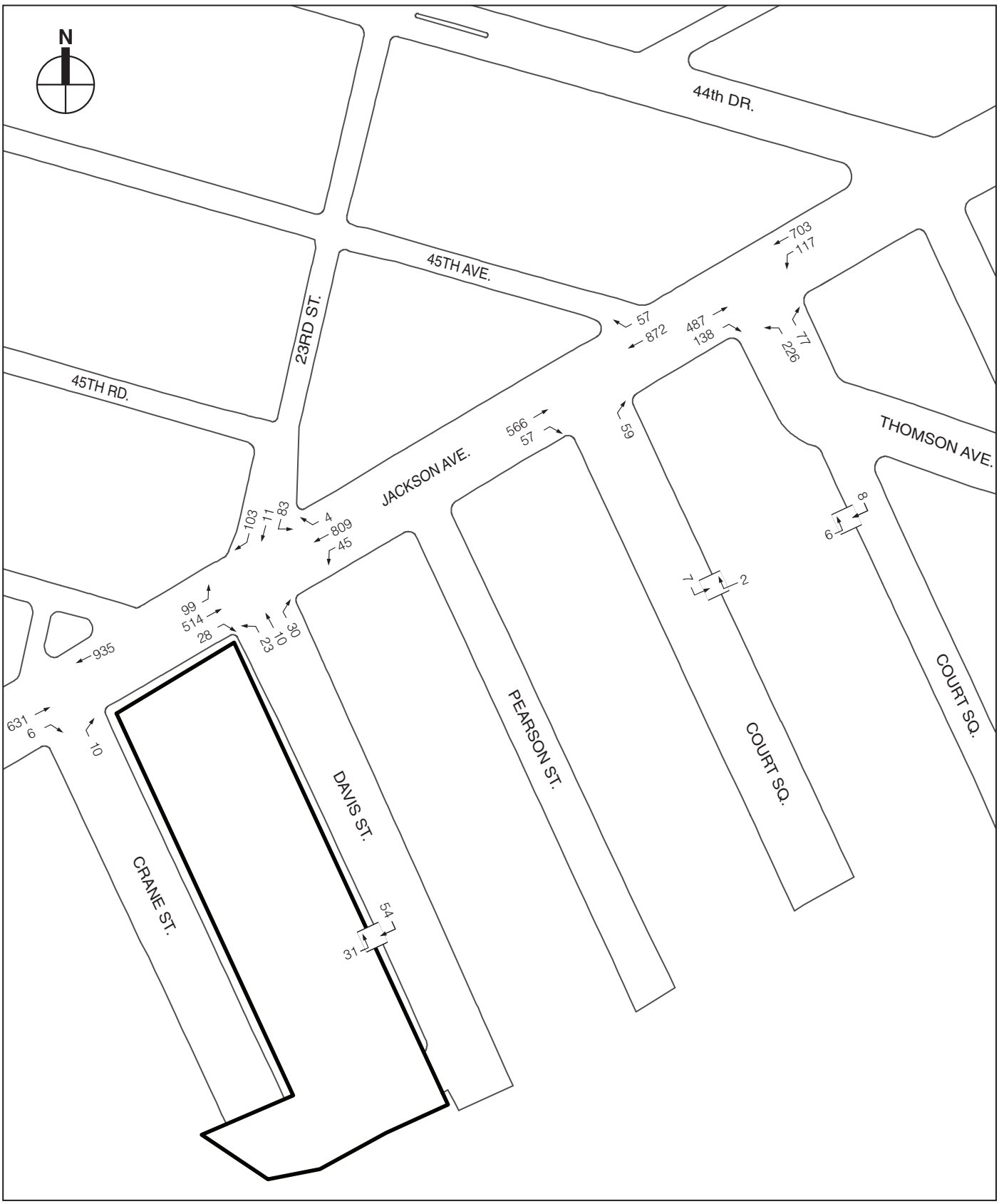
Project Site

Driveway

2017 No Build Traffic Volumes
Weekday Midday Peak Hour

22-44 JACKSON AVENUE

Figure K-26



2017 No Build Traffic Volumes
Weekday PM Peak Hour

22-44 JACKSON AVENUE

Figure K-27

- Northbound approach at the Jackson Avenue and Davis Street/23rd Street intersection will deteriorate within LOS D with a v/c ratio of 0.45 and delay of 45.1 spv during the weekday AM peak hour.
- Southbound approach at the Jackson Avenue and Davis Street/23rd Street intersection will deteriorate to LOS F with a v/c ratio of 1.10 and a delay of 138.4 spv, a v/c ratio of 1.01 and a delay of 117.4 spv, and a v/c ratio of 1.11 and a delay of 141.8 spv during the weekday AM, midday, and PM peak hours, respectively.
- Northbound left-turn at the Jackson Avenue and Thomson Avenue intersection will deteriorate within LOS D with a v/c ratio of 0.80 and a delay of 51.4 spv and a v/c ratio of 0.72 and a delay of 47.7 spv during the weekday AM and midday peak hours, respectively.

Table K-20
2012 Existing and 2017 No Build Conditions Level of Service Analysis
Signalized Intersections

	AM								Midday								PM							
	2012 Existing				2017 No Build				2012 Existing				2017 No Build				2012 Existing				2017 No Build			
Intersection	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Jackson Avenue and Davis Street/23rd Street																								
Eastbound	L	0.32	8.0	A	L	0.42	10.5	B	L	0.23	7.3	A	L	0.32	9.4	A	L	0.27	7.6	A	L	0.39	11.6	B
	TR	0.46	10.7	B	TR	0.66	14.8	B	TR	0.41	9.9	A	TR	0.62	13.8	B	TR	0.41	9.9	A	TR	0.65	14.4	B
Westbound	LTR	0.41	15.5	B	LTR	0.57	18.2	B	LTR	0.55	18.2	B	LTR	0.77	25.2	C	LTR	0.48	16.6	B	LTR	0.76	24.1	C
Northbound	LTR	0.13	36.6	D	LTR	0.45	45.1	D	LTR	0.19	37.8	D	LTR	0.36	42.4	D	LTR	0.16	37.4	D	LTR	0.37	42.9	D
Southbound	LTR	0.73	58.9	E	LTR	1.10	138.4	F	LTR	0.57	50.2	D	LTR	1.01	117.4	F	LTR	0.65	53.1	D	LTR	1.11	141.8	F
	Intersection		19.4	B	Intersection		31.3	C	Intersection		18.5	B	Intersection		29.6	C	Intersection		18.6	B	Intersection		33.1	C
Jackson Avenue and Court Square																								
Eastbound	TR	0.37	12.6	B	TR	0.55	15.2	B	TR	0.31	11.9	B	TR	0.43	13.4	B	TR	0.28	13.4	B	TR	0.42	15.0	B
Westbound	TR	0.42	13.1	B	TR	0.53	14.8	B	TR	0.46	13.8	B	TR	0.62	16.6	B	TR	0.47	15.8	B	TR	0.68	20.0+	C
Northbound	R	0.15	31.0	C	R	0.17	31.4	C	R	0.17	31.6	C	R	0.19	31.9	C	R	0.18	28.7	C	R	0.19	28.9	C
	Intersection		13.5	B	Intersection		15.5	B	Intersection		13.8	B	Intersection		15.8	B	Intersection		15.6	B	Intersection		18.5	B
Jackson Avenue and Thomson Avenue																								
Eastbound	TR	0.32	12.0	B	TR	0.48	14.1	B	TR	0.30	11.7	B	TR	0.40	12.9	B	TR	0.31	13.7	B	TR	0.43	15.2	B
Westbound	L	0.14	10.9	B	L	0.40	16.6	B	L	0.06	10.0-	A	L	0.25	13.1	B	L	0.04	11.3	B	L	0.50	21.6	C
	LT	0.27	11.4	B	LT	0.36	12.4	B	LT	0.30	11.8	B	LT	0.41	13.1	B	LT	0.33	13.9	B	LT	0.49	16.2	B
Northbound	L	0.66	43.4	D	L	0.80	51.4	D	L	0.57	40.6	D	L	0.72	47.7	D	L	0.39	32.2	C	L	0.52	35.3	D
Southbound	R	0.03	29.1	C	R	0.35	35.0-	C	R	0.10	30.3	C	R	0.29	34.1	C	R	0.08	27.2	C	R	0.25	30.0	C
	Intersection		19.0	B	Intersection		21.8	C	Intersection		17.5	B	Intersection		19.7	B	Intersection		17.1	B	Intersection		19.5	B

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, LOS = Level of Service

Table K-21
2012 Existing and 2017 No Build Conditions Level of Service Analysis
Unsignalized Intersections

	AM								Midday								PM							
	2012 Existing				2017 No Build				2012 Existing				2017 No Build				2012 Existing				2017 No Build			
Intersection	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Jackson Avenue and Crane Street																								
Northbound	R	0.01	10.2	B	R	0.01	10.9	B	R	0.05	11.2	B	R	0.06	12.1	B	R	0.02	10.6	B	R	0.02	11.6	B

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service

FUTURE WITH THE PROPOSED ACTION

As discussed above in Section D, "Level 2 Screening Assessment," auto trips were assigned to and from the proposed site public parking garage located on Crane and Davis Streets and to other public parking facilities in the area. Taxi trips were assigned to various project block fronts, and delivery trips were assigned to the site via NYCDOT designated truck routes.

Overall, the 2017 completion of the proposed project would result in approximately 93, 52, and 115 incremental vehicle trips during the weekday AM, midday, and PM peak hours, respectively. The related peak hour traffic assignments are discussed above in Section D, "Level

2 Screening Assessment," and the incremental peak hour trips resulting from the proposed project are shown in **Figures K-7** to **K-9**.

TRAFFIC OPERATIONS

The Build condition traffic volumes are shown in **Figures K-28** to **K-30** for the weekday AM, midday, and PM peak hours. **Tables K-22** and **K-23** show the comparison of traffic levels of service for the No Build and Build conditions.

Table K-22
2017 No Build and Build Conditions Level of Service Analysis
Signalized Intersections

	AM								Midday								PM							
	2017 No Build				2017 Build				2017 No Build				2017 Build				2017 No Build				2017 Build			
Intersection	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Jackson Avenue & Davis Street																								
Eastbound	L	0.42	10.5	B	L	0.47	11.8	B	L	0.32	9.4	A	L	0.34	9.9	A	L	0.39	11.6	B	L	0.45	13.1	B
	TR	0.66	14.8	B	TR	0.66	14.9	B	TR	0.62	13.8	B	TR	0.61	13.5	B	TR	0.65	14.4	B	TR	0.62	13.7	B
Westbound	LTR	0.57	18.2	B	LTR	0.62	19.5	B	LTR	0.77	25.2	C	LTR	0.80	26.8	C	LTR	0.76	24.1	C	LTR	0.78	25.1	C
Northbound	LTR	0.45	45.1	D	LTR	0.48	46.7	D	LTR	0.36	42.4	D	LTR	0.39	43.3	D	LTR	0.37	42.9	D	LTR	0.58	50.8	D
Southbound	LTR	1.10	138.4	F	LTR	1.14	152.6	F	LTR	1.01	117.4	F	LTR	1.03	124.3	F	LTR	1.11	141.8	F	LTR	1.25	197.6	F
	Intersection		31.3	C	Intersection		33.6	C	Intersection		29.6	C	Intersection		31.1	C	Intersection		33.1	C	Intersection		39.9	D
Jackson Avenue & Court Square																								
Eastbound	TR	0.55	15.2	B	TR	0.56	15.4	B	TR	0.43	13.4	B	TR	0.44	13.5	B	TR	0.42	15.0	B	TR	0.45	15.5	B
Westbound	TR	0.53	14.8	B	TR	0.55	15.1	B	TR	0.62	16.6	B	TR	0.63	16.8	B	TR	0.68	20.0+	C	TR	0.68	20.2	B
Northbound	R	0.17	31.4	C	R	0.20	32.0	C	R	0.19	31.9	C	R	0.20	32.1	C	R	0.19	28.9	C	R	0.20	29.1	C
	Intersection		15.5	B	Intersection		15.8	B	Intersection		15.8	B	Intersection		16.0	B	Intersection		18.5	B	Intersection		18.8	B
Jackson Avenue & Thomson Avenue																								
Eastbound	TR	0.48	14.1	B	TR	0.50	14.3	B	TR	0.40	12.9	B	TR	0.40	13.0	B	TR	0.43	15.2	B	TR	0.45	15.5	B
Westbound	L	0.40	16.6	B	L	0.43	17.5	B	L	0.25	13.1	B	L	0.27	13.6	B	L	0.50	21.6	C	L	0.58	25.2	C
	LT	0.36	12.4	B	LT	0.37	12.5	B	LT	0.41	13.1	B	LT	0.42	13.2	B	LT	0.49	16.2	B	LT	0.49	16.2	B
Northbound	L	0.80	51.4	D	L	0.84	55.4	E	L	0.72	47.7	D	L	0.74	48.8	D	L	0.52	35.3	D	L	0.54	35.7	D
Southbound	R	0.35	35.0-	C	R	0.39	36.0	D	R	0.29	34.1	C	R	0.30	34.4	C	R	0.25	30.0	C	R	0.27	30.4	C
	Intersection		21.8	C	Intersection		22.9	C	Intersection		19.7	B	Intersection		20.0+	C	Intersection		19.5	B	Intersection		20.0-	B

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, LOS = Level of Service

Table K-23
2017 No Build and Build Conditions Level of Service Analysis
Unsignalized Intersections

	AM								Midday								PM							
	2017 No Build				2017 Build				2017 No Build				2017 Build				2017 No Build				2017 Build			
Intersection	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Jackson Avenue and Crane Street																								
Northbound	R	0.01	10.9	B	R	0.03	11.5	B	R	0.06	12.1	B	R	0.08	12.7	B	R	0.02	11.6	B	R	0.06	12.7	B

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service

Based on the criteria presented in the *CEQR Technical Manual* and discussed previously in Section E, "Transportation Analysis Methodologies," the intersection of Jackson Avenue and Davis Street/23rd Street would deteriorate in level of service during all three analysis peak hours. Specifically:

- The northbound approach at the signalized intersection of Jackson Avenue and Davis Street/23rd Street would deteriorate within LOS D (from a v/c ratio of 0.37 and a delay of 42.9 spv to a v/c ratio of 0.58 and a delay of 50.8 spv) during the weekday PM peak hour.
- The southbound approach at the signalized intersection of Jackson Avenue and Davis Street/23rd Street would deteriorate within LOS F (from a v/c ratio of 1.10 and a delay of 138.4 spv to a v/c ratio of 1.14 and a delay of 152.6 spv, from a v/c ratio of 1.01 and a delay of 117.4 spv to a v/c ratio of 1.03 and a delay of 124.3 spv, and from a v/c ratio of 1.11 and a delay of 141.8 spv to a v/c ratio of 1.25 and a delay of 197.6 spv) during the weekday AM, midday, and PM peak hours, respectively.

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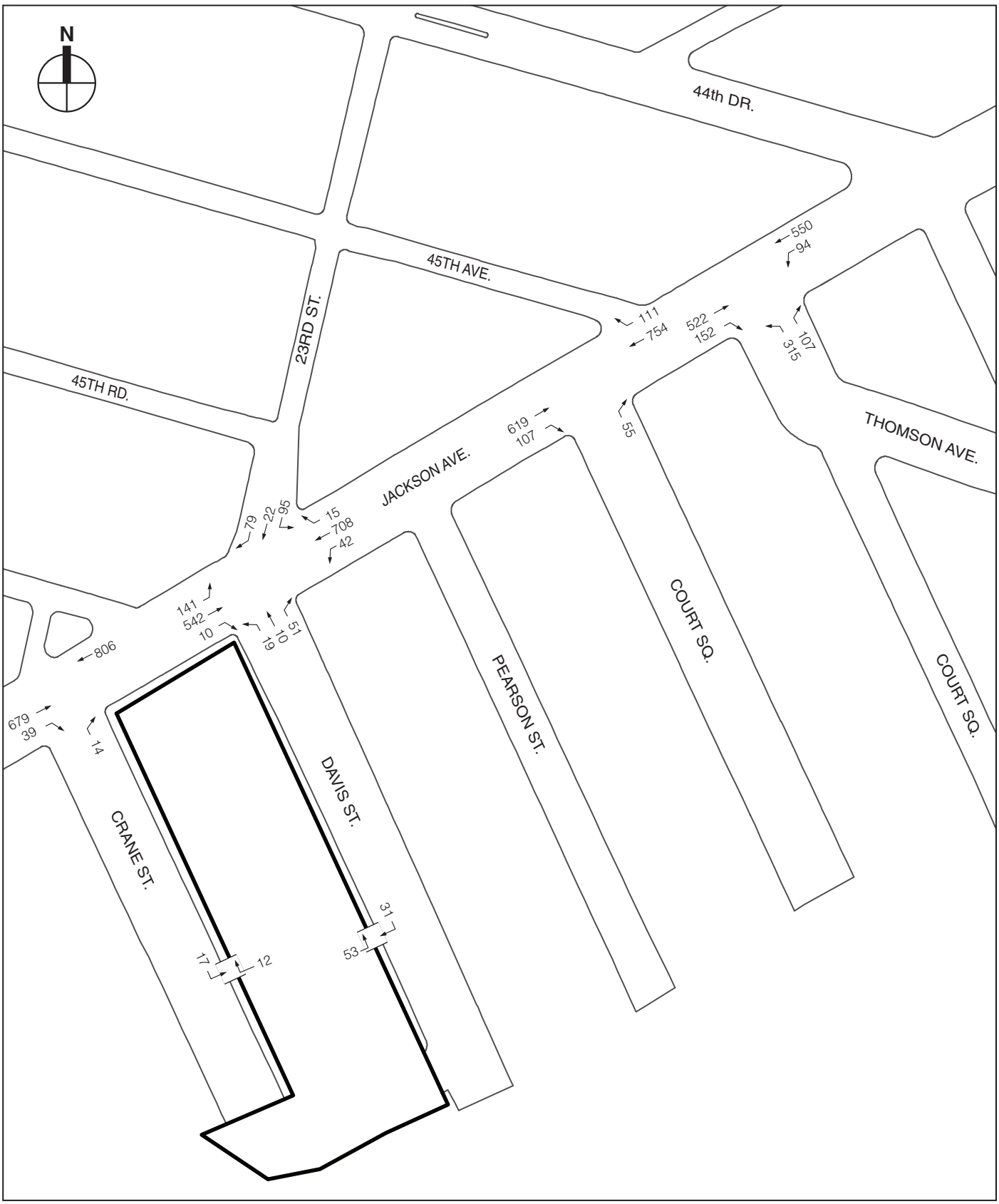

NOT TO SCALE

Project Site

Driveway

2017 Build Traffic Volumes
Weekday AM Peak Hour

22-44 JACKSON AVENUE

Figure K-28

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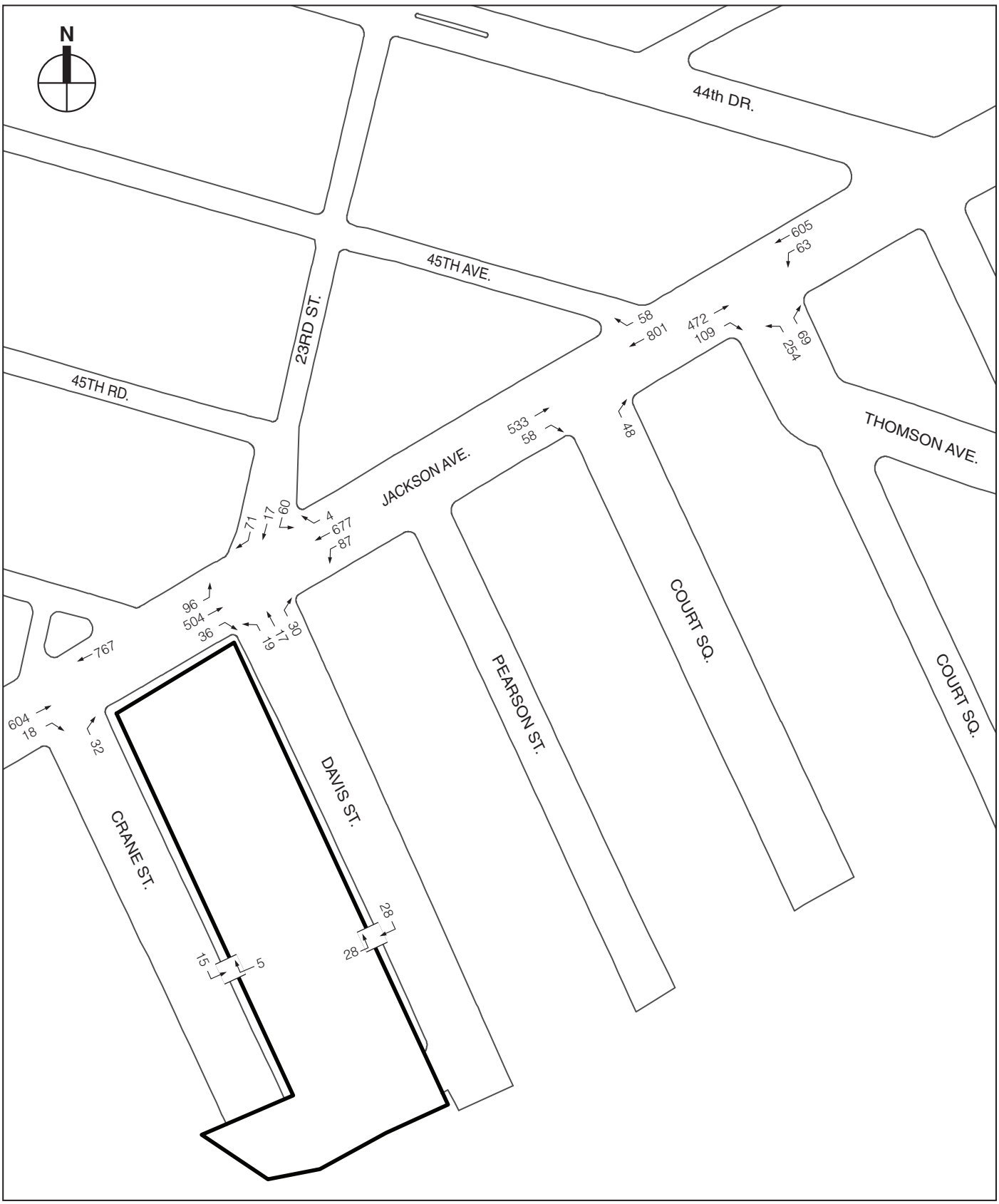

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Project Site

Driveway

2017 Build Traffic Volumes
Weekday Midday Peak Hour

22-44 JACKSON AVENUE

Figure K-29

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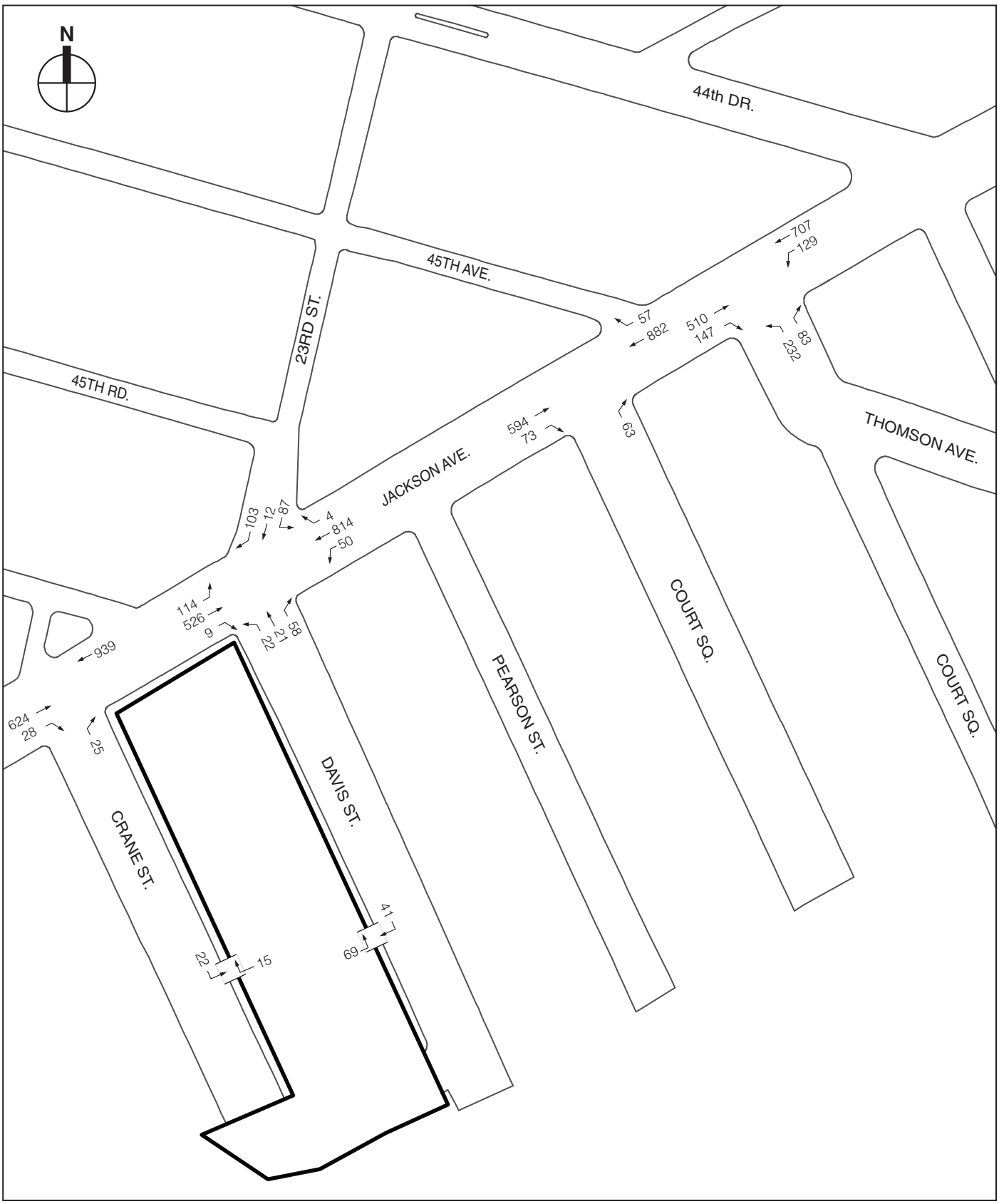

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Project Site

Driveway

2017 Build Traffic Volumes
Weekday PM Peak Hour

22-44 JACKSON AVENUE

Figure K-30

PROPOSED PROJECT IMPROVEMENTS

Based on the analysis results presented in **Tables K-22** and **K-23**, it was determined that a 1.0-second shift of green time at the Jackson Avenue and Davis Street/23rd Street intersection from the eastbound/westbound approaches to the northbound/southbound approaches is required during the AM and midday peak hours, respectively. A 3.0-second shift of green time is required during the PM peak hour. The signal timing changes would be made as part of the proposed project and is shown in **Table K-24**.

Table K-24
Proposed Project Improvements - Signal Retiming

	Phase	Existing			Proposed		
		Green	Amber	Red	Green	Amber	Red
	AM Peak Hour						
A	Jackson Avenue (EB/WB)	68	3	2	67	3	2
B	Davis Street/23rd Street (NB/SB)	29	3	2	30	3	2
C	Jackson Avenue (EB)	13	0	0	13	0	0
		Cycle Length = 120 Seconds			Cycle Length = 120 Seconds		
	Midday Peak Hour						
A	Jackson Avenue (EB/WB)	68	3	2	67	3	2
B	Davis Street/23rd Street (NB/SB)	29	3	2	30	3	2
C	Jackson Avenue (EB)	13	0	0	13	0	0
		Cycle Length = 120 Seconds			Cycle Length = 120 Seconds		
	PM Peak Hour						
A	Jackson Avenue (EB/WB)	68	3	2	65	3	2
B	Davis Street/23rd Street (NB/SB)	29	3	2	32	3	2
C	Jackson Avenue (EB)	13	0	0	13	0	0
		Cycle Length = 120 Seconds			Cycle Length = 120 Seconds		

Notes: EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound

The proposed project would require signal timing modifications at the Jackson Avenue and Davis Street/23rd Street intersection to avoid potential significant traffic impacts at this location. This traffic improvement measure would be implemented in accordance with the anticipated conditional negative declaration (CND) for the proposed action. As shown in the comparison of No Build, Build, and Build with Improvements level of service results **Table K-25**, the proposed project would not result in significant adverse traffic impacts at the study area intersections during the three analyzed peak hours.

Table K-25
2017 No Build, Build, and Build with Improvements Conditions Level of Service Analysis
Signalized Intersections

Intersection	2017 No Build				2017 Build				2017 Build with Improvements			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Weekday AM Peak Hour												
Jackson Avenue & Davis Street												
Eastbound	L	0.42	10.5	B	L	0.47	11.8	B	L	0.48	12.5	B
	TR	0.66	14.8	B	TR	0.66	14.9	B	TR	0.67	15.7	B
Westbound	LTR	0.57	18.2	B	LTR	0.62	19.5	B	LTR	0.63	20.3	C
Northbound	LTR	0.45	45.1	D	LTR	0.48	46.7	D	LTR	0.46	45.0	D
Southbound	LTR	1.10	138.4	F	LTR	1.14	152.6	F	LTR	1.09	135.7	F
	Intersection		31.3	C	Intersection		33.6	C	Intersection		32.3	C
Weekday Midday Peak Hour												
Jackson Avenue & Davis Street												
Eastbound	L	0.32	9.4	A	L	0.34	9.9	A	L	0.35	10.4	B
	TR	0.62	13.8	B	TR	0.61	13.5	B	TR	0.62	14.2	B
Westbound	LTR	0.77	25.2	C	LTR	0.80	26.8	C	LTR	0.81	28.2	C
Northbound	LTR	0.36	42.4	D	LTR	0.39	43.3	D	LTR	0.37	41.9	D
Southbound	LTR	1.01	117.4	F	LTR	1.03	124.3	F	LTR	0.99	110.8	F
	Intersection		29.6	C	Intersection		31.1	C	Intersection		30.7	C
Weekday PM Peak Hour												
Jackson Avenue & Davis Street												
Eastbound	L	0.39	11.6	B	L	0.45	13.1	B	L	0.47	15.1	B
	TR	0.65	14.4	B	TR	0.62	13.7	B	TR	0.65	15.9	B
Westbound	LTR	0.76	24.1	C	LTR	0.78	25.1	C	LTR	0.82	28.8	C
Northbound	LTR	0.37	42.9	D	LTR	0.58	50.8	D	LTR	0.51	44.9	D
Southbound	LTR	1.11	141.8	F	LTR	1.25	197.6	F	LTR	1.10	136.3	F
	Intersection		33.1	C	Intersection		39.9	D	Intersection		35.9	D

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, LOS = Level of Service

G. TRANSIT

Mass transit options serving the study area are provided by the NYCT and include the E, G, M, and 7 subway lines at the Court Square – 23rd Street Station, and the B62, Q39, Q67, and Q69 bus routes. A detailed analysis of transit operations during the critical weekday AM and PM peak periods is presented below. During other time periods, background transit ridership and station utilization, as well as project trip generation, are comparatively lower. Hence, potential transit impacts were evaluated only for the weekday AM and PM peak periods.

TRANSIT STUDY AREAS

SUBWAY SERVICE

Below is a summary of subway lines that would most likely serve the project site. Subway lines serving stations further away are shown in the transit map (see **Figure K-31**) but are not included in the description below.

- The E subway line (8th Avenue Local) operates between Jamaica Center in Queens and the World Trade Center in Manhattan.
- The G subway line (Brooklyn – Queens Crosstown Local) operates between Court Square in Queens and Church Avenue in Brooklyn.
- The M subway line (Queens Boulevard Local/6th Avenue Local) operates between Forest Hills – 71st Avenue in Queens and Middle Village, Queens via Sixth Avenue in Manhattan and Broadway in Brooklyn.
- The 7 subway line (Flushing Local/Flushing Express) operates between Flushing – Main Street in Queens and Times Square in Manhattan.

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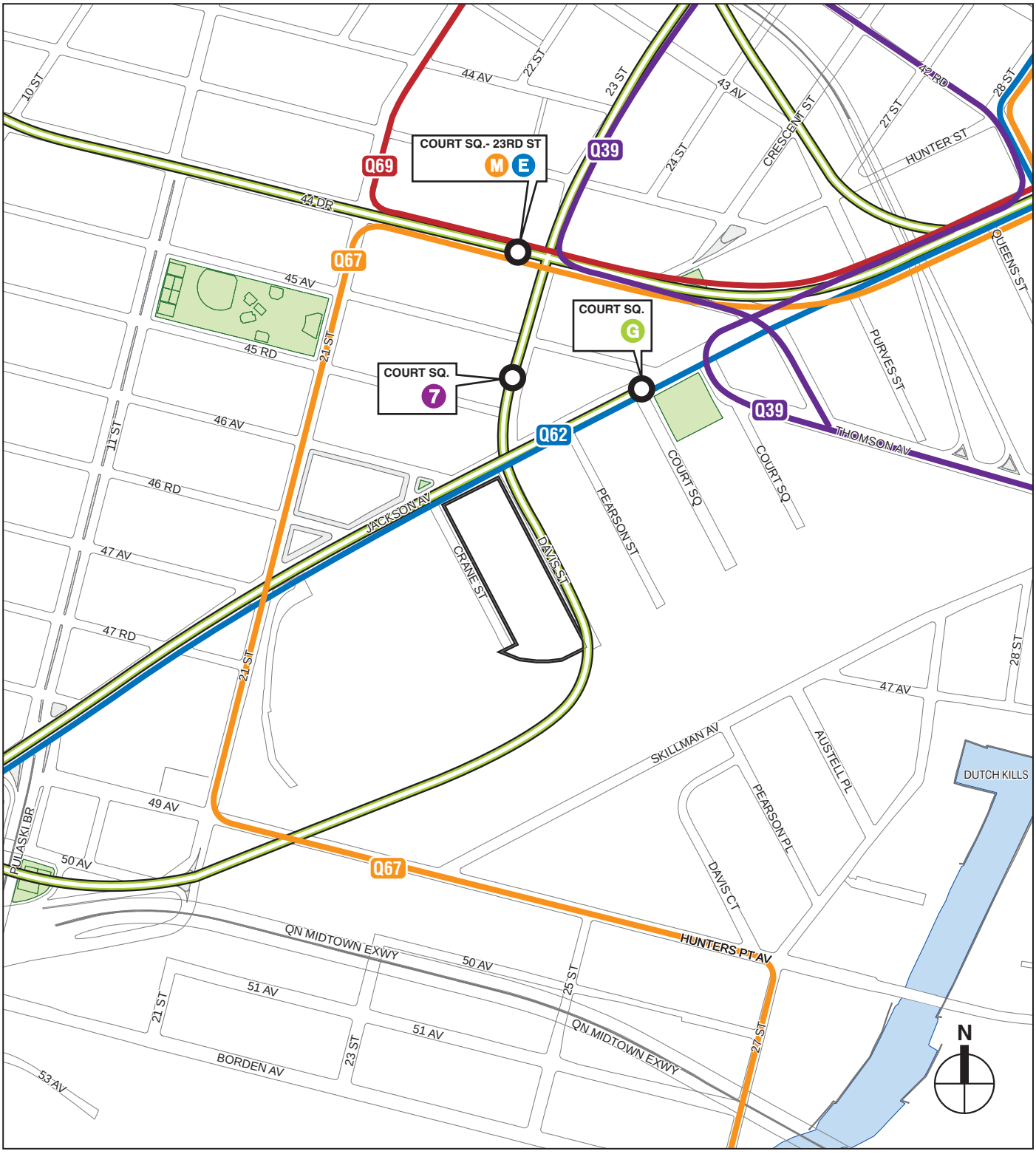


Project Site Boundary

Study Area Boundary (1/4-Mile Perimeter)

Off-Street Parking Facility

Subway Line

Bus Route

0 200 400 FEET

SCALE

22-44 JACKSON AVENUE

Transit

Figure K-31

2012 EXISTING CONDITIONS—SUBWAY STATION OPERATIONS

As presented in **Table K-7**, "Trip Generation Summary," the proposed development is expected to result in approximately 216 and 240 project-generated subway trips during the AM and PM peak hours, respectively. These trips were assigned to the Court Square Station complex and the corresponding station elements. Based on the results of the Level 2 Screening Assessment, the following station elements were identified for analysis:

- Station stairway (S3) at the southwest corner of Jackson Avenue and Court Square.
- Station stairways (S1A and S1B) at the north sidewalk on Jackson Avenue between 23rd Street and Pearson Street.
- Station stairway (S1) at the southwest corner of 23rd Street and 45th Road.

Field surveys conducted on October 11, 2012 during the hours of 7:00 to 9:00 AM and 4:00 to 6:00 PM provided the baseline volumes for the analysis of all of the subway station elements.

As shown in **Table K-26**, the analyzed stairways currently operate at acceptable levels during the weekday AM and PM peak periods at LOS A.

Table K-26
2012 Existing Conditions Subway Stairway Analysis

Stairway	Width (ft.)	Effective Width (ft.)	1-Hour Pedestrian Volumes		Surging Factor	Friction Factor	V/C Ratio	LOS
			Down	Up				
Court Square Station (E,G,M,7 Lines)								
Weekday AM Peak Hour								
Southwest Corner of Jackson Avenue and Court Square (S3)	5.6	4.6	91	492	0.90	0.90	0.32	A
Jackson Avenue between 23rd Street and Pearson Street - North Sidewalk (S1A, S1B)	7.2	6.0	502	67	0.90	0.90	0.22	A
23rd Street and 45th Road - Southwest Corner (S1)	4.5	3.5	404	150	0.90	0.90	0.32	A
Weekday PM Peak Hour								
Southwest Corner of Jackson Avenue and Court Square (S3)	5.6	4.6	358	171	0.90	0.90	0.26	A
Jackson Avenue between 23rd Street and Pearson Street - North Sidewalk (S1A, S1B)	7.2	6.0	109	365	0.90	0.90	0.18	A
23rd Street and 45th Road - Southwest Corner (S1)	4.5	3.5	156	364	0.90	0.90	0.36	A

Notes:
Capacities were calculated based on rates presented in the 2012 *CEQR Technical Manual*.
Surging factors are only applied to the exiting pedestrian volume (2012 *CEQR Technical Manual*).
V/C = [Vin / (150 * We * Sf * Ff)]+ [Vx/ (150 * We * Sf * Ff)]
Where
Vin = Peak 15-minute entering passenger volume
Vx = Peak 15-minute exiting passenger volume
We = Effective width of stairs
Sf = Surging factor (if applicable)
Ff = Friction factor (if applicable)

THE FUTURE WITHOUT THE PROPOSED ACTION—SUBWAY STATION OPERATIONS

Estimates of peak hour transit volumes in the 2017 No Build condition were developed by applying the *CEQR Technical Manual* recommended annual background growth rates. As per *CEQR* guidelines, an annual compounded background growth rate of 0.25 percent was applied to the transit volumes from 2012 to 2017. In addition, trips associated with No Build projects in the study area were incorporated into the No Build transit volumes (see **Figure K-24** and **Table K-19**).

The No Build peak period volume projections were allocated to the transit analysis elements described above. As shown in **Table K-27**, the analyzed stairways would continue to operate at acceptable levels in the No Build condition.

Table K-27
2017 No Build Condition Subway Stairway Analysis

Stairway	Width (ft.)	Effective Width (ft.)	1-Hour Pedestrian Volumes		Surging Factor	Friction Factor	V/C Ratio	LOS
			Down	Up				
Court Square Station (E,G,M,7 Lines)								
Weekday AM Peak Hour								
Southwest Corner of Jackson Avenue and Court Square (S3)	5.6	4.6	516	615	0.90	0.90	0.60	B
Jackson Avenue between 23rd Street and Pearson Street - North Sidewalk (S1A, S1B)	7.2	6.0	933	185	0.90	0.90	0.44	A
23rd Street and 45th Road - Southwest Corner (S1)	4.5	3.5	833	269	0.90	0.90	0.63	B
Weekday PM Peak Hour								
Southwest Corner of Jackson Avenue and Court Square (S3)	5.6	4.6	588	573	0.90	0.90	0.57	B
Jackson Avenue between 23rd Street and Pearson Street - North Sidewalk (S1A, S1B)	7.2	6.0	335	770	0.90	0.90	0.42	A
23rd Street and 45th Road - Southwest Corner (S1)	4.5	3.5	383	769	0.90	0.90	0.80	C

Notes:
Capacities were calculated based on rates presented in the 2012 *CEQR Technical Manual*.
Surging factors are only applied to the exiting pedestrian volume (2012 *CEQR Technical Manual*).
V/C = [Vin / (150 * We * Sf * Ff)]+ [Vx/ (150 * We * Sf * Ff)]
Where
Vin = Peak 15-minute entering passenger volume
Vx = Peak 15-minute exiting passenger volume
We = Effective width of stairs
Sf = Surging factor (if applicable)
Ff = Friction factor (if applicable)

FUTURE WITH THE PROPOSED ACTION—SUBWAY STATION OPERATIONS

The 216 (43 in and 173 out) AM peak hour and 240 (156 in and 84 out) PM peak hour project-generated subway trips were assigned to the Court Square Station complex and their corresponding station elements.

All the analyzed station stairways are expected to operate at acceptable levels in the Build condition. As shown in **Table K-28**, the stairway at the southwest corner of 23rd Street and 45th Road would operate at LOS D with a v/c ratio of 1.06 in the PM peak period. Compared with the No Build service levels (LOS C, v/c ratio of 0.90), the WIT for this stairway was calculated to be 3.72 inches, which is less than the *CEQR Technical Manual* WIT impact threshold of 8.0 inches (for stairway v/c ratios of 1.00 to 1.09 in the Build condition; see **Table K-13**), hence not constituting a significant adverse impact under CEQR.

Based on the transit analysis of the Court Square Station complex, no potentially significant adverse impacts at the station elements were identified during the peak analysis periods.

Table K-28
2017 Build Condition Subway Stairway Analysis

Stairway	Width (ft.)	Effective Width (ft.)	1-Hour Pedestrian Volumes		Surging Factor	Friction Factor	V/C Ratio	LOS
			Down	Up				
Court Square Station (E,G,M,7 Lines)								
Weekday AM Peak Hour								
Southwest Corner of Jackson Avenue and Court Square (S3)	5.6	4.6	595	636	0.90	0.90	0.65	B
Jackson Avenue between 23rd Street and Pearson Street - North Sidewalk (S1A, S1B)	7.2	6.0	1,012	206	0.90	0.90	0.48	B
23rd Street and 45th Road - Southwest Corner (S1)	4.5	3.5	912	290	0.90	0.90	0.69	B
Weekday PM Peak Hour								
Southwest Corner of Jackson Avenue and Court Square (S3)	5.6	4.6	630	647	0.90	0.90	0.73	C
Jackson Avenue between 23rd Street and Pearson Street - North Sidewalk (S1A, S1B)	7.2	6.0	377	844	0.90	0.90	0.58	B
23rd Street and 45th Road - Southwest Corner (S1)	4.5	3.5	425	843	0.90	0.90	1.06	D

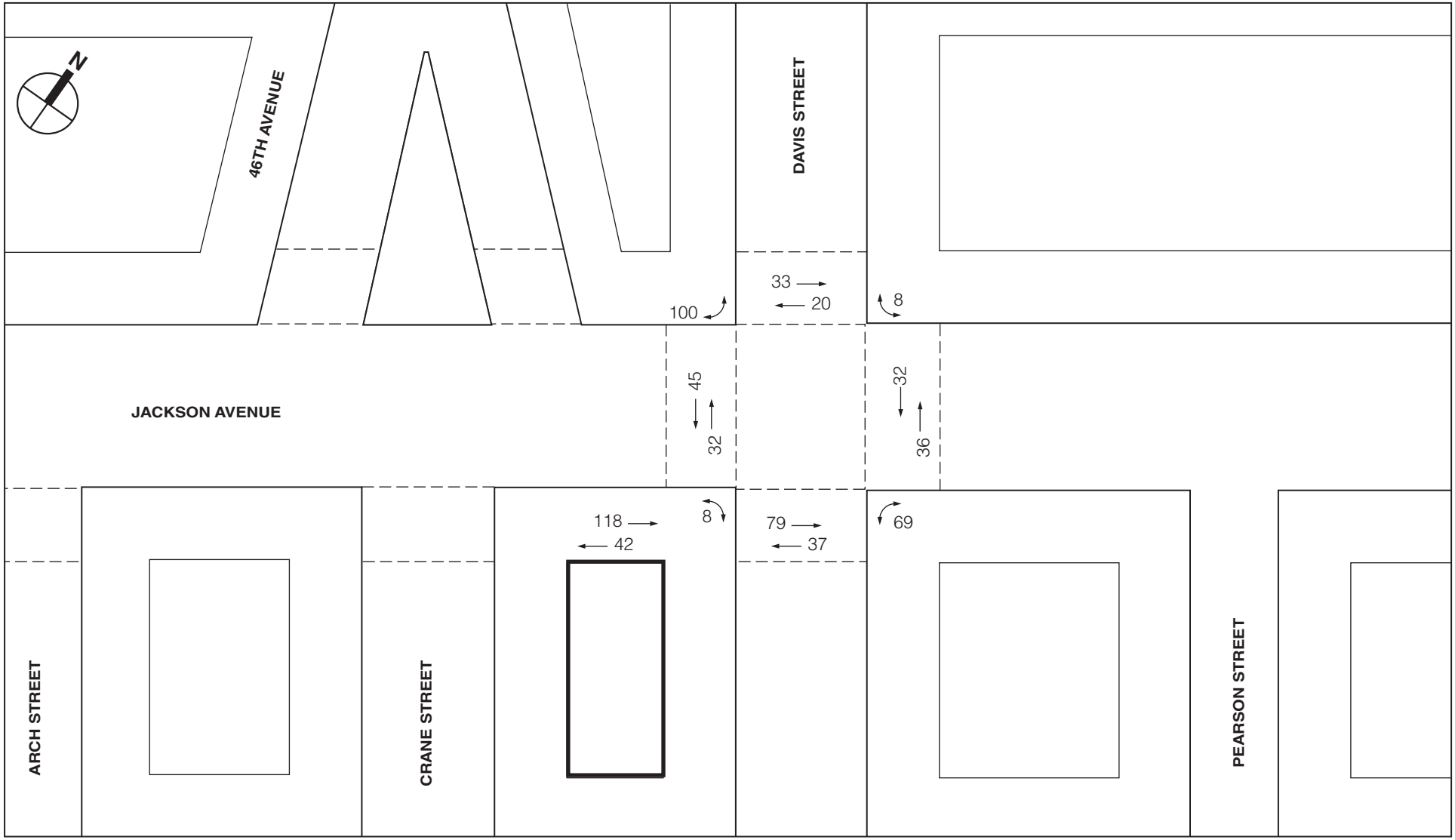
Notes:
Capacities were calculated based on rates presented in the 2012 *CEQR Technical Manual*.
Surging factors are only applied to the exiting pedestrian volume (2012 *CEQR Technical Manual*).
V/C = [Vin / (150 * We * Sf * Ff)]+ [Vx/ (150 * We * Sf * Ff)]
Where
Vin = Peak 15-minute entering passenger volume
Vx = Peak 15-minute exiting passenger volume
We = Effective width of stairs
Sf = Surging factor (if applicable)
Ff = Friction factor (if applicable)

H. PEDESTRIANS

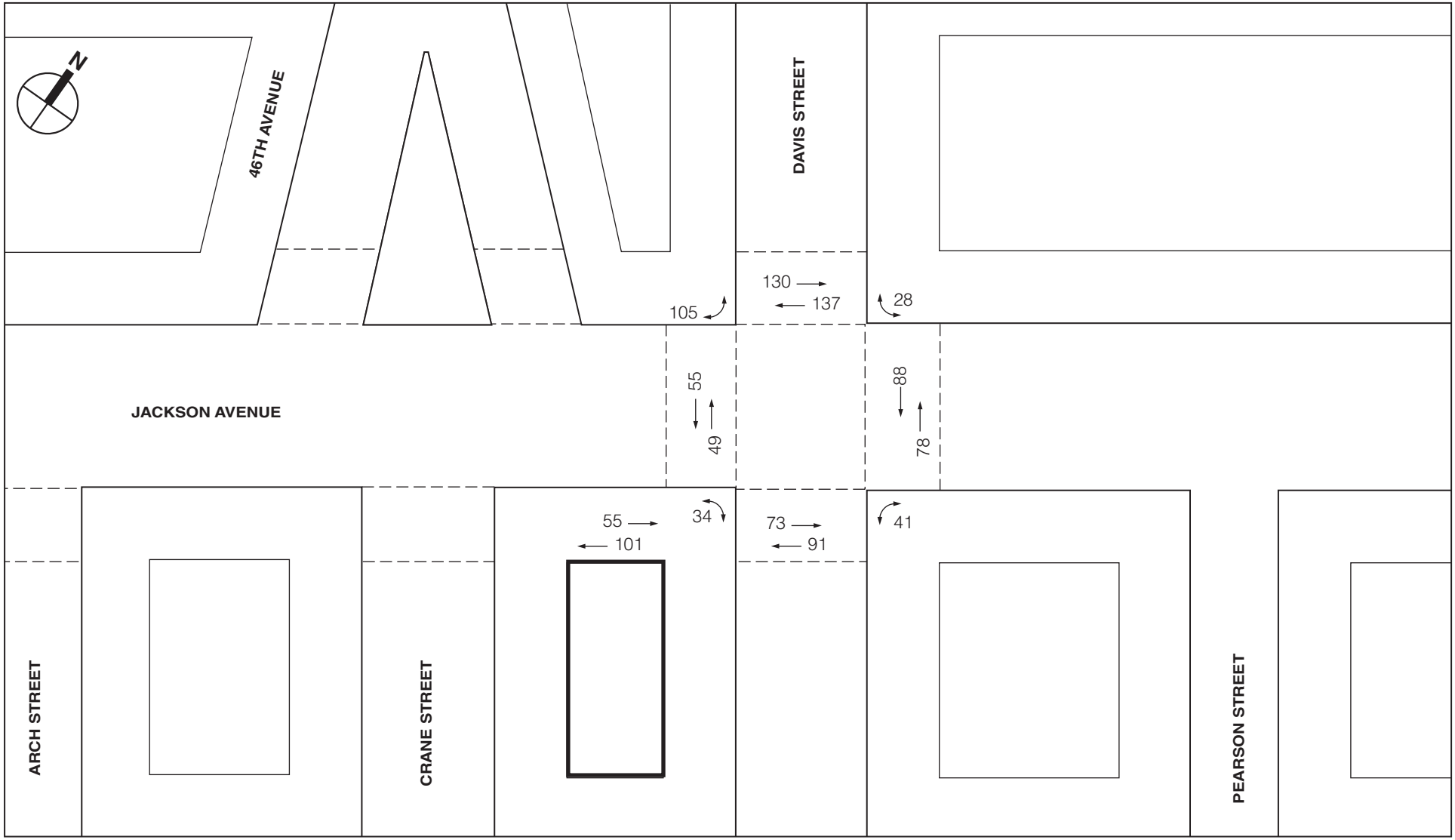
2012 EXISTING CONDITIONS

Pedestrian data were collected on October 10 and October 11, 2012 at key locations near the project site during the weekday hours of 7:00 AM to 9:00 AM, 12:00 PM to 2:00 PM, and 4:00 PM to 6:00 PM.

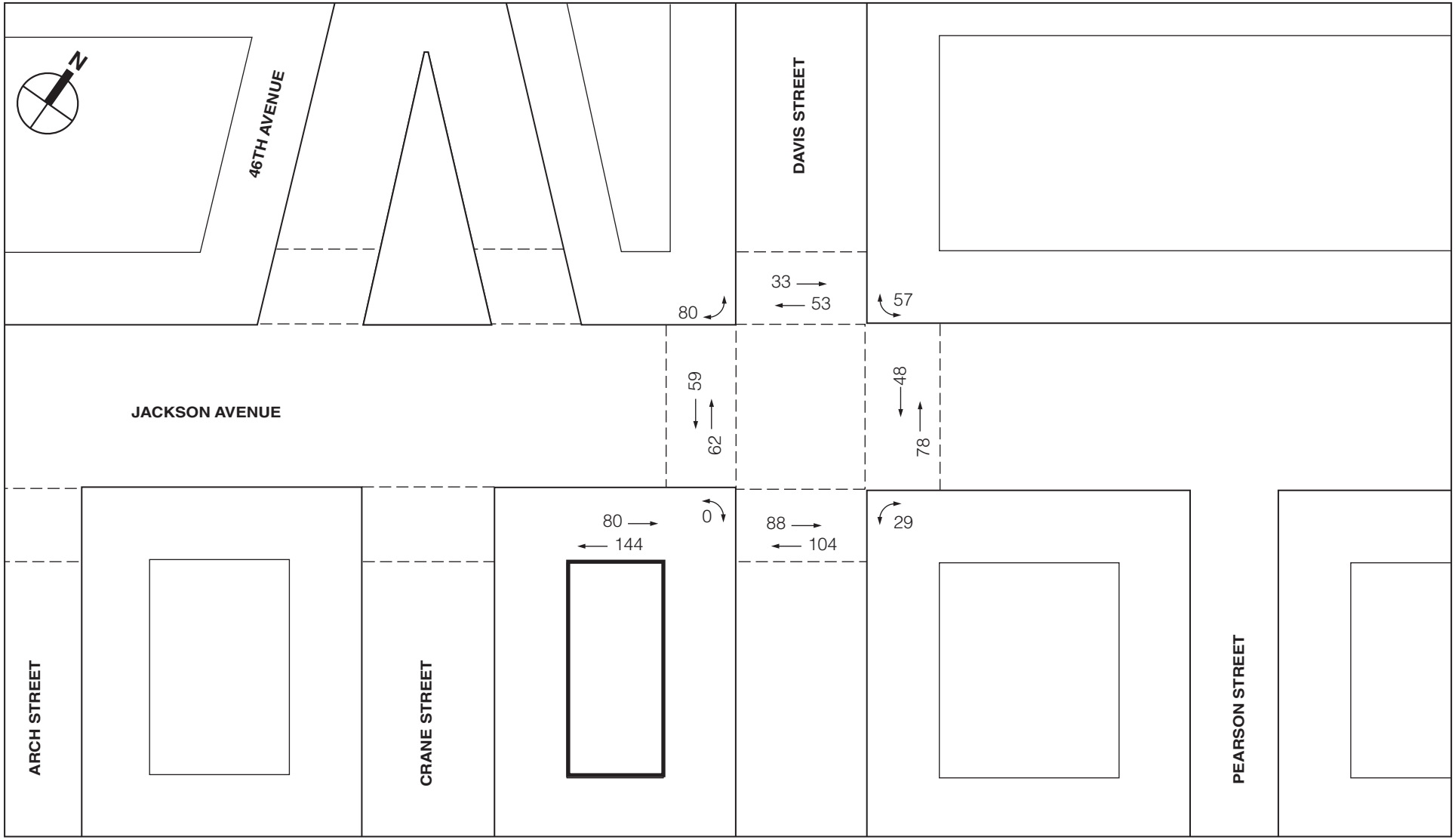
Peak hours were determined by comparing rolling hourly averages and the highest 15-minute volumes within the selected peak hours (see **Figures K-32** to **K-34**). As shown in **Tables K-29**



2012 Existing Pedestrian Trips
Weekday AM Peak Hour
Figure K-32



2012 Existing Pedestrian Trips
Weekday Midday Peak Hour
Figure K-33



2012 Existing Pedestrian Trips
Weekday PM Peak Hour
Figure K-34

to **K-31**, all the sidewalk, corner reservoir, and crosswalk analysis locations operate acceptably at mid-LOS D or better (maximum of 8.5 PMF platoon flows for sidewalks; minimum of 19.5 SFP for corners and crosswalks) in the existing conditions.

Table K-29
2012 Existing Conditions: Sidewalk Analysis

Intersection No.	Location	Sidewalk	Effective Width (ft)	1-Hour Two-Way Volume	Platoon Flow	
					PMF	LOS
AM Peak Period						
1	Jackson Avenue between Davis Street and Crane Street	South	9.0	160	0.37	A
Midday Peak Period						
1	Jackson Avenue between Davis Street and Crane Street	South	9.0	156	0.36	A
PM Peak Period						
1	Jackson Avenue between Davis Street and Crane Street	South	9.0	224	0.50	A
Note: PMF = pedestrians per minute per foot						

Table K-30
2012 Existing Conditions: Corner Analysis

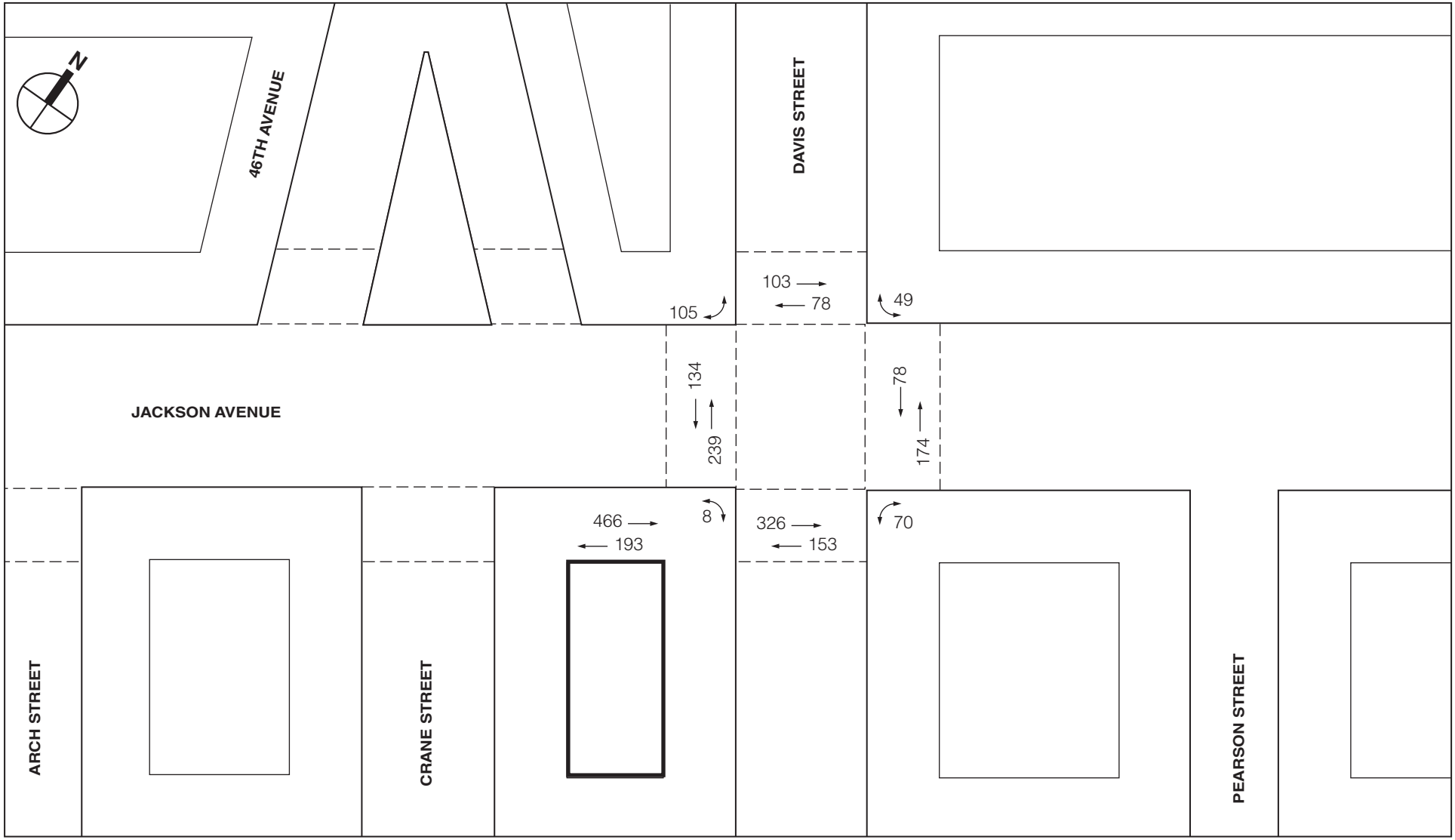
Intersection No.	Location	Corner	AM Peak Period		Midday Peak Period		PM Peak Period	
			SFP	LOS	SFP	LOS	SFP	LOS
1	Jackson Avenue and Davis Street / 23rd Street	Southwest	973.2	A	667.0	A	609.1	A
		Southeast	729.2	A	510.4	A	539.6	A
Note: SFP = square feet per pedestrian								

Table K-31
2012 Existing Conditions: Crosswalk Analysis

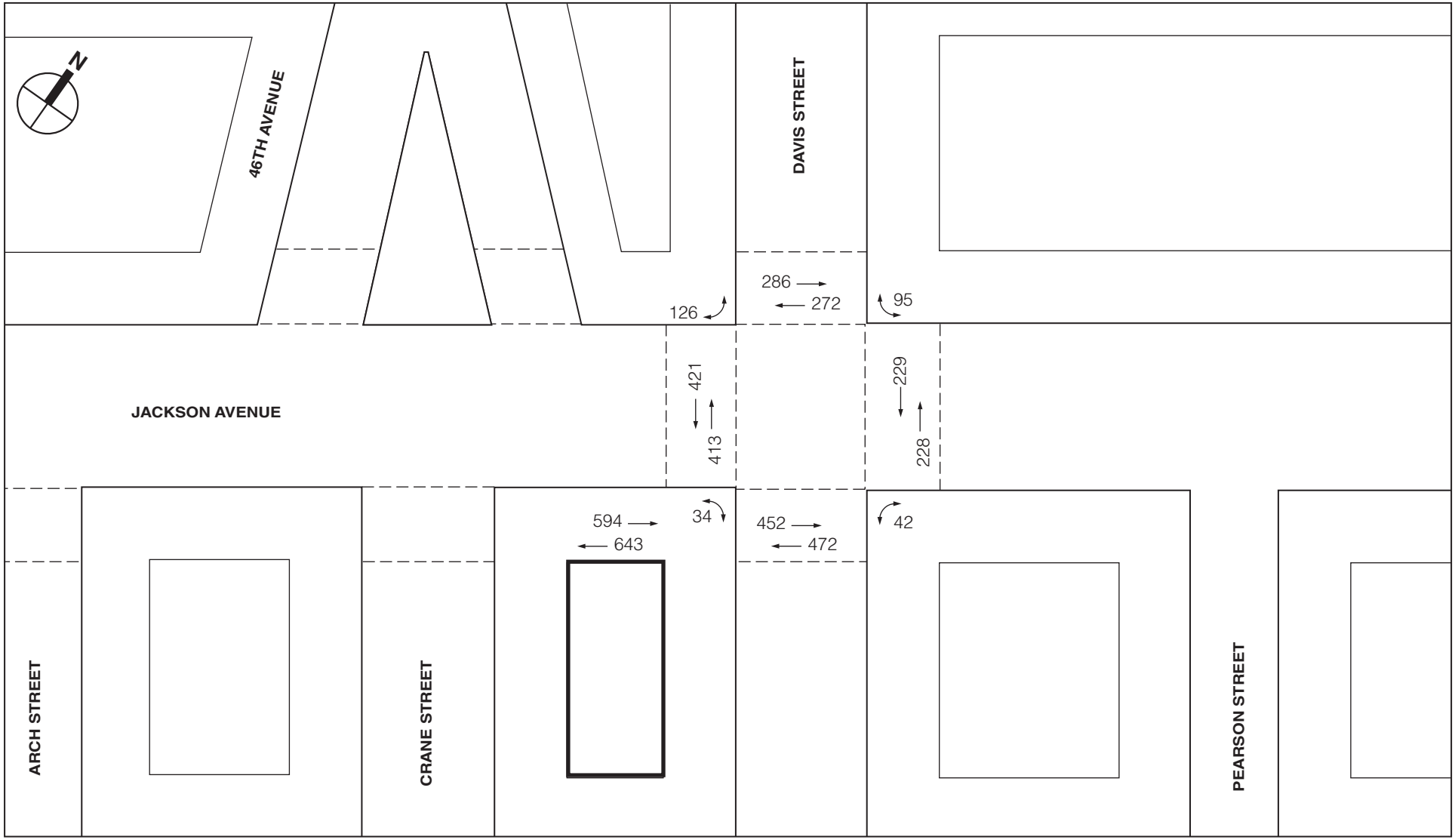
Intersection No.	Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	Conditions with conflicting vehicles								
					AM			Midday			PM		
					2-way Volume	SFP	LOS	2-way Volume	SFP	LOS	2-way Volume	SFP	LOS
1	Jackson Avenue and Davis Street / 23rd Street	South	30.0	15.0	116	471.1	A	164	330.7	A	192	287.4	A
Note: SFP = square feet per pedestrian													

THE FUTURE WITHOUT THE PROPOSED ACTION

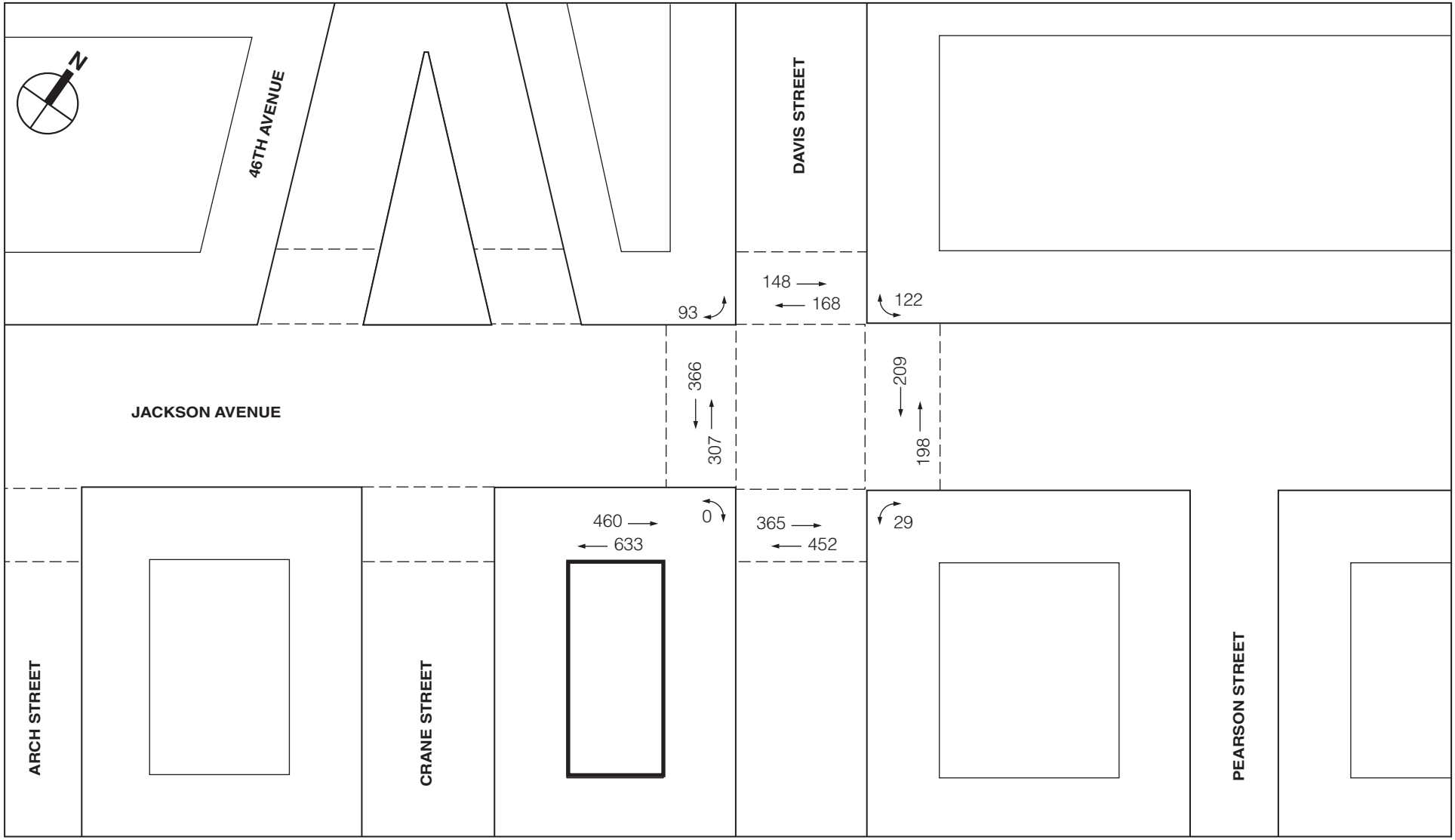
No Build pedestrian volumes were estimated by increasing existing pedestrian levels to reflect expected growth in overall travel through and within the study area. As per CEQR guidelines, an annual background growth rate of 0.25 percent was assumed for the five years between 2012 and 2017. Pedestrian volumes from anticipated projects in the study area were also added to arrive at the 2017 No Build pedestrian volumes **(**see **Figures K-35** to **K-37**). As shown in **Tables K-32** to **K-34**, all the sidewalk, corner reservoir, and crosswalk analysis locations will continue to operate at acceptable mid-LOS D or better (maximum of 8.5 PMF platoon flows for sidewalks; minimum of 19.5 SFP for corners and crosswalks), or at the same LOS as in the existing conditions.



2017 No Build Pedestrian Trips
Weekday AM Peak Hour
Figure K-35



2017 No Build Pedestrian Trips
Weekday Midday Peak Hour
Figure K-36



2017 No Build Pedestrian Trips
Weekday PM Peak Hour
Figure K-37

Table K-32
2017 No Build Condition: Sidewalk Analysis

Intersection No.	Location	Sidewalk	Effective Width (ft)	1-Hour Two-Way Volume	Platoon Flow	
					PMF	LOS
AM Peak Period						
1	Jackson Avenue between Davis Street and Crane Street	South	9.0	659	1.53	B
Midday Peak Period						
1	Jackson Avenue between Davis Street and Crane Street	South	9.0	1237	2.86	B
PM Peak Period						
1	Jackson Avenue between Davis Street and Crane Street	South	9.0	1093	2.42	B
Note: PMF = pedestrians per minute per foot						

Table K-33
2017 No Build Condition: Corner Analysis

Intersection No.	Location	Corner	AM Peak Period		Midday Peak Period		PM Peak Period	
			SFP	LOS	SFP	LOS	SFP	LOS
1	Jackson Avenue and Davis Street / 23rd Street	Southwest	208.0	A	97.5	A	115.0	A
		Southeast	217.7	A	122.2	A	139.7	A
Note: SFP = square feet per pedestrian								

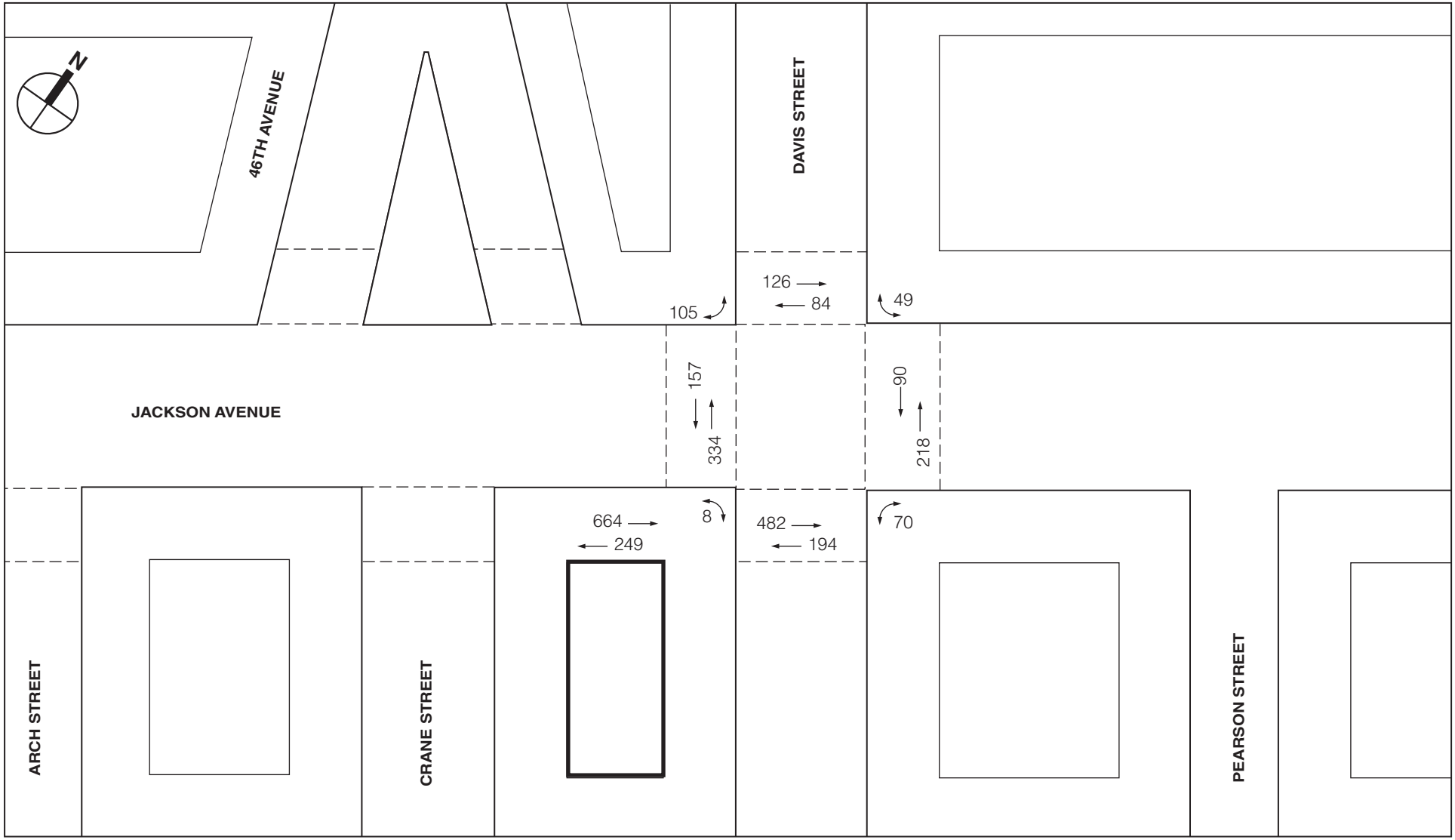
Table K-34
2017 No Build Condition: Crosswalk Analysis

Intersection No.	Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	Conditions with conflicting vehicles								
					AM			Midday			PM		
					2-way Volume	SFP	LOS	2-way Volume	SFP	LOS	2-way Volume	SFP	LOS
1	Jackson Avenue and Davis Street / 23rd Street	South	30.0	15	479	107.8	A	924	53.2	B	817	61.0	A
Note: SFP = square feet per pedestrian													

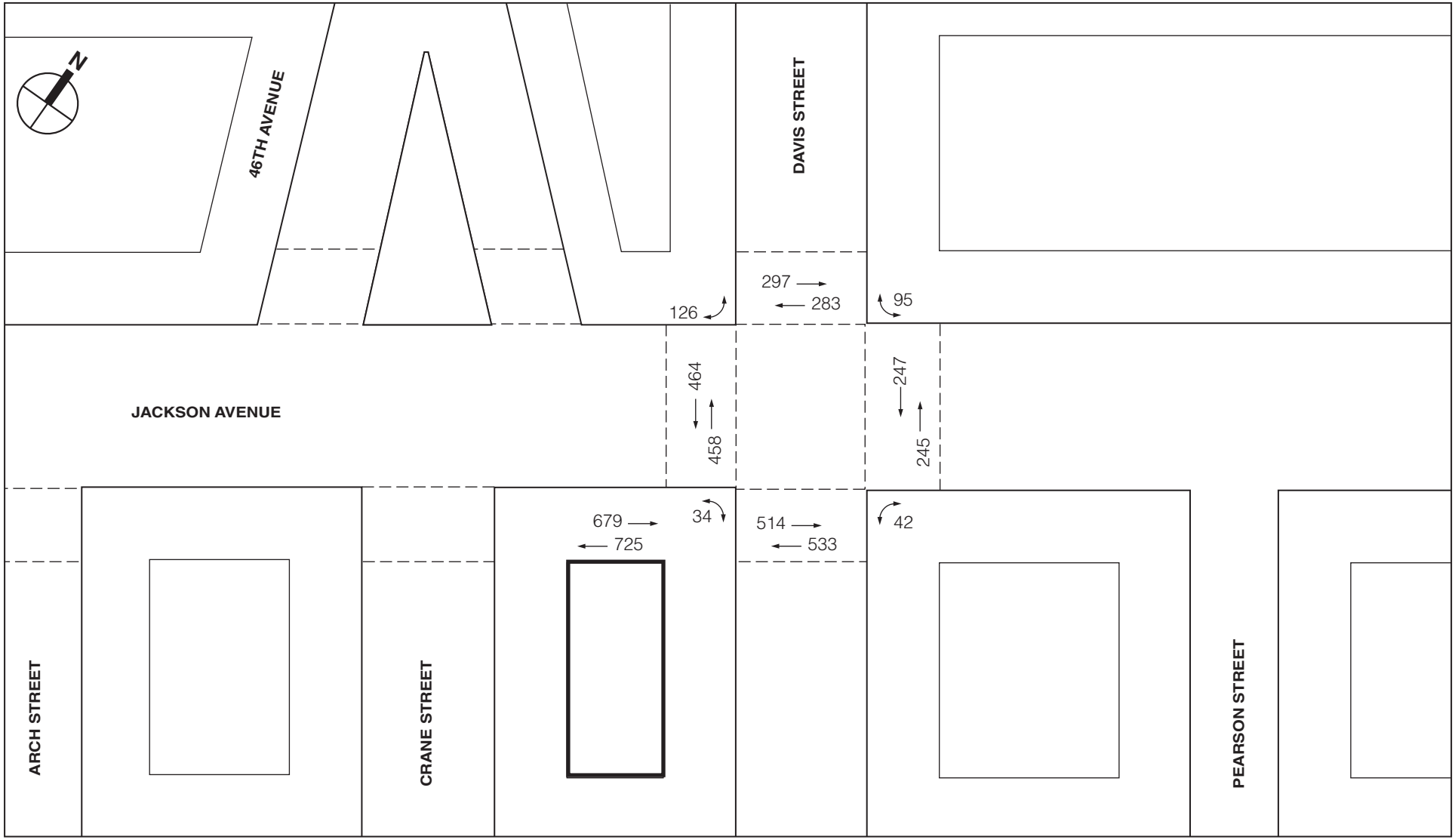
FUTURE WITH THE PROPOSED ACTION

The project-generated pedestrian volumes were assigned to the pedestrian network considering current land uses in the area, nearby parking locations, available transit services, and surrounding pedestrian facilities. Based on the "Level 2 Screening Assessment," peak 15-minute incremental pedestrian volumes were developed by dividing the hourly incremental volumes by four and accounting for peaking characteristics within the peak hours. These pedestrian volumes were added to the projected 2017 No Build volumes to generate the 2017 Build pedestrian volumes for analysis (see **Figures K-38** to **K-40**).

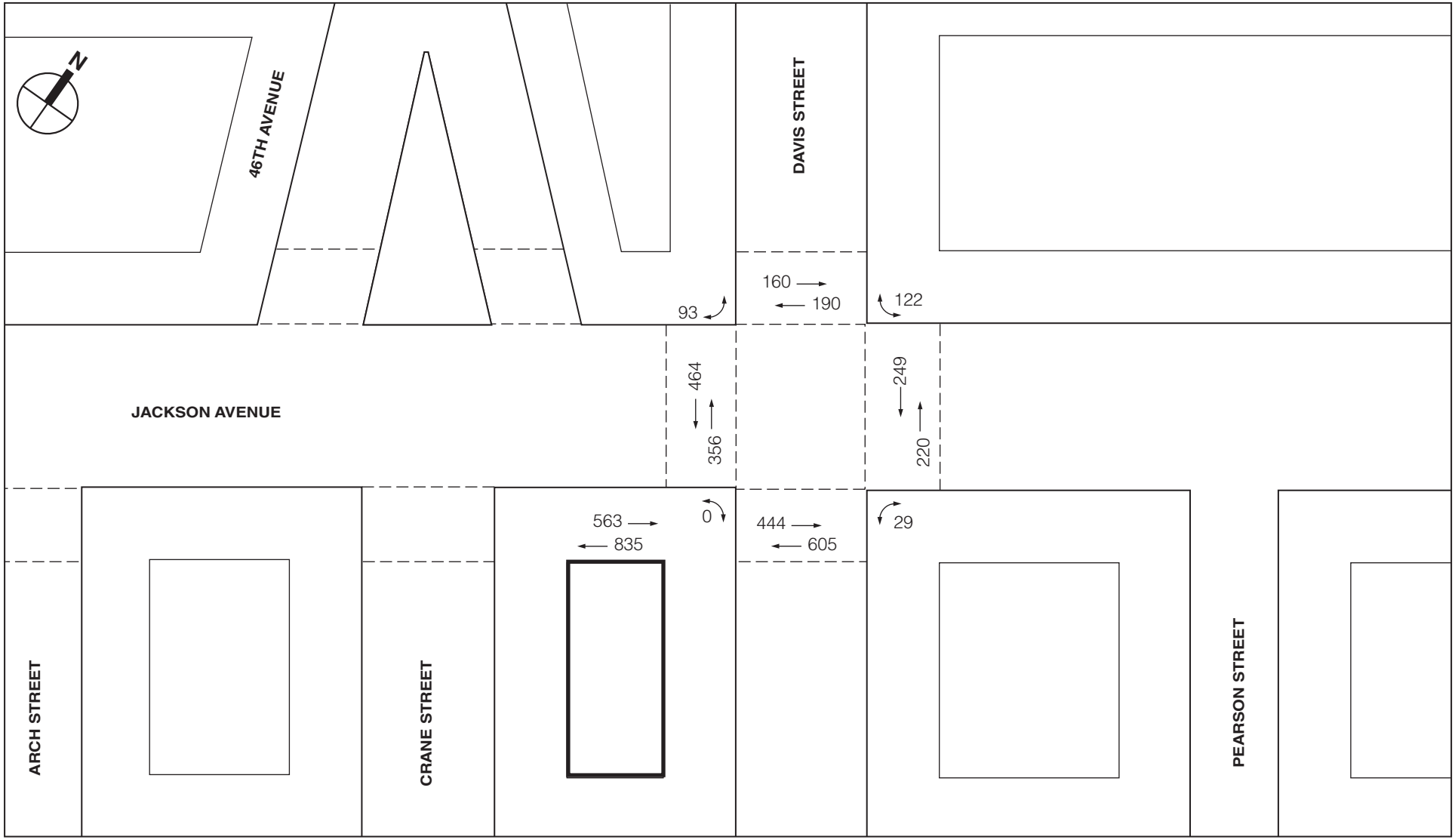
As shown in **Tables K-35** to **K-37**, all the sidewalk, corner reservoir, and crosswalk analysis locations would continue to operate acceptably at mid-LOS D or better (maximum of 8.5 PMF platoon flows for sidewalks; minimum of 19.5 SFP for corners and crosswalks) in the Build condition.



2017 Build Pedestrian Trips
Weekday AM Peak Hour
Figure K-38



2017 Build Pedestrian Trips
Weekday Midday Peak Hour
Figure K-39



2017 Build Pedestrian Trips
Weekday PM Peak Hour
Figure K-40

Table K-35
2017 Build Condition: Sidewalk Analysis

Intersection No.	Location	Sidewalk	Effective Width (ft)	1-Hour Two-Way Volume	Platoon Flow	
					PMF	LOS
AM Peak Period						
1	Jackson Avenue between Davis Street and Crane Street	South	9.0	913	2.11	B
Midday Peak Period						
1	Jackson Avenue between Davis Street and Crane Street	South	9.0	1404	3.25	C
PM Peak Period						
1	Jackson Avenue between Davis Street and Crane Street	South	9.0	1398	3.10	A
Note: PMF = pedestrians per minute per foot						

Table K-36
2017 Build Condition: Corner Analysis

Intersection No.	Location	Corner	AM Peak Period		Midday Peak Period		PM Peak Period	
			SFP	LOS	SFP	LOS	SFP	LOS
1	Jackson Avenue and Davis Street / 23rd Street	Southwest	145.4	A	85.4	A	89.5	A
		Southeast	162.3	A	108.8	A	110.8	A
Note: SFP = square feet per pedestrian								

Table K-37
2017 Build Condition: Crosswalk Analysis

Intersection No.	Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	Conditions with conflicting vehicles								
					AM			Midday			PM		
					2-way Volume	SFP	LOS	2-way Volume	SFP	LOS	2-way Volume	SFP	LOS
1	Jackson Avenue and Davis Street / 23rd Street	South	30.0	15.0	676	73.6	A	1047	46.3	B	1049	46.7	B
Note: SFP = square feet per pedestrian													

In addition, as shown in **Tables K-38** to **K-39**, with the proposed project improvements at the intersection of Jackson Avenue and Davis Street/23rd Street in place (see Section F, "Traffic" above), all the sidewalk, corner reservoir, and crosswalk analysis locations would continue to operate acceptably at mid-LOS D or better (maximum of 8.5 PMF platoon flows for sidewalks; minimum of 19.5 SFP for corners and crosswalks) in the Build condition.

Table K-38
2017 Build with Improvements Condition: Corner Analysis

Intersection No.	Location	Corner	AM Peak Period		Midday Peak Period		PM Peak Period	
			SFP	LOS	SFP	LOS	SFP	LOS
1	Jackson Avenue and Davis Street / 23rd Street	Southwest	146.3	A	86.1	A	90.2	A
		Southeast	163.0	A	109.3	A	111.3	A
Note: SFP = square feet per pedestrian								

Table K-39
2017 Build with Improvements Condition: Crosswalk Analysis

Intersection No.	Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	Conditions with conflicting vehicles								
					AM			Midday			PM		
					2-way Volume	SFP	LOS	2-way Volume	SFP	LOS	2-way Volume	SFP	LOS
1	Jackson Avenue and Davis Street / 23rd Street	South	30.0	15.0	676	73.6	A	1047	46.3	B	1049	46.7	B

Note: SFP = square feet per pedestrian

I. VEHICULAR AND PEDESTRIAN SAFETY

Accident data for the study area intersections were obtained from the New York State Department of Transportation (NYSDOT) for the time period between July 1, 2008 and June 30, 2011. The data obtained quantify the total number of reportable accidents (involving fatality, injury, or more than $1,000 in property damage), fatalities, and injuries during the study period, as well as a yearly breakdown of pedestrian- and bicycle-related accidents at each location. According to the *CEQR Technical Manual*, a high accident location is one where there were five or more pedestrian/bicyclist-related accidents or 48 or more reportable and non-reportable accidents in any consecutive 12 months within the most recent 3-year period for which data are available.

During the July 2008 to June 2011 3-year period, a total of 62 reportable and non-reportable accidents, zero fatalities, 45 injuries, and 13 pedestrian/bicyclist-related accidents occurred at the study area intersections. A rolling total of accident data identifies no study area intersections as high pedestrian accident locations in the 2008 to 2011 period. **Table K-40** depicts total accident characteristics by intersection during the study period, as well as a breakdown of pedestrian and bicycle accidents by year and location.

Table K-40
Accident Summary

Intersection		Study Period						Accidents by Year							
North-South Roadway	East-West Roadway	All Accidents by Year				Total Fatalities	Total Injuries	Pedestrian				Bicycle			
		2008	2009	2010	2011			2008	2009	2010	2011	2008	2009	2010	2011
Jackson Avenue	21st Street	6	6	2	4		17				1				
Jackson Avenue	46th Road				1		3								
Jackson Avenue	Crane Street		3	2			1		1						
Jackson Avenue	Davis/23rd Street		6	5	2		8		3	1					1
23rd Street	45th Road														
23rd Street	45th Ave		5	1	2		4		1	1					
Jackson Avenue	Pearson Street			2											
Jackson Avenue	Court Square		1		1		1				1				
Jackson Avenue	Thomson Ave														
Jackson Avenue	44th Drive	2	6	3	2		11		1				1		1

Note: Bold intersections are high pedestrian accident locations.
Source: NYSDOT July1, 2008 and June 30, 2011 accident data.

During the review of this attachment by DCP and NYCDOT, additional analysis was requested for any potential safety issues related to the existing 25-space MTA bus parking layover facility that is located across Crane Street from the site of the proposed project.

The Crane Street express bus parking facility provides an afternoon layover facility for express buses that serve commuters to Manhattan in the morning and evening peak hours. The buses generally enter between 8AM and 10AM after the commuter runs into Manhattan and remain there until 2:30 PM or so when they start to depart for the evening commute. Nearly all the buses have exited by 5 PM. Thus, there is limited, if any, overlap with project-generated traffic during the weekday morning, midday, and evening peak periods that would potentially conflict with the project-generated trips entering and exiting the proposed garage. Field work performed on Tuesday, March 5, 2013 between 2PM and 5PM observed up to 11 buses departing the facility between the hours of 3PM and 4PM. It was also observed that no more than 5 buses leave at the same time. In addition to the observations, MTA personnel at the facility indicated that up to 25 buses per day use the facility and not all depart or arrive at the same time. The departure time depends on the location and time of their first stop in the evening. However, by 5PM no more than 6 buses were observed at the facility. Based on these field observations, about one bus exits the facility every six minutes between 3PM and 4PM. As presented in **Figure K-9**, about 15 vehicles exit the proposed garage via the Crane Street driveway during the weekday PM peak hour, or about one vehicle trip every 4 minutes. Based on these assumed conservative frequencies of bus and project-generated vehicle departures, there would be very limited and infrequent overlap between an exiting bus or project-generated vehicle. Buses arriving in the AM would also make right turns into the facility and not conflict at all with garage vehicles. Finally, Crane Street is also a dead end street and carries very little traffic even with the project-generated vehicles. Therefore, given the differing peak hours between the operation of the garage and bus facility, the turning movements, and limited baseline traffic, there would be no traffic safety issues of concern between the operation of the proposed garage and existing bus facility.

Project-generated pedestrian activity would also be limited to the north sidewalk of Crane Street and the major project pedestrian entrances are proposed to be located west of the project driveway (see **Figure A-2** in Attachment A, "Project Description"). As also stated on page A-7, the garage driveway would have all the necessary signals to alert pedestrians as to outgoing vehicles. Therefore, the proposed driveway location would not result in any pedestrian safety concerns.

J. PARKING

2012 EXISTING CONDITIONS

An inventory of on- and off-street parking within a ¼ mile of the project site was conducted in June 2011. The on-street survey involved recording curbside regulations and performing general observations of daytime utilization. The off-street survey provided an inventory of the area's public parking facilities and their legal capacities and daytime utilization.

ON-STREET PARKING

- Curbside parking regulations within a ¼ mile of the project site are illustrated in **Figure K-41** and summarized in **Table K-41**. The curbside regulations in the area generally include limited one- or two-hour metered parking, no standing or no parking anytime except authorized vehicles, and commercial parking regulations. Based on field observations, on-street parking in the area is generally at or near full utilization during weekday daytime hours with limited metered parking spaces available along Jackson Avenue.

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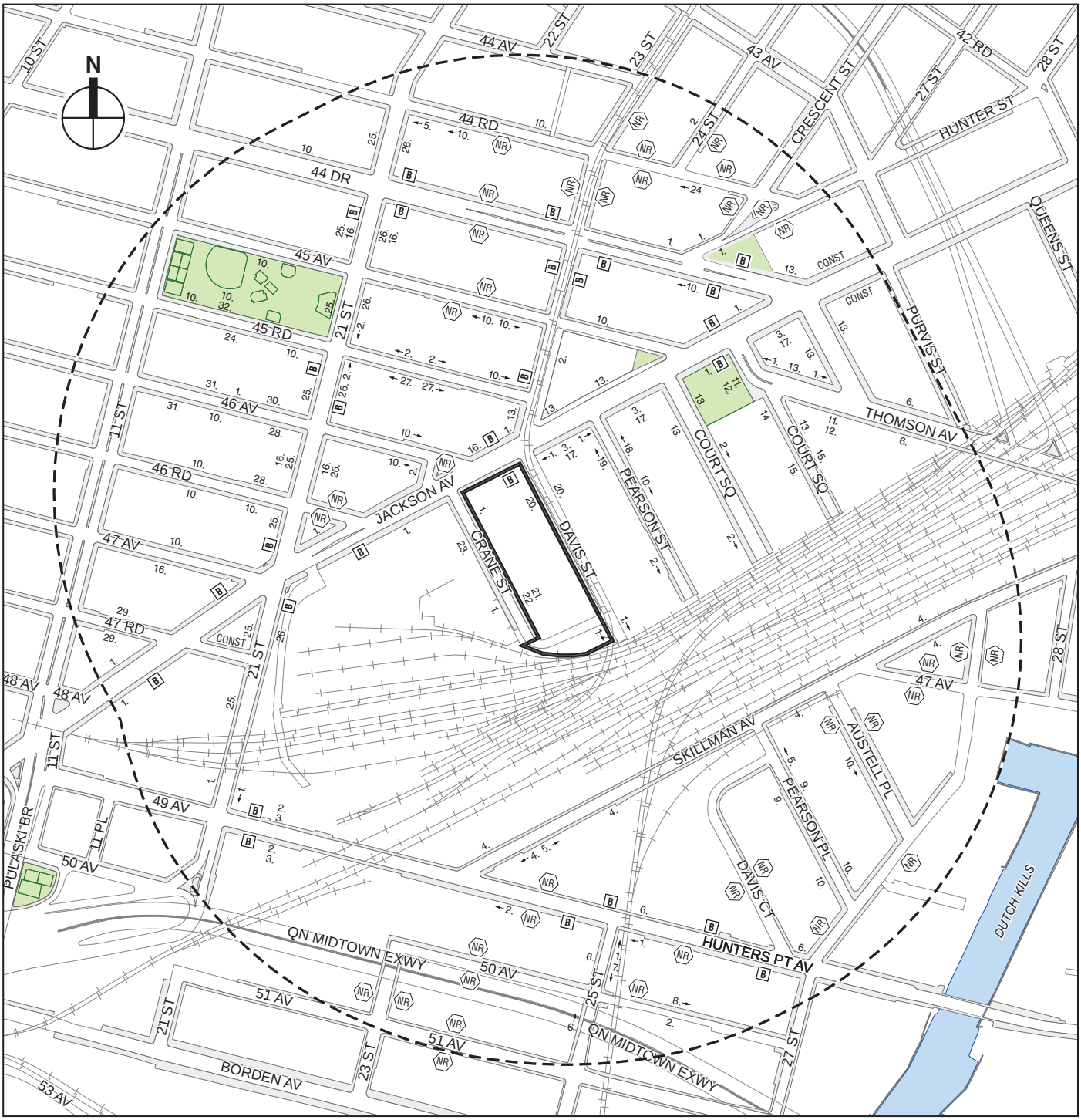

0 200 400 FEET

SCALE

Project Site Boundary

Study Area Boundary (1/4-Mile Perimeter)

1. *On-Street Parking Regulation (See Table H-21 for reference)*

NR *No Regulation*

B *Bus Stop*

On-Street Parking Regulations

Figure K-41

Table K-41
On-Street Parking Regulations

No.	Regulation	No.	Regulation
1	No Standing Anytime	17	1 Hour Metered Parking 10AM-4PM Except Sunday
2	No Parking Anytime	18	No Standing Except Trucks Loading & Unloading 9AM-7PM Except Sunday
3	No Standing 7AM-10AM, 4PM-7PM Except Sunday	19	No Standing Except Authorized Vehicles Taxi/FHV Relief Stand, 1 Hour
4	12 Hour Metered Parking 7AM-7PM Except Sunday	20	No Parking 7AM-7PM Monday - Friday
5	No Parking 7AM-4PM - School Days	21	No Standing 7AM-10 AM, 3PM-7PM Monday – Friday
6	No Stopping Anytime	22	No Standing Except Trucks Loading & Unloading 10 AM-3PM, Monday – Friday
7	No Standing 7AM-7PM Monday-Friday Except Authorized Vehicles (Housing Authority)	23	No Standing Except Trucks Loading & Unloading 10 PM-10AM
8	No Parking 8AM-7PM Monday - Friday	24	No Standing Except Trucks Loading & Unloading 7 AM-5PM, Monday – Friday
9	No Standing Except Authorized Vehicles 8AM-6PM Monday-Friday (Police Vehicles)	25	No Parking 2AM-5AM, Monday & Thursday
10	No Parking 8AM-6PM Monday - Friday	26	No Parking 2AM-5AM, Tuesday & Friday
11	No Standing 4PM-7PM Monday - Friday	27	No Parking 8AM-6PM, Including Sunday
12	1 Hour Metered Parking 9AM-4PM Except Sunday	28	No Standing Except Authorized Vehicles (US Mail)
13	1 Hour Metered Parking 9AM-7PM Except Sunday	29	No Standing Except Authorized Vehicles 7AM-7PM Monday-Friday (NYS Vehicles)
14	No Standing Except Authorized Vehicles (District Attorney Vehicles)	30	No Parking 8AM-4PM Except Sunday
15	No Standing Except Authorized Vehicles 7AM-7PM Monday-Friday (NYSJ)	31	No Standing 7AM-7PM Except Sunday
16	2 Hour Metered Parking 9AM-7PM Except Sunday	32	No Standing Except Authorized Vehicles (Police Vehicles)

Sources: Survey conducted by AKRF, Inc.; June 2011

OFF-STREET PARKING

Off-street publicly accessible parking lots and garages (see **Figure K-42**) within ¼ mile of the project site were surveyed in June 2011. As noted above for the baseline traffic conditions, the 2011 off-street parking survey data were also grown by an annual background growth rate of 0.25 percent to bring them to 2012 levels. Each facility's operating license and legal capacity were noted. Based on responses given by parking attendants and visual inspections, where possible, estimates were made on the parking occupancy or utilization at each facility for the morning, midday, evening, and overnight time periods. A summary of the recorded information and the area's overall off-street public parking supply and utilization is presented in **Table K-42**.

Within the ¼-mile parking study area, 6 public parking facilities were inventoried. The combined capacity of these facilities totals 1,234 parking spaces. Overall, they were 78, 80, 63, and 33-percent utilized, with 277, 244, 451, and 808 parking spaces available during the weekday morning, midday, evening, and overnight time periods, respectively.

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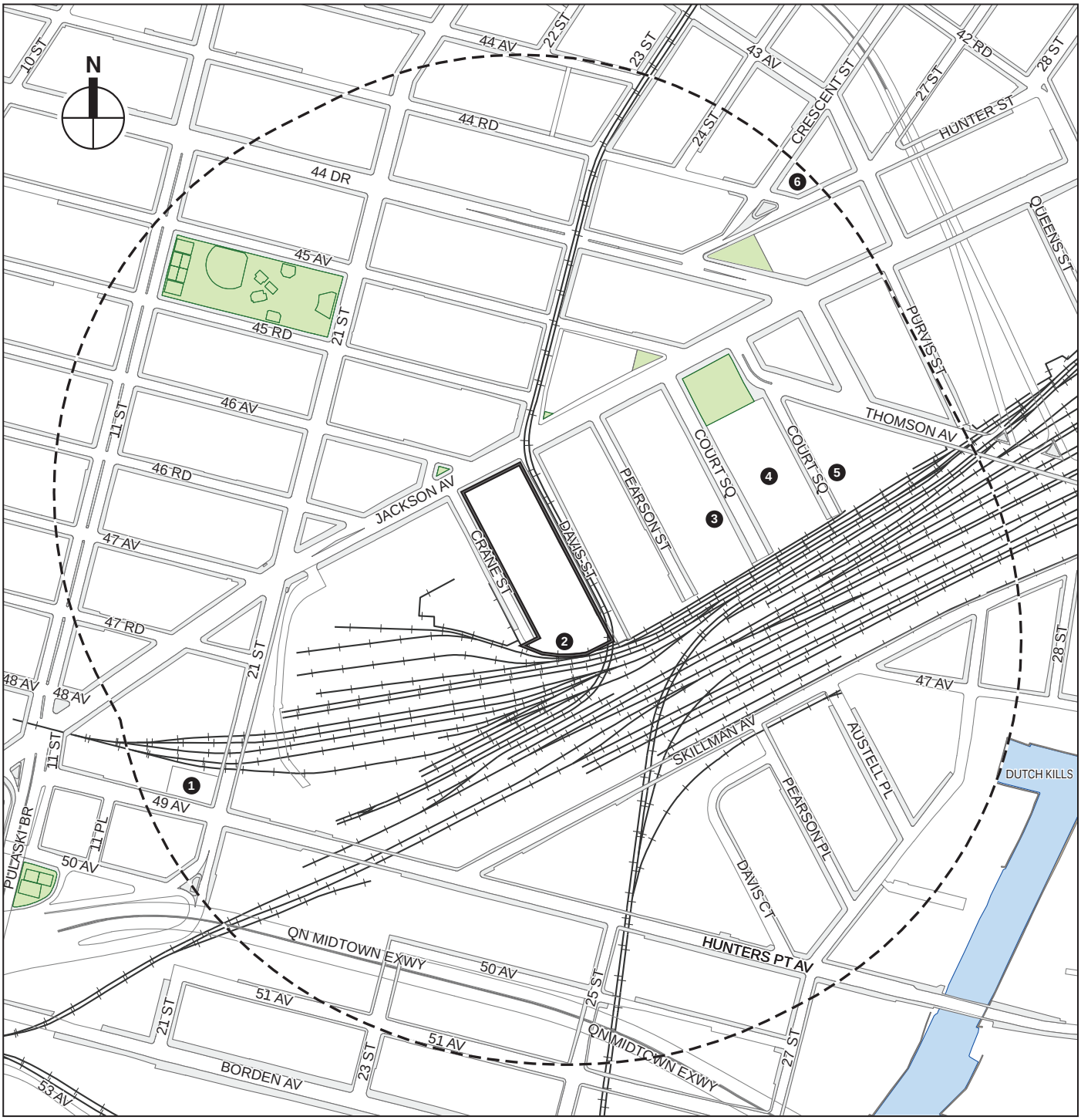


Project Site Boundary

Study Area Boundary (1/4-Mile Perimeter)

1 *Off-Street Parking Facility*

0 200 400 FEET

SCALE

Off-Street Parking Facilities

22-44 JACKSON AVENUE

Figure K-42

Table K-42
2012 Existing Off-Street Parking - 1/4 Mile
Weekday Utilization

Map #	Name/Operator and Address/Location	License Number	Licensed Capacity	Utilization Rate				Utilized Spaces				Available Spaces			
				AM	MD	PM	ON	AM	MD	PM	ON	AM	MD	PM	ON
1	11-55 49th Ave. Parking Corporation / 11-55 49th Avenue	1274218	100	75%	85%	50%	33%	75	85	50	33	25	15	50	67
2	Parking Service / 45-66 Davis Street	1281650	100	70%	70%	50%	50%	70	70	50	50	30	30	50	50
3	Mutual Parking of Ct. Square Inc. / 45-55 Pearson Street	1226001	65	80%	95%	40%	80%	52	62	26	52	13	3	39	13
4	Court Square Municipal Garage / 45-40 Court Square	None	744	75%	75%	75%	25%	559	559	559	186	185	185	185	558
5	LIC Operating LLC / 27-28 Thompson Avenue	1262963	200	90%	95%	40%	40%	180	190	80	80	20	10	120	120
6	4300 Crescent St. Parking LLC / 4329 Crescent Street	1283555	25	85%	90%	70%	CLD	21	23	18	0	4	2	7	0
			1,234	**77%**	**80%**	**63%**	**33%**	**957**	**989**	**783**	**401**	**277**	**245**	**451**	**808**

Notes: MD = Midday; ON = Overnight; CLD = Closed
Source: AKRF, Inc. (June 2011). The 2011 data were grown by an annual background growth rate of 0.25 percent to 2012 levels.

THE FUTURE WITHOUT THE PROPOSED ACTION

Overall off-street public parking utilization is expected to experience the same growth as projected for traffic. In the No Build condition, the as-of-right project is expected to displace 1 public parking facility, for a total displacement of approximately 100 public parking spaces but would introduce 225 on-site accessory parking spaces. No Build projects within the ¼-mile parking study area are expected to include a total of up to 330 off-street accessory parking spaces. As presented in **Table K-43**, accounting for the displacement of the public parking spaces, the addition of the accessory parking spaces, and the parking demand generated from background growth, discrete projects that would advance absent the proposed project, and the parking demand generated by the as-of-right project, the No Build condition public parking utilization is expected to increase to 152, 143, 132, and 124 percent during the weekday morning, midday, evening, and overnight peak periods in the ¼-mile off-street parking study area, respectively. This represents parking shortfalls of 588, 493, 362, and 270 spaces during the weekday morning, midday, evening, and overnight peak periods, respectively.

Table K-43
2012 Existing and 2017 No Build Parking Supply and Utilization

	Weekday AM	Weekday Midday	Weekday PM	Weekday Overnight
2012 Public Parking Supply	1,234	1,234	1,234	1,209
2012 Public Parking Demand	957	989	783	401
2012 Public Parking Utilization	77%	80%	63%	33%
2012 Public Parking Supply	1,234	1,234	1,234	1,209
Displaced Public Parking Supply Total	-100	-100	-100	-100
2017 No Build Public Parking Supply Total	1,134	1,134	1,134	1,109
No Build Background Incremental Demand	12	12	10	5
Discrete No Build Projects Parking Demand	955	779	887	1,233
Discrete No Build Projects Accessory Parking Spaces	330	330	330	330
Discrete No Build Parking Demand Accommodated by Accessory Parking	252	188	229	330
Discrete No Build Parking Demand Accommodated by Public Parking	703	591	658	903
AOR Incremental Parking Demand	214	148	192	295
AOR Accessory Parking Spaces	225	225	225	225
AOR Incremental Parking Demand Accommodated by Accessory Parking	164	113	147	225
AOR Incremental Parking Demand Accommodated by Public Parking	50	35	45	70
No Build Incremental Public Parking Demand	765	638	713	978
2017 No Build Public Parking Demand Total	1,722	1,627	1,496	1,379
2017 No Build Public Parking Utilization	152%	143%	132%	124%
2017 No Build Available Spaces (Shortfall)	(588)	(493)	(362)	(270)

FUTURE WITH THE PROPOSED ACTION

Similar to the No Build condition, the proposed project would also displace public parking spaces and include new off-street public parking spaces. In the Build condition, expected future development projects (including No Build projects and the proposed project) are expected to displace 1 public parking facility, for a total displacement of approximately 100 parking spaces. The proposed project would include a total of up to 250 off-street public parking spaces. The weekday incremental parking demand generated by the proposed project is presented in **Table K-44**. As presented in **Table K-45**, accounting for the displacement and addition of the public parking spaces and the parking demand generated from background growth, No Build projects and the proposed project, the Build public parking utilization is expected to increase to 149, 139, 129, and 131 percent during the weekday morning, midday, evening, and overnight peak periods, respectively. This represents a parking shortfall of 680, 538, 403, and 420 spaces during the weekday morning, midday, evening, and overnight peak periods, respectively.

Most of this excess demand is expected to be accommodated by parking facilities outside of the ¼-mile parking study area radius. However, some may seek parking on-street or choose alternate modes of transportation. As stated in the *CEQR Technical Manual* and discussed above in Section E, "Transportation Analysis Methodologies," a parking shortfall resulting from a project located in Manhattan and other CBD neighborhoods, including Long Island City, does not constitute a significant adverse parking impact, due to the magnitude of available alternative modes of transportation.

Table K-44
Proposed Project Incremental Parking Demand

Hour	Residential	Local Retail	Public Open Space	Public Parking	Total
12 AM - 01 AM	470	0	0	0	470
01 AM - 02 AM	470	0	0	0	470
02 AM - 03 AM	470	0	0	0	470
03 AM - 04 AM	470	0	0	0	470
04 AM - 05 AM	470	0	0	0	470
05 AM - 06 AM	470	0	0	0	470
06 AM - 07 AM	470	0	0	0	470
07 AM - 08 AM	425	1	0	23	449
08 AM - 09 AM	339	1	0	52	392
09 AM - 10 AM	282	2	0	79	363
10 AM - 11 AM	246	2	0	84	332
11 AM - 12 PM	233	2	0	84	319
12 PM - 01 PM	235	2	0	93	330
01 PM - 02 PM	235	2	0	93	330
02 PM - 03 PM	235	2	0	89	326
03 PM - 04 PM	237	2	0	83	322
04 PM - 05 PM	257	2	0	76	335
05 PM - 06 PM	304	2	0	30	336
06 PM - 07 PM	358	2	0	0	360
07 PM - 08 PM	408	2	0	0	410
08 PM - 09 PM	428	1	0	0	429
09 PM - 10 PM	444	0	0	0	444
10 PM - 11 PM	458	0	0	0	458
11 PM - 12 AM	470	0	0	0	470

Table K-45
2012 Existing, 2017 No Build, and 2017 Build Parking Supply and Utilization

	Weekday AM	Weekday Midday	Weekday PM	Weekday Overnight
2012 Public Parking Supply	1,234	1,234	1,234	1,209
2012 Public Parking Demand	957	989	783	401
2012 Public Parking Utilization	77%	80%	63%	33%
2012 Public Parking Supply	1,234	1,234	1,234	1,209
Displaced Public Parking Supply Total	-100	-100	-100	-100
2017 Build Public Parking Supply Total	1,384	1,384	1,384	1,359
2017 No Build Background Incremental Demand	12	12	10	5
Discrete No Build Projects Total Parking Demand	955	779	887	1,233
Discrete No Build Parking Demand Accommodated by Public Parking	703	591	658	903
Build Incremental Parking Demand	392	330	336	470
Build Incremental Parking Demand Accommodated by Public Parking	392	330	336	470
2017 Build Public Parking Demand Total	2,064	1,922	1,787	1,779
2017 Build Public Parking Utilization	149%	139%	129%	131%
2017 Build Available Spaces (Shortfall)	(680)	(538)	(403)	(420)

✶

A. INTRODUCTION

This attachment addresses the potential for significant adverse impacts during construction. It includes a description of the construction schedule and activities and described the methods that would be committed to during construction to minimize construction-period effects.

As described below, the analysis concludes that with the proposed commitments the proposed project would not result in significant adverse construction impacts with respect to any of the analysis areas of concern and no further analysis is warranted.

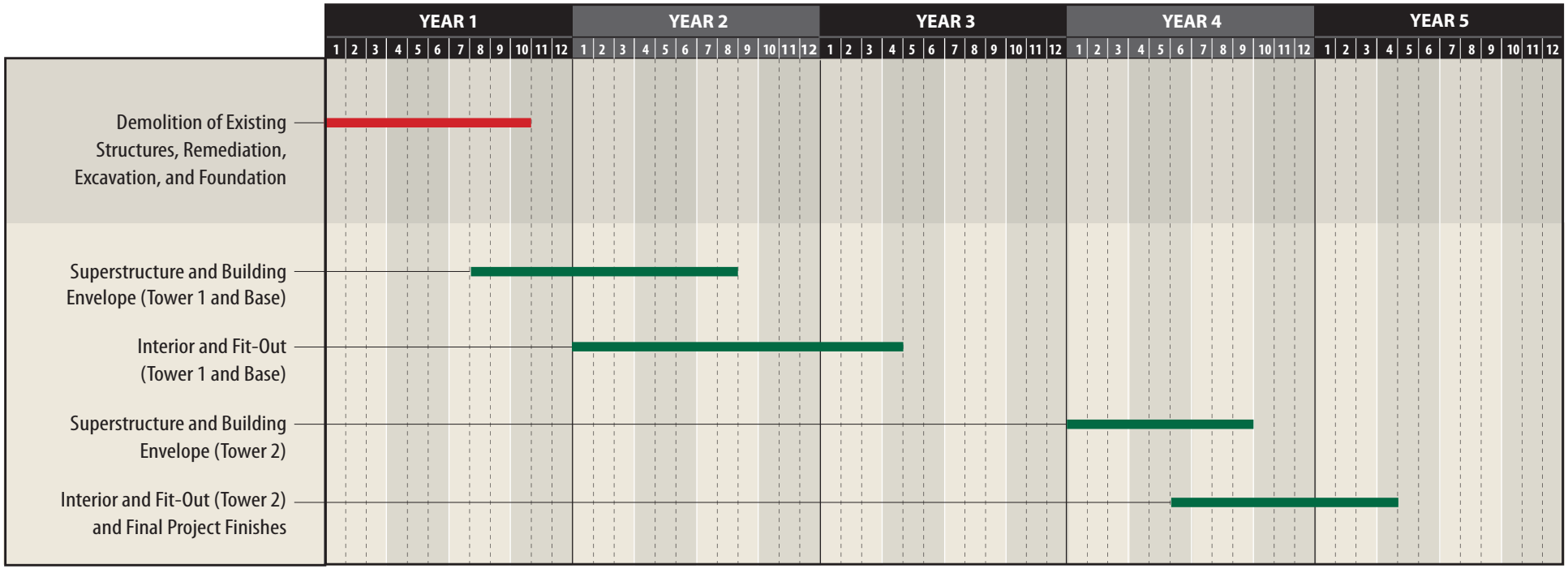
B. CONSTRUCTION SCHEDULE AND ACTIVITIES

The project would be constructed over two periods, the first being construction of the building base and Tower 1 followed by the construction of Tower 2. Between the completion of Tower 1 and the start of Tower 2 there would be a period during which Tower 1 and the commercial spaces would be tenanted; during this period there would be no construction activities. Based on current plans, construction would begin in late 2013 and be completed in 2017. **Figure L-1** provides a project timeline**.**

The major construction activities for the proposed project include demolition of existing structures, excavation and installation of foundation, construction of the building base serving both towers, and erection superstructure followed by interior and exterior finishes in the base and towers. The foundation and building base would be entirely built as part of the Tower 1 construction and would include all site preparation, demolition, excavation, and foundation work, as well as base construction. Together with the superstructure and building envelope work for Tower 1, the major construction activities would last approximately 20 months. There would also be an additional 8 months to complete the interior finishes in the base and tower. Once the occupancy of the base spaces and Tower 1 units is substantially complete (and a certificate of occupancy has been issued), there would then be about a 5-month lag time before construction of Tower 2 would commence and the Tower 1 building and commercial base become occupied.

Tower 2 would be constructed on top of the previously completed base and would involve erection of the superstructure and building envelope (about 9 months) with an additional period for interior finishes (about 7 months). Thus, while the proposed project would have a combined total construction period that is longer than two years, there would be no more than 20 consecutive months of major construction including demolition of existing structures, excavation and installation of the foundation, and construction of the building base and superstructure serving both towers and Tower 1. While the Tower 1 units may be near or fully occupied during construction of Tower 2, the total duration of the Tower 2 construction is about 16 months, of which 7 months would be interior work only.

Project construction activities are expected to be typical for larger, tower type construction projects in New York City. Construction would be active Monday through Friday, although the



Projected Construction Schedule

Figure L-1

limited delivery of certain critical pieces of equipment (e.g., tower cranes) may be necessary weekend days if required in order to minimize traffic disruptions. Any weekend work would also be in coordination with any conditions that may be imposed by City agencies that approve and monitor construction activities such as the New York City Department of Buildings (DOB) and the New York City Department of Transportation (NYCDOT). DOB also regulates the permitted hours of construction. In accordance with those regulations, typical construction activities in New York City begin no earlier than 7AM during the week, and workers typically arrive and begin to prepare work areas between 6 and 7 AM. The standard weekday construction work day ends by 3:30 PM with an occasional extended shift until 6 PM.

C. DETERMINING WHETHER A CONSTRUCTION IMPACT ASSESSMENT IS APPROPRIATE

In accordance with the 2012 *City Environmental Quality Review (CEQR) Technical Manual*, the proposed project was reviewed to determine whether further analysis of the proposed construction activities is needed for any technical area, as follows.

TRANSPORTATION

According to the *CEQR Technical Manual*, a number of factors should be considered before determining whether a preliminary assessment of the effect of construction on transportation is needed including:

- Whether the project's construction would be located in a Central Business District (CBD) or along an arterial or major thoroughfare;
- Whether the project's construction activities would require closing, narrowing, or otherwise impeding moving lanes, roadways, key pedestrian facilities, parking lanes and/or parking spaces, bicycle routes and facilities, bus lanes or routes, or access points to transit; and
- Whether the project would involve construction on multiple development sites in the same geographic area, such that there is the potential for several construction timelines to overlap, and last for more than two years overall.

The project site fronts on a major thoroughfare, Jackson Avenue. However, the project also has frontage along two side streets, Crane Street and Davis Streets. It is expected that construction staging activities and deliveries would operate from the side streets (in all likelihood on Crane Street since Davis Street has the elevated train). These are both dead end streets that are lightly traveled and located in a primarily commercial and industrial area—to the south of the site is the Sunnyside Yard. Therefore, it is expected that the proposed project could be constructed without any significant interruptions to traffic, transit, or pedestrian activity along Jackson Avenue. Also, all in-street work and use of sidewalks would be subject to NYCDOT review and approval. The project would be constructed on a single site. Overall, construction of the proposed project would not be expected to result in significant adverse impacts on transportation.

AIR QUALITY AND NOISE

According to the *CEQR Technical Manual*, an assessment of air quality and noise for construction activities is likely not warranted if the project's construction activities:

- Are considered short-term (less than two years);
- Are not located near sensitive receptors;

- Do not involve construction of multiple buildings where there is a potential for on-site receptors on buildings to be completed before the final built-out; and
- The pieces of diesel equipment that would operate in a single location at peak construction are limited in number.

According to the *CEQR Technical Manual*, if a project does not meet one or more of the above criteria, a preliminary air quality or noise assessment is not automatically required. Instead, various factors should be considered, such as the types of construction equipment (gas, diesel, electric), the nature and extent of any commitment to use the Best Available Technology (BAT) for construction equipment, the physical relationship of the project site to nearby sensitive receptors, the type of construction activity, and the duration of any heavy construction activity.

As discussed above, while the proposed project would have an overall construction period longer than two years, the longest period of major consecutive construction activities would be 20 months. Demolition, excavation, and foundation activities, which often generate the highest levels of air emissions, would be temporary and limited in duration and would take approximately 10 months to complete. In addition, any heavy equipment associated with the construction of the towers (such as a crane) would operate from different locations during construction of Tower 1 and Tower 2 (for example, the Tower 1 crane may be located at the west end of Crane Street whereas the Tower 2 crane may operate from the east side of the project block).

There are a limited number of sensitive receptors located in close proximity to the project site. As stated above, to the south is Sunnyside yards, to the west are light industrial and parking uses and to the north is the wide Jackson Avenue which separates the project site from other uses. To the east (at the southeast corner of Jackson Avenue and Davis Street) there are three commercial buildings with residential uses on the upper floors located across from the project site; these uses are separated from the project site by the elevated No. 7 subway structure which runs along Davis Street. Farther from the project site, but within the 400-foot study area, there are residential uses located on the west side of Pearson Street and on the south side of 45th Road. As discussed in Attachment J, "Noise," the dominant sources of ambient noise in the study area are the elevated No. 7 subway train and vehicular traffic noise from Jackson Avenue. There are several factors that would limit the construction period impacts on sensitive receptors. First, there is a limited duration of heavy construction activities. Second, the project site is composed of a large City block and construction of the towers would be at some distance from the project site boundaries and the nearest sensitive receptors (particularly the Tower 2 construction). In addition, since the elevated train tracks run along the full length of the project site on Davis Street, it is expected that the principal staging area would be Crane Street (which is to the west and southwest of the sensitive receptors and separated from the closest sensitive receptor by the project block). The majority of construction period impacts (e.g., truck traffic, noise and air emissions) emanate from the central construction staging area since much of the construction activity is concentrated in or around this staging area. This is, for example, where the tower crane would be located and where the delivery of materials would be received (e.g., steel, cement, and other building materials). The staging area is also typically a fixed location for these construction activities for the full duration of the construction period. The construction staging area for the proposed project along Crane Street would be separated from the existing sensitive receptors and noise sources along the Davis Street corridor thereby minimizing any cumulative effects of the proposed project on ambient environmental conditions, such as noise. Moreover, by utilizing Crane Street for the staging area, once the project base superstructure and envelope is complete (which is projected to be by or before month 18, see Figure L-1) there would be a

structure in-place physically separating and screening the project's staging area from the nearest sensitive receptors and eliminating any "line of sight" between the construction staging area and the nearest sensitive receptors. After completion of construction of the superstructure and envelope of the building base and Tower 1, interior work for the interior fit-out also would be staged from Crane Street, as would the construction of Tower 2. Thus, from the perspective of the nearest sensitive receptors, most construction activities would neither be visible nor intrusive after month 18 and there would not be more than 20 consecutive months of continuous construction that would affect ambient environmental conditions at these receptors.

As stated above, while the Tower 1 units may be near or fully occupied during the construction of Tower 2, the total duration of the Tower 2 construction would be about 16 months, of which 7 months would be interior work only. In addition, the Tower 2 construction would involve only the tower work, there would be no demolition, excavation, or grading as is required in the construction of Tower 1 and the building base. The Tower 1 building also would have window wall attenuation that is sufficient to avoid impacts from the ambient noise (including the No. 7 subway train, see Attachment J, "Noise"), which would also serve to attenuate construction noise associated with Tower 2. It is also expected that access to tenant common spaces in the vicinity of Tower 2 construction (i.e., the courtyard space) would be temporarily restricted during construction for safety reasons. Therefore, these spaces would not provide a place of exposure for residents to air and noise impacts during Tower 2 construction. There would also be no soil excavation during the construction of Tower 2; thus, there would not be the creation of any heavy dust or particulate matter from earth moving.

MEASURES TO AVOID IMPACTS DURING CONSTRUCTION

Construction of the proposed project would not involve any unusual or exceptional construction activities or practices for a tower type building in the City of New York. In addition, the longest time period within which there would be operation of heavy machinery operation is expected to be about 20 months. Nonetheless, the proposed project would commit to certain measures which would minimize and avoid construction noise and air impacts for both the community as well as the residents of Tower 1 while Tower 2 is being constructed. These measures as proposed by the applicant and to be implemented as part of the project are described below.

Air Quality

As with most construction projects in the City, the proposed project would require the operation of several pieces of diesel equipment at one time although during the heavier periods of construction, such as demolition and excavation, construction equipment would move throughout the full-block site. The applicant would implement a number of measures that would avoid air quality impacts on the community, as well as the future residents of Tower 1 during the construction of Tower 2. These measures are as follows:

- *Diesel Equipment Reduction.* Construction of the proposed project would minimize the use of diesel engines and use electric engines, to the extent practicable. This would reduce the need for on-site generators, and require the use of electric engines in lieu of diesel where practicable.
- *Clean Fuel.* To the extent practicable, ultra-low sulfur diesel (ULSD) would be used for 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 (DPF) have been identified as being the tailpipe technology currently proven to have the highest PM reduction capability. Construction contracts 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 reduce DPM by at least 90 percent.

- *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, NOx, and hydrocarbons (HC). All nonroad construction equipment in the project would meet at least the Tier 2 emissions standard, and construction equipment meeting Tier 3 and/or Tier 4 emissions standards would be used where conforming equipment is widely available, and the use of such equipment is practicable.
- *Dust Control.* Fugitive dust control plans will be required as part of contract specifications. For example, stabilized truck exit areas would be established for washing off the wheels of all trucks that exit the construction site. Truck routes within the site would be watered as needed to avoid the re-suspension of dust. All trucks hauling loose material will be equipped with tight fitting tailgates and their loads securely covered prior to leaving the site. In addition to regular cleaning by the City, streets adjacent to the site would be cleaned as frequently as needed by the construction contractor. Water sprays will be used for all transfer of spoils to ensure that materials are dampened as necessary to avoid the suspension of dust into the air.
- *Restrictions on Vehicle Idling.* In addition to adhering to the local law restricting unnecessary idling on roadways, on-site vehicle idle time will 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, these air emission control commitments would significantly reduce diesel particulate matter (DPM) emissions to a level otherwise achieved by applying the currently defined best available control technologies under New York City Local Law 77, which are required only for publically funded City capital projects. In addition as stated in the *CEQR Technical Manual*, all the necessary measures would be implemented to ensure compliance with the New York City Air Pollution Control Code regulating construction-related dust emissions. Based on the project size and the construction work involved, construction activities for the proposed project would not be considered out of the ordinary or exceptional in terms of intensity, would be of short duration (with a lag time between the construction of the project base and Tower 1 and the construction of Tower 2) and in fact, air emissions would be reduced with the above-stated commitment to emission control measures. Therefore, due to the factors described above and with the implementation of an emissions control program, the proposed project would not result in any significant adverse impacts on air quality.

Noise

While increases in ambient noise levels due to construction exceeding the *CEQR* impact criteria for two years or less may be noisy and intrusive, they are not considered to be significant adverse noise impacts. As described above, the heavy construction activities associated with the proposed project would be no longer than consecutive 20 months (with a lag time between the construction of the project base and Tower 1 and the construction of Tower 2). Construction noise is also regulated

by the New York City Noise Control Code and by the Environmental Protection Agency's (EPA) noise emission standards for construction equipment. These local and federal requirements mandate that certain classifications of 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. If weekend or after hour work is necessary, permits would be required to be obtained, as specified in the New York City Noise Control Code. In addition, the applicant would commit to a preparing a noise control plan that would be implemented during project construction. The measures to be contained in the plan would avoid noise impacts on the community, as well as the future residents of Tower 1 during the construction of Tower 2. The plan would be prepared to be compliant with the New York City Noise Control Code (which requires a "Construction Noise Mitigation Plan") and would be include such measures as construction noise source controls, path controls, and receiver controls. With these measures in place, no significant noise impacts are expected to occur as a result of the project construction.

OTHER TECHNICAL AREAS

HISTORIC AND CULTURAL RESOURCES

While the proposed project would involve construction activities within 400 feet of the 45th Road - Court House Square Station (which is listed on the National Register of Historic Places), this resource is an elevated subway station located approximately one block away and located along the No.7 train tracks and separated from the site by Jackson Avenue, a wide and heavily traveled street. In addition, as stated above, construction staging for the proposed project would be on Crane Street, a full City block away from this elevated resource (the shortest distance between the station entrances and the project site--as measured from the northeast corner of the project site--is about 200 feet). Thus, the proposed project would not impact the environmental setting of this resource during construction (e.g., there would not be any air, traffic or noise construction impacts on this resource). In addition, there would be no construction activities adjacent to the resource and thus there would be no potential for unintended damage to the resource or its architectural features as a result of project construction. Finally, given the separation of distance, there would be no vibration impacts from project construction on this resource. Therefore, it is concluded that the proposed project would not result any construction-period impacts on historic and cultural resources.

HAZARDOUS MATERIALS

As discussed in Attachment H, "Hazardous Materials," the project site has an (E) designation for hazardous materials. The (E) designation requires that prior to redevelopment, the property owner prepare a Phase I Environmental Site Assessment (ESA) and, if appropriate, conduct a subsurface investigation, with the scope approved by the New York City Office of Environmental Remediation (OER). Depending on the findings of the subsurface investigation, a Remedial Action Plan and Construction Health and Safety Plan (RAP/CHASP) are typically required to be implemented during the redevelopment to ensure no adverse exposures would occur either during or following the new construction. Additionally, in May 2012, the site was entered into the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) as the Former Neptune Meter Site (Site C241138). As with the (E) designation program, the BCP requires investigation and remediation of the site prior to its redevelopment. As discussed in more detail in Attachment H, the existing (E) Designation,

the NYSDEC BCP, and applicable regulatory requirements would result in measures that would avoid the potential for significant adverse impacts during demolition and construction of the proposed project. Therefore, the proposed project would not result in any significant adverse impacts due to hazardous materials during construction.

NATURAL RESOURCES

According to the CEQR Technical Manual, a construction assessment is not needed for natural resources unless the construction activities would disturb a site or be located adjacent to a site containing natural resources. The project site and the adjacent properties are fully developed and do not contain any natural resources; therefore there is no potential for significant adverse construction impacts on natural resources.

OPEN SPACE, SOCIOECONOMIC CONDITIONS, COMMUNITY FACILITIES, LAND USE AND PUBLIC POLICY, NEIGHBORHOOD CHARACTER, AND INFRASTRUCTURE

According to the *CEQR Technical Manual*, a preliminary construction assessment is generally not needed for these technical areas unless the following are true:

- The construction activities are considered "long-term" (more than 2 years);
- Short-term construction activities would not directly affect a technical area, such as impeding the operation of a community facility.

As discussed above, while the proposed project would have an overall construction period longer than two years, the major construction activities (foundation, base, and superstructure) would be no longer than consecutive 20 months. Construction of the project would take place on an existing industrial site adjacent to the Sunnyside Yards near the elevated No. 7 subway structure, in a location with a mix of uses and a limited number of sensitive receptors in close proximity to the site. Construction of the proposed project would not directly or indirectly affect any open spaces, socioeconomic conditions, community facilities, or infrastructure conditions, and would not have cumulative impacts on land use or neighborhood character. Therefore, construction of the proposed project would not be expected to result in any significant adverse construction impacts on these technical areas.

RODENT CONTROL

Construction would also include a rodent control program. Prior to the start of construction, the contractor would survey and bait the appropriate areas and provide for proper site sanitation.

D. CONCLUSION

The longest consecutive period of major project construction would not exceed 20 months, with a lag time between the completion and occupancy of the project base and Tower 1 residential units and the start of construction on Tower 2. It is expected that Crane Street would be the construction staging area for the proposed project. This would limit project impacts because it is a dead end side street with limited traffic and it is also the greatest possible distance from the few sensitive receptors in the vicinity of the project site (those receptors are residential units east of the project site at the southeast corner of Davis Street and Jackson Avenue). In addition, with project construction staging along Crane Street, these receptors would be screened from project construction activities once the building base is completed. The applicant also commits to implementing during construction a number of measures that would also avoid air and noise

impacts on the community and the future residents of Tower 1 during the construction of Tower 2. For these reasons, it is concluded that the proposed project would not result in significant adverse impacts during construction, and no further analysis of construction impacts is required.✷

Appendix A
Noise

Building Attenuation Analysis Results

Receptor Number	Representative Floor	CadnaA Calculated Noise Levels (L_{10})	CEQR Attenuation Required (dBA)
1	1	95.6	52
	2	96.0	52
	3	96.2	53
	4	96.3	53
2	1	96.1	53
	2	96.4	53
	3	96.7	53
	4	96.8	53
3	1	95.6	52
	2	96.1	53
	3	96.4	53
	4	96.4	53
4	1	93.8	50
	2	94.3	51
	3	94.6	51
	4	94.7	51
5	1	87.7	44
	2	88.0	44
	3	88.1	45
	4	88.2	45
6	1	85.9	42
	2	86.3	43
	3	86.3	43
	4	86.4	43
7	1	85.2	42
	2	85.7	42
	3	85.8	42
	4	85.8	42
8	1	83.3	40
	2	83.7	40
	3	83.9	40
	4	83.6	40
9	1	81.3	38
	2	81.7	38
	3	81.9	38
	4	81.6	38
10	1	79.8	35
	2	80.1	37
	3	80.3	37
	4	80.3	37
11	1	65.6	0
	2	67.0	0
12	1	66.0	0
	2	67.5	0
13	1	65.3	0
	2	66.6	0
14	1	63.1	0
	2	64.4	0
15	1	65.1	0
	2	66.7	0
	3	66.9	0
	4	66.4	0
	5	65.7	0
	6	65.9	0
16	1	70.2	28
	2	70.4	28
	3	70.0	0
	4	69.4	0
	5	68.0	0
	6	68.1	0
17	1	79.4	35
	2	79.3	35
	3	79.1	35
	4	79.0	35
	5	79.0	35
	6	79.1	35
18	1	81.4	38
	2	81.4	38
	3	81.3	38
	4	81.3	38
	5	81.4	38
	6	81.6	38

Note: The above composite window-wall attenuation requirements are for residential dwellings. Retail or commercial uses would be 5 dB(A) less.

Building Attenuation Analysis Results

Receptor Number	Representative Floor	CadnaA Calculated Noise Levels (L_{10})	CEQR Attenuation Required (dBA)
19	1	87.9	44
	2	85.9	42
	3	85.9	42
	4	86.1	43
	5	86.1	43
	6	86.3	43
20	1	95.3	52
	2	95.6	52
	3	95.7	52
	4	95.8	52
	5	95.4	52
	6	95.0	51
21	1	95.8	52
	2	96.2	53
	3	96.5	53
	4	96.6	53
	5	96.2	53
	6	95.6	52
22	1	96.1	53
	2	96.5	53
	3	96.8	53
	4	96.8	53
	5	96.5	53
	6	96.0	52
23	6	62.3	0
	7	63.6	0
	8	64.3	0
	9	64.3	0
	10	64.4	0
	11	64.6	0
24	6	62.8	0
	7	62.9	0
	8	63.2	0
	9	63.7	0
	10	64.2	0
	11	64.3	0
25	6	75.6	31
	7	78.5	35
	8	80.2	37
	9	81.5	38
	10	83.0	39
	11	83.3	40
	12	83.6	40
26	6	71.3	28
	7	74.5	31
	8	75.3	31
	9	75.7	31
	10	76.8	33
	11	77.9	33
	12	77.9	33
27	6	70.4	28
	7	73.4	31
	8	74.0	31
	9	74.6	31
	10	74.9	31
	11	75.3	31
	12	76.6	33
28	6	64.1	0
	7	64.5	0
	8	64.7	0
	9	65.1	0
	10	65.4	0
	11	65.7	0
	12	65.0	0
	13	65.5	0
	14	66.5	0

Note: The above composite window-wall attenuation requirements are for residential dwellings. Retail or commercial uses would be 5 dB(A) less.

Building Attenuation Analysis Results

Receptor Number	Representative Floor	CadnaA Calculated Noise Levels (L_{10})	CEQR Attenuation Required (dBA)
29	3	68.1	0
	4	71.3	28
	5	74.1	31
	6	76.1	33
	7	77.7	33
	8	78.8	35
	9	81.2	38
	10	82.7	39
	11	83.0	39
	12	82.9	39
	13	82.7	39
	14	82.6	39
	15	82.4	39
30	1	63.2	0
	2	64.8	0
	3	67.1	0
	4	71.2	28
	5	76.0	31
	6	78.9	35
	7	80.0	35
	8	82.9	39
	9	84.5	41
	10	84.5	41
	11	84.3	41
	12	84.2	41
	13	84.0	40
	14	83.8	40
	15	83.6	40
31	4	82.8	39
	5	86.1	43
	6	88.3	45
	7	90.2	47
	8	90.4	47
	9	90.2	47
	10	90.1	47
	11	89.9	46
	12	89.7	46
	13	89.6	46
	14	89.4	46
32	6	79.0	35
	7	83.2	40
	8	86.6	43
	9	89.1	46
	10	90.0	46
	11	90.3	47
	12	90.1	47
	13	89.9	46
	14	89.7	46
	15	89.5	46
33	6	80.2	37
	7	86.0	42
	8	89.0	45
	9	90.7	47
	10	91.1	48
	11	90.9	47
	12	90.6	47
	13	90.3	47
	14	90.0	46
	15	89.8	46
34	6	84.3	41
	7	88.2	45
	8	89.5	46
	9	90.0	46
	10	89.7	46
	11	89.5	46
	12	89.2	46
	13	88.9	45
	14	88.7	45
	15	88.4	45

Note: The above composite window-wall attenuation requirements are for residential dwellings. Retail or commercial uses would be 5 dB(A) less.

Building Attenuation Analysis Results

Receptor Number	Representative Floor	CadnaA Calculated Noise Levels (L_{10})	CEQR Attenuation Required (dBA)
35	1	67.1	0
	2	68.5	0
	3	68.8	0
	4	68.6	0
	5	67.0	0
	6	67.3	0
	7	69.3	0
	8	71.3	28
	9	71.6	28
	10	72.0	28
	11	72.2	28
	12	72.2	28
	13	73.2	31
	14	74.4	31
	15	75.5	31
	16	75.9	31
	17	76.2	33
	18	76.5	33
	19	76.9	33
	20	77.2	33
	21	77.4	33
	22	77.5	33
	23	77.6	33
	24	77.7	33
	25	77.9	33
	26	78.0	33
	27	78.2	35
	28	78.4	35
	29	78.5	35
	30	78.6	35
	31	78.6	35
	32	78.7	35
	33	78.7	35
	34	78.7	35
	35	78.7	35
	36	78.6	35
	37	78.6	35
	38	78.5	35
	39	78.5	35
	40	78.4	35
	41	78.4	35
	42	78.3	35
	43	78.3	35
36	13	74.6	31
	14	76.0	31
	15	76.5	33
	16	77.0	33
	17	77.5	33
	18	77.9	33
	19	78.1	35
	20	78.2	35
	21	78.3	35
	22	78.5	35
	23	78.7	35
	24	78.9	35
	25	79.1	35
	26	79.2	35
	27	79.3	35
	28	79.3	35
	29	79.4	35
	30	79.4	35
	31	79.3	35
	32	79.3	35
	33	79.3	35
	34	79.2	35
	35	79.2	35
	36	79.1	35
	37	79.0	35
	38	79.0	35
	39	78.9	35
	40	78.9	35
	41	78.8	35
	42	78.7	35

Note: The above composite window-wall attenuation requirements are for residential dwellings. Retail or commercial uses would be 5 dB(A) less.

Building Attenuation Analysis Results

Receptor Number	Representative Floor	CadnaA Calculated Noise Levels (L_{10})	CEQR Attenuation Required (dBA)
37	13	75.8	31
	14	77.2	33
	15	78.1	35
	16	78.8	35
	17	79.1	35
	18	79.2	35
	19	79.4	35
	20	79.6	35
	21	79.8	35
	22	80.0	35
	23	80.1	37
	24	80.1	37
	25	80.2	37
	26	80.2	37
	27	80.2	37
	28	80.1	37
	29	80.1	37
	30	80.0	35
	31	80.0	35
	32	79.9	35
	33	79.9	35
	34	79.8	35
	35	79.7	35
	36	79.7	35
	37	79.6	35
	38	79.5	35
	39	79.4	35
	40	79.3	35
	41	79.3	35
	42	79.2	35
38	13	77.9	33
	14	81.2	38
	15	81.2	38
	16	81.1	38
	17	81.1	38
	18	81.1	38
	19	81.1	38
	20	81.0	37
	21	81.0	37
	22	80.9	37
	23	80.8	37
	24	80.7	37
	25	80.6	37
	26	80.4	37
	27	80.3	37
	28	80.2	37
	29	80.0	35
	30	79.9	35
	31	79.7	35
	32	79.6	35
	33	79.5	35
	34	79.4	35
	35	79.2	35
	36	79.1	35
	37	79.0	35
	38	78.8	35
	39	78.7	35
	40	78.6	35
	41	78.5	35
	42	78.3	35

Note: The above composite window-wall attenuation requirements are for residential dwellings. Retail or commercial uses would be 5 dB(A) less.

Building Attenuation Analysis Results

Receptor Number	Representative Floor	CadnaA Calculated Noise Levels (L_{10})	CEQR Attenuation Required (dBA)
39	16	85.4	42
	17	87.7	44
	18	88.2	45
	19	88.3	45
	20	88.3	45
	21	88.1	45
	22	87.9	44
	23	87.6	44
	24	87.4	44
	25	87.2	44
	26	87.0	43
	27	86.8	43
	28	86.6	43
	29	86.4	43
	30	86.2	43
	31	86.1	43
	32	85.9	42
	33	85.7	42
	34	85.5	42
	35	85.3	42
	36	85.1	42
	37	85.0	41
	38	84.8	41
	39	84.6	41
	40	84.5	41
	41	84.3	41
	42	84.2	41
40	16	85.4	42
	17	88.6	45
	18	89.0	45
	19	88.8	45
	20	88.5	45
	21	88.3	45
	22	88.0	44
	23	87.8	44
	24	87.6	44
	25	87.3	44
	26	87.1	44
	27	86.9	43
	28	86.7	43
	29	86.5	43
	30	86.3	43
	31	86.1	43
	32	85.9	42
	33	85.7	42
	34	85.5	42
	35	85.3	42
	36	85.1	42
	37	84.9	41
	38	84.7	41
	39	84.6	41
	40	84.4	41
	41	84.2	41
	42	84.1	41

Note: The above composite window-wall attenuation requirements are for residential dwellings. Retail or commercial uses would be 5 dB(A) less.

Building Attenuation Analysis Results

Receptor Number	Representative Floor	CadnaA Calculated Noise Levels (L_{10})	CEQR Attenuation Required (dBA)
41	4	86.7	43
	5	91.5	48
	6	90.9	47
	7	90.3	47
	8	90.4	47
	9	90.5	47
	10	90.4	47
	11	90.2	47
	12	89.9	46
	13	89.6	46
	14	89.4	46
	15	89.1	46
	16	88.8	45
	17	88.5	45
	18	88.2	45
	19	88.0	44
	20	87.7	44
	21	87.5	44
	22	87.2	44
	23	87.0	43
	24	86.8	43
	25	86.5	43
	26	86.3	43
	27	86.1	43
	28	85.9	42
	29	85.6	42
	30	85.4	42
	31	85.2	42
	32	85.0	41
	33	84.8	41
	34	84.6	41
	35	84.4	41
	36	84.2	41
	37	84.0	40
	38	83.8	40
	39	83.7	40
	40	83.5	40
	41	83.3	40
	42	83.1	40
42	4	84.4	41
	5	88.5	45
	6	90.6	47
	7	90.3	47
	8	89.9	46
	9	89.9	46
	10	89.8	46
	11	89.7	46
	12	89.5	46
	13	89.2	46
	14	88.9	45
	15	88.6	45
	16	88.3	45
	17	88.0	44
	18	87.7	44
	19	87.4	44
	20	87.1	44
	21	86.8	43
	22	86.6	43
	23	86.3	43
	24	86.0	42
	25	85.7	42
	26	85.5	42
	27	85.2	42
	28	85.0	41
	29	84.7	41
	30	84.5	41
	31	84.2	41
	32	84.0	40
	33	83.8	40
	34	83.6	40
	35	83.3	40
	36	83.1	40
	37	82.9	39
	38	82.7	39
	39	82.5	39
	40	82.3	39
	41	82.1	39
	42	81.9	38

Note: The above composite window-wall attenuation requirements are for residential dwellings. Retail or commercial uses would be 5 dB(A) less.

Building Attenuation Analysis Results

Receptor Number	Representative Floor	CadnaA Calculated Noise Levels (L_{10})	CEQR Attenuation Required (dBA)
43	4	82.8	39
	5	86.1	43
	6	89.2	46
	7	89.9	46
	8	89.9	46
	9	89.6	46
	10	89.4	46
	11	89.3	46
	12	89.0	45
	13	89.0	45
	14	88.7	45
	15	88.5	45
	16	88.2	45
	17	87.9	44
	18	87.6	44
	19	87.4	44
	20	87.1	44
	21	86.8	43
	22	86.6	43
	23	86.3	43
	24	86.1	43
	25	85.8	42
	26	85.6	42
	27	85.3	42
	28	85.1	42
	29	84.8	41
	30	84.6	41
	31	84.4	41
	32	84.1	41
	33	83.9	40
	34	83.7	40
	35	83.5	40
	36	83.3	40
	37	83.0	39
	38	82.8	39
	39	82.6	39
	40	82.4	39
	41	82.2	39
	42	82.1	39
44	4	82.7	39
	5	86.1	43
	6	88.4	45
	7	90.2	47
	8	90.4	47
	9	90.0	46
	10	89.9	46
	11	89.7	46
	12	89.6	46
	13	89.4	46
	14	89.3	46
	15	89.1	46
	16	88.8	45
	17	88.5	45
	18	88.3	45
	19	88.0	44
	20	87.8	44
	21	87.5	44
	22	87.3	44
	23	87.0	43
	24	86.8	43
	25	86.5	43
	26	86.3	43
	27	86.0	42
	28	85.8	42
	29	85.5	42
	30	85.3	42
	31	85.1	42
	32	84.8	41
	33	84.6	41
	34	84.4	41
	35	84.2	41
	36	83.9	40
	37	83.7	40
	38	83.5	40
	39	83.3	40
	40	83.1	40
	41	82.9	39
	42	82.7	39

Note: The above composite window-wall attenuation requirements are for residential dwellings. Retail or commercial uses would be 5 dB(A) less.

Building Attenuation Analysis Results

Receptor Number	Representative Floor	CadnaA Calculated Noise Levels (L_{10})	CEQR Attenuation Required (dBA)
45	4	82.6	39
	5	85.9	42
	6	87.9	44
	7	89.9	46
	8	90.2	47
	9	90.0	46
	10	89.9	46
	11	89.7	46
	12	89.5	46
	13	89.4	46
	14	89.2	46
	15	89.1	46
	16	88.9	45
	17	88.6	45
	18	88.4	45
	19	88.2	45
	20	88.0	44
	21	87.7	44
	22	87.5	44
	23	87.3	44
	24	87.1	44
	25	86.8	43
	26	86.6	43
	27	86.4	43
	28	86.2	43
	29	86.0	42
	30	85.8	42
	31	85.5	42
	32	85.3	42
	33	85.1	42
	34	84.9	41
	35	84.7	41
	36	84.6	41
	37	84.4	41
	38	84.2	41
	39	84.0	40
	40	83.8	40
	41	83.7	40
	42	83.5	40
46	15	73.1	31
	16	80.0	35
	17	83.8	40
	18	83.4	40
	19	83.2	40
	20	82.9	39
	21	82.7	39
	22	82.4	39
	23	82.2	39
	24	82.0	38
	25	81.7	38
	26	81.5	38
	27	81.2	38
	28	81.0	37
	29	80.7	37
	30	80.5	37
	31	80.3	37
	32	80.0	35
	33	79.8	35
	34	79.6	35
	35	79.4	35
	36	79.2	35
	37	79.0	35
	38	78.8	35
	39	78.6	35
	40	78.4	35
	41	78.2	35
	42	78.0	33

Note: The above composite window-wall attenuation requirements are for residential dwellings. Retail or commercial uses would be 5 dB(A) less.

Building Attenuation Analysis Results

Receptor Number	Representative Floor	CadnaA Calculated Noise Levels (L_{10})	CEQR Attenuation Required (dBA)
47	15	67.4	0
	16	72.2	28
	17	73.4	31
	18	74.5	31
	19	77.8	33
	20	80.6	37
	21	81.7	38
	22	81.5	38
	23	81.3	38
	24	81.1	38
	25	80.9	37
	26	80.7	37
	27	80.5	37
	28	80.3	37
	29	80.1	37
	30	79.9	35
	31	79.7	35
	32	79.5	35
	33	79.3	35
	34	79.1	35
	35	78.9	35
	36	78.7	35
	37	78.5	35
	38	78.3	35
	39	78.2	35
	40	78.0	33
	41	77.8	33
	42	77.6	33
48	12	63.5	0
	13	63.8	0
	14	64.1	0
	15	64.3	0
	16	64.4	0
	17	64.4	0
	18	64.4	0
	19	64.4	0
	20	64.3	0
	21	64.3	0
	22	64.2	0
	23	64.2	0
	24	64.1	0
	25	64.0	0
	26	64.0	0
	27	63.9	0
	28	63.9	0
	29	63.8	0
	30	63.7	0
	31	63.7	0
	32	63.6	0
	33	63.6	0
	34	63.5	0
	35	63.5	0
	36	63.4	0
	37	63.3	0
	38	63.3	0
	39	63.2	0
	40	63.2	0
	41	63.1	0
	42	63.1	0

Note: The above composite window-wall attenuation requirements are for residential dwellings. Retail or commercial uses would be 5 dB(A) less.

Building Attenuation Analysis Results

Receptor Number	Representative Floor	CadnaA Calculated Noise Levels (L_{10})	CEQR Attenuation Required (dBA)
49	12	63.4	0
	13	64.3	0
	14	64.8	0
	15	64.9	0
	16	65.0	0
	17	65.0	0
	18	65.0	0
	19	65.0	0
	20	64.9	0
	21	64.8	0
	22	64.8	0
	23	64.7	0
	24	64.7	0
	25	64.6	0
	26	64.5	0
	27	64.5	0
	28	64.4	0
	29	64.4	0
	30	64.3	0
	31	64.3	0
	32	64.2	0
	33	64.1	0
	34	64.1	0
	35	64.0	0
	36	64.0	0
	37	63.9	0
	38	63.9	0
	39	63.8	0
	40	63.7	0
	41	63.7	0
	42	63.6	0
50	6	63.8	0
	7	63.8	0
	8	63.7	0
	9	63.6	0
	10	63.4	0
	11	63.4	0
	12	64.4	0
	13	64.7	0
	14	64.9	0
	15	64.9	0
	16	65.0	0
	17	65.0	0
	18	65.0	0
	19	64.9	0
	20	64.9	0
	21	64.8	0
	22	64.7	0
	23	64.7	0
	24	64.6	0
	25	64.6	0
	26	64.5	0
	27	64.4	0
	28	64.4	0
	29	64.3	0
	30	64.3	0
	31	64.2	0
	32	64.1	0
	33	64.1	0
	34	64.0	0
	35	64.0	0
	36	63.9	0
	37	63.8	0
	38	63.8	0
	39	63.7	0
	40	63.7	0
	41	63.6	0
	42	63.6	0
51	44	75.4	31
52	44	75.9	31
53	44	76.5	33
54	44	77.2	33
55	44	81.3	38
56	44	81.4	38
57	44	79.5	35
58	44	79.4	35
59	44	78.0	33

Note: The above composite window-wall attenuation requirements are for residential dwellings. Retail or commercial uses would be 5 dB(A) less.

Building Attenuation Analysis Results

Receptor Number	Representative Floor	CadnaA Calculated Noise Levels (L_{10})	CEQR Attenuation Required (dBA)
60	44	60.9	0
	45	66.6	0
61	44	63.4	0
	45	69.9	0
62	44	58.6	0
	45	64.8	0
63	44	57.4	0
	45	64.1	0
64	44	61.3	0
	45	61.9	0
65	44	61.0	0
	45	62.2	0
66	45	75.6	31
	46	75.9	31
67	45	76.1	33
	46	76.0	31
68	45	61.2	0
	46	66.5	0
69	45	61.6	0
	46	66.7	0
70	45	64.6	0
	46	71.7	28
71	45	64.0	0
	46	71.2	28
72	1	67.4	0
	2	68.6	0
	3	69.1	0
	4	69.0	0
	5	66.3	0
	6	66.6	0
73	1	63.5	0
	2	63.9	0
	3	64.1	0
	4	64.1	0
	5	64.0	0
	6	64.2	0
74	1	64.6	0
	2	65.0	0
	3	64.3	0
	4	64.9	0
	5	62.9	0
	6	63.8	0
75	1	67.8	0
	2	69.2	0
	3	69.6	0
	4	69.5	0
	5	67.1	0
	6	67.0	0
	7	67.4	0
	8	68.1	0
	9	68.0	0
	10	67.9	0
	11	67.9	0
	12	67.9	0
	13	68.1	0
	14	70.3	28
	15	71.4	28
	16	71.4	28
	17	71.5	28
	18	71.6	28
	19	71.7	28
	20	71.8	28
	21	72.0	28
	22	72.1	28
	23	72.1	28
	24	72.2	28
	25	72.3	28
	26	72.4	28
	27	72.7	28
	28	72.9	28
	29	73.1	31
	30	73.2	31
	31	73.2	31
	32	73.2	31
	33	73.2	31
	34	73.2	31
	35	73.2	31
	36	73.2	31
	37	73.2	31
	38	73.2	31
	39	73.2	31
	40	73.2	31
	41	73.2	31
	42	73.1	31
	43	73.1	31
	44	73.1	31
	45	73.6	31
	46	74.3	31
	47	74.6	31
	48	74.7	31
	49	75.4	31
	50	76.0	31

Note: The above composite window-wall attenuation requirements are for residential dwellings. Retail or commercial uses would be 5 dB(A) less.

Building Attenuation Analysis Results

Receptor Number	Representative Floor	CadnaA Calculated Noise Levels (L_{10})	CEQR Attenuation Required (dBA)
76	47	74.9	31
	48	75.2	31
	49	76.1	33
77	47	58.9	0
	48	62.2	0
	49	67.5	0
78	47	59.8	0
	48	63.6	0
	49	68.7	0
79	47	66.2	0
	48	72.1	28
	49	74.5	31
80	46	63.8	0
	47	69.1	0
	48	71.6	28
	49	74.9	31
81	46	57.6	0
	47	61.4	0
	48	65.4	0
	49	69.4	0
82	46	54.3	0
	47	57.2	0
	48	61.2	0
	49	64.4	0
83	46	60.8	0
	47	62.1	0
	48	62.5	0
	49	62.6	0
84	1	70.9	28
	2	71.7	28
	3	72.4	28
	4	73.0	28
	5	73.4	31
	6	73.5	31
	7	73.5	31
	8	73.5	31
	9	73.5	31
	10	73.5	31
	11	73.4	31
	12	73.3	31
85	1	77.0	33
	2	78.1	35
	3	78.5	35
	4	78.7	35
	5	78.6	35
	6	78.5	35
	7	78.4	35
	8	78.3	35
	9	78.3	35
	10	78.2	35
	11	78.0	33
	12	77.9	33
86	1	78.3	35
	2	78.9	35
	3	79.1	35
	4	79.2	35
	5	79.1	35
	6	78.9	35
	7	78.8	35
	8	78.7	35
	9	78.6	35
	10	78.5	35
	11	78.4	35
	12	78.3	35
87	4	75.9	31
	5	79.0	35
	6	79.7	35
	7	80.7	37
	8	81.0	37
	9	80.9	37
	10	80.9	37
	11	80.8	37

Note: The above composite window-wall attenuation requirements are for residential dwellings. Retail or commercial uses would be 5 dB(A) less.

Building Attenuation Analysis Results

Receptor Number	Representative Floor	CadnaA Calculated Noise Levels (L_{10})	CEQR Attenuation Required (dBA)
88	1	63.3	0
	2	62.8	0
	3	64.3	0
	4	68.6	0
	5	72.1	28
	6	73.4	31
	7	74.8	31
	8	75.7	31
	9	76.6	33
	10	76.9	33
	11	77.1	33
	12	77.1	33
	13	77.3	33
89	1	62.3	0
	2	63.1	0
	3	65.6	0
	4	70.2	28
	5	76.5	33
	6	78.5	35
	7	80.1	37
	8	81.7	38
	9	82.4	39
	10	82.3	39
	11	82.4	39
	12	82.5	39
	13	82.3	39
	14	82.3	39
90	4	80.3	37
	5	83.4	40
	6	86.1	43
	7	87.9	44
	8	87.8	44
	9	87.7	44
	10	87.6	44
	11	87.5	44
	12	87.4	44
	13	87.3	44
91	4	80.4	37
	5	83.6	40
	6	87.2	44
	7	87.4	44
	8	87.3	44
	9	87.2	44
	10	87.1	44
	11	87.0	43
	12	86.9	43
	13	86.8	43
92	4	75.1	31
	5	78.7	35
	6	82.6	39
	7	83.0	39
	8	82.9	39
	9	82.8	39
	10	82.6	39
	11	82.5	39
	12	82.3	39
	13	82.2	39
93	4	71.5	28
	5	73.5	31
	6	75.9	31
	7	78.2	35
	8	79.5	35
	9	79.9	35
	10	80.0	35
	11	79.9	35
	12	79.8	35
	13	79.6	35
	14	79.5	35
	15	79.3	35
	16	79.1	35
	17	78.6	35
	18	78.4	35
	19	78.2	35
	20	78.0	33
	21	77.8	33
	22	77.6	33
	23	77.4	33
	24	77.2	33
	25	77.0	33
	26	76.8	33
	27	76.6	33
	28	76.4	33
	29	76.1	33
	30	75.9	31
	31	75.7	31
	32	75.5	31
	33	75.3	31
	34	75.2	31
	35	75.0	31

Note: The above composite window-wall attenuation requirements are for residential dwellings. Retail or commercial uses would be 5 dB(A) less.

Building Attenuation Analysis Results

Receptor Number	Representative Floor	CadnaA Calculated Noise Levels (L_{10})	CEQR Attenuation Required (dBA)
94	4	74.0	31
	5	76.5	33
	6	78.2	35
	7	80.3	37
	8	81.3	38
	9	81.5	38
	10	81.5	38
	11	81.5	38
	12	81.3	38
	13	81.2	38
	14	81.2	38
	15	81.1	38
	16	81.0	37
	17	80.8	37
	18	80.7	37
	19	80.6	37
	20	80.5	37
	21	80.4	37
	22	80.3	37
	23	80.2	37
	24	80.0	35
	25	79.9	35
	26	79.8	35
	27	79.7	35
	28	79.5	35
	29	79.4	35
	30	79.2	35
	31	79.1	35
	32	79.0	35
	33	78.9	35
	34	78.7	35
	35	78.6	35
95	4	75.7	31
	5	78.3	35
	6	79.8	35
	7	81.5	38
	8	81.8	38
	9	81.9	38
	10	81.9	38
	11	81.9	38
	12	81.8	38
	13	81.8	38
	14	81.7	38
	15	81.7	38
	16	81.6	38
	17	81.5	38
	18	81.6	38
	19	81.7	38
	20	81.7	38
	21	81.6	38
	22	81.6	38
	23	81.5	38
	24	81.4	38
	25	81.4	38
	26	81.3	38
	27	81.3	38
	28	81.2	38
	29	81.1	38
	30	81.0	37
	31	81.0	37
	32	80.9	37
	33	80.8	37
	34	80.8	37
	35	80.7	37

Note: The above composite window-wall attenuation requirements are for residential dwellings. Retail or commercial uses would be 5 dB(A) less.

Building Attenuation Analysis Results

Receptor Number	Representative Floor	CadnaA Calculated Noise Levels (L_{10})	CEQR Attenuation Required (dBA)
96	12	70.8	28
	13	77.1	33
	14	77.6	33
	15	77.4	33
	16	77.2	33
	17	76.9	33
	18	76.7	33
	19	76.5	33
	20	76.3	33
	21	76.2	33
	22	76.0	31
	23	75.8	31
	24	75.6	31
	25	75.4	31
	26	75.2	31
	27	75.0	31
	28	74.8	31
	29	74.6	31
	30	74.3	31
	31	74.1	31
	32	74.0	31
	33	73.8	31
	34	73.6	31
	35	73.5	31
97	12	66.0	0
	13	74.0	31
	14	75.9	31
	15	76.8	33
	16	77.0	33
	17	76.8	33
	18	76.7	33
	19	76.5	33
	20	76.3	33
	21	76.1	33
	22	75.9	31
	23	75.8	31
	24	75.6	31
	25	75.4	31
	26	75.2	31
	27	75.0	31
	28	74.9	31
	29	74.7	31
	30	74.4	31
	31	74.2	31
	32	74.0	31
	33	73.9	31
	34	73.7	31
	35	73.5	31
98	6	68.5	0
	7	68.7	0
	8	68.8	0
	9	68.8	0
	10	68.8	0
	11	68.9	0
	12	70.0	0
	13	71.8	28
	14	72.5	28
	15	72.4	28
	16	72.3	28
	17	72.2	28
	18	72.1	28
	19	72.0	28
	20	71.9	28
	21	71.8	28
	22	71.7	28
	23	71.5	28
	24	71.4	28
	25	71.3	28
	26	71.2	28
	27	71.0	28
	28	70.9	28
	29	70.8	28
	30	70.7	28
	31	70.5	28
	32	70.4	28
	33	70.3	28
	34	70.1	28
	35	70.0	0

Note: The above composite window-wall attenuation requirements are for residential dwellings. Retail or commercial uses would be 5 dB(A) less.

Building Attenuation Analysis Results

Receptor Number	Representative Floor	CadnaA Calculated Noise Levels (L_{10})	CEQR Attenuation Required (dBA)
99	6	70.2	28
	7	71.2	28
	8	71.2	28
	9	71.3	28
	10	71.2	28
	11	71.2	28
	12	71.1	28
	13	71.1	28
	14	71.4	28
	15	71.7	28
	16	71.8	28
	17	71.7	28
	18	71.6	28
	19	71.5	28
	20	71.4	28
	21	71.3	28
	22	71.2	28
	23	71.1	28
	24	71.0	28
	25	70.9	28
	26	70.8	28
	27	70.6	28
	28	70.5	28
	29	70.4	28
	30	70.3	28
	31	70.2	28
	32	70.1	28
	33	69.9	0
	34	69.8	0
	35	69.7	0
100	6	69.5	0
	7	70.8	28
	8	71.0	28
	9	71.0	28
	10	71.0	28
	11	71.0	28
	12	70.9	28
	13	70.8	28
	14	70.8	28
	15	70.8	28
	16	70.8	28
	17	71.0	28
	18	71.0	28
	19	70.9	28
	20	70.8	28
	21	70.7	28
	22	70.6	28
	23	70.5	28
	24	70.4	28
	25	70.3	28
	26	70.2	28
	27	70.1	28
	28	70.0	0
	29	69.9	0
	30	69.8	0
	31	69.7	0
	32	69.6	0
	33	69.5	0
	34	69.4	0
	35	69.3	0

Note: The above composite window-wall attenuation requirements are for residential dwellings. Retail or commercial uses would be 5 dB(A) less.

Building Attenuation Analysis Results

Receptor Number	Representative Floor	CadnaA Calculated Noise Levels (L_{10})	CEQR Attenuation Required (dBA)
101	3	66.5	0
	4	69.8	0
	5	71.7	28
	6	72.7	28
	7	73.7	31
	8	74.5	31
	9	75.4	31
	10	76.3	33
	11	76.7	33
	12	76.8	33
	13	76.8	33
	14	76.8	33
	15	76.9	33
	16	77.0	33
	17	77.2	33
	18	77.4	33
	19	77.8	33
	20	78.1	35
	21	78.5	35
	22	78.9	35
	23	79.2	35
	24	79.3	35
	25	79.3	35
	26	79.3	35
	27	79.3	35
	28	79.4	35
	29	79.4	35
	30	79.4	35
	31	79.5	35
	32	79.5	35
	33	79.4	35
	34	79.4	35
	35	79.3	35
	36	79.3	35
	37	79.2	35
102	3	64.0	0
	4	67.7	0
	5	70.3	28
	6	71.5	28
	7	72.8	28
	8	73.5	31
	9	74.7	31
	10	75.2	31
	11	75.4	31
	12	75.6	31
	13	75.5	31
	14	75.7	31
	15	76.1	33
	16	77.0	33
	17	77.7	33
	18	78.4	35
	19	79.0	35
	20	79.8	35
	21	80.1	37
	22	80.2	37
	23	80.2	37
	24	80.2	37
	25	80.2	37
	26	80.2	37
	27	80.2	37
	28	80.3	37
	29	80.3	37
	30	80.2	37
	31	80.2	37
	32	80.1	37
	33	80.1	37
	34	80.0	35
	35	80.0	35
	36	79.9	35
	37	79.8	35

Note: The above composite window-wall attenuation requirements are for residential dwellings. Retail or commercial uses would be 5 dB(A) less.

Building Attenuation Analysis Results

Receptor Number	Representative Floor	CadnaA Calculated Noise Levels (L_{10})	CEQR Attenuation Required (dBA)
103	13	71.9	28
	14	73.9	31
	15	77.4	33
	16	79.0	35
	17	80.2	37
	18	81.1	38
	19	81.3	38
	20	81.2	38
	21	81.2	38
	22	81.2	38
	23	81.2	38
	24	81.2	38
	25	81.2	38
	26	81.2	38
	27	81.2	38
	28	81.1	38
	29	81.1	38
	30	81.0	37
	31	80.9	37
	32	80.9	37
	33	80.8	37
	34	80.7	37
	35	80.6	37
	36	80.6	37
104	14	73.6	31
	15	79.8	35
	16	83.3	40
	17	84.6	41
	18	85.1	42
	19	85.0	41
	20	85.0	41
	21	84.9	41
	22	84.8	41
	23	84.6	41
	24	84.5	41
	25	84.4	41
	26	84.3	41
	27	84.2	41
	28	84.0	40
	29	83.9	40
	30	83.8	40
	31	83.7	40
	32	83.5	40
	33	83.4	40
	34	83.3	40
	35	83.2	40
	36	83.1	40
105	14	74.2	31
	15	80.2	37
	16	83.2	40
	17	84.6	41
	18	84.9	41
	19	84.8	41
	20	84.7	41
	21	84.6	41
	22	84.5	41
	23	84.4	41
	24	84.2	41
	25	84.1	41
	26	84.0	40
	27	83.9	40
	28	83.8	40
	29	83.7	40
	30	83.6	40
	31	83.4	40
	32	83.3	40
	33	83.2	40
	34	83.1	40
	35	83.0	39
	36	82.9	39

Note: The above composite window-wall attenuation requirements are for residential dwellings. Retail or commercial uses would be 5 dB(A) less.

Building Attenuation Analysis Results

Receptor Number	Representative Floor	CadnaA Calculated Noise Levels (L_{10})	CEQR Attenuation Required (dBA)
106	4	73.1	31
	5	75.9	31
	6	79.3	35
	7	80.9	37
	8	81.0	37
	9	80.9	37
	10	80.9	37
	11	80.7	37
	12	80.6	37
	13	80.5	37
	14	80.3	37
	15	80.2	37
	16	79.7	35
	17	79.5	35
	18	79.3	35
	19	79.1	35
	20	78.8	35
	21	78.6	35
	22	78.4	35
	23	78.2	35
	24	78.0	33
	25	77.8	33
	26	77.6	33
	27	77.4	33
	28	77.2	33
	29	77.0	33
	30	76.8	33
	31	76.6	33
	32	76.4	33
	33	76.2	33
	34	76.0	31
	35	75.8	31
	36	75.6	31
107	4	71.3	28
	5	73.3	31
	6	75.9	31
	7	78.0	33
	8	79.1	35
	9	79.4	35
	10	79.4	35
	11	79.3	35
	12	79.2	35
	13	79.0	35
	14	78.8	35
	15	78.7	35
	16	78.5	35
	17	77.9	33
	18	77.7	33
	19	77.5	33
	20	77.2	33
	21	77.0	33
	22	76.8	33
	23	76.6	33
	24	76.4	33
	25	76.1	33
	26	75.9	31
	27	75.7	31
	28	75.5	31
	29	75.2	31
	30	75.0	31
	31	74.8	31
	32	74.6	31
	33	74.4	31
	34	74.2	31
	35	74.0	31
	36	73.9	31
108	37	54.3	0
	38	58.4	0
	39	62.3	0
109	37	60.1	0
	38	67.9	0
	39	72.7	28

Note: The above composite window-wall attenuation requirements are for residential dwellings. Retail or commercial uses would be 5 dB(A) less.

Building Attenuation Analysis Results

Receptor Number	Representative Floor	CadnaA Calculated Noise Levels (L_{10})	CEQR Attenuation Required (dBA)
110	37	55.1	0
	38	61.8	0
	39	67.9	0
111	37	54.9	0
	38	62.5	0
	39	68.7	0
112	37	59.5	0
	38	66.2	0
	39	67.7	0
113	37	59.3	0
	38	66.0	0
	39	67.4	0
114	38	64.4	0
	39	73.7	31
	40	75.5	31
115	38	65.2	0
	39	74.3	31
	40	76.1	33
116	38	66.7	0
	39	75.3	31
	40	77.1	33
117	38	71.0	28
	39	79.4	35
	40	81.2	38
118	38	71.0	28
	39	79.3	35
	40	81.2	38
119	38	60.3	0
	39	68.3	0
	40	71.2	28
120	38	56.2	0
	39	63.7	0
	40	67.7	0
121	1	59.9	0
	2	60.5	0
	3	61.1	0
	4	61.5	0
	5	62.5	0
	6	63.4	0
122	1	68.8	0
	2	69.4	0
	3	70.0	0
	4	70.6	28
	5	71.3	28
	6	71.8	28
123	1	69.5	0
	2	70.0	0
	3	70.6	28
	4	71.1	28
	5	71.6	28
	6	72.0	28
124	1	70.5	28
	2	71.1	28
	3	71.8	28
	4	72.4	28
	5	72.9	28
	6	73.1	31
125	40	56.9	0
	41	62.4	0
	42	65.1	0
126	40	63.7	0
	41	71.2	28
	42	72.7	28
127	40	56.1	0
	41	67.0	0
	42	69.5	0
128	40	55.8	0
	41	67.1	0
	42	69.6	0
129	40	58.7	0
	41	66.2	0
	42	67.8	0

Note: The above composite window-wall attenuation requirements are for residential dwellings. Retail or commercial uses would be 5 dB(A) less.

Building Attenuation Analysis Results

Receptor Number	Representative Floor	CadnaA Calculated Noise Levels (L_{10})	CEQR Attenuation Required (dBA)
130	40	58.7	0
	41	66.4	0
	42	67.6	0
131	40	60.7	0
	41	65.4	0
	42	67.0	0
132	40	63.1	0
	41	68.0	0
	42	69.7	0
133	40	68.7	0
	41	78.5	35
	42	80.6	37
134	40	73.4	31
	41	76.4	33
	42	77.3	33
135	40	73.2	31
	41	76.4	33
	42	77.3	33
136	1	62.5	0
	2	63.9	0
	3	66.4	0
	4	68.9	0
	5	70.4	28
	6	71.3	28
	7	72.8	28
	8	73.6	31
	9	74.2	31
	10	74.9	31
	11	75.5	31
	12	75.6	31
	13	75.5	31
	14	75.4	31
	15	75.3	31
	16	75.3	31
	17	75.3	31
	18	75.4	31
	19	75.5	31
	20	75.6	31
	21	75.8	31
	22	76.0	31
	23	76.4	33
	24	76.6	33
	25	76.7	33
	26	76.7	33
	27	76.8	33
	28	76.8	33
	29	76.8	33
	30	76.9	33
	31	76.9	33
	32	76.9	33
	33	77.0	33
	34	76.9	33
	35	76.9	33
	36	76.8	33
	37	76.8	33
	38	76.7	33
	39	76.7	33
	40	76.7	33
	41	76.7	33
	42	76.9	33
	43	77.2	33

Note: The above composite window-wall attenuation requirements are for residential dwellings. Retail or commercial uses would be 5 dB(A) less.

Technical Memorandum
Analysis of Proposed Modifications to the 22-44 Jackson Avenue Project
CEQR No. 13DCP094Q
ULURP No. 130191ZSQ
July 26, 2013

A. INTRODUCTION

The proposed 22-44 Jackson Avenue project in the Hunters Point neighborhood of Queens is the subject of an application for a special permit which includes an increase in bulk from 5.0 to 8.0 FAR and waivers from streetwall and setback requirements. The purpose of this Technical Memorandum is to determine whether the modifications proposed as part of a revised ULURP application would result in any significant adverse environmental impacts. As described in greater below, it is the conclusion of this Technical Memorandum that the proposed modifications would not result in any significant adverse environmental impacts.

B. PROJECT BACKGROUND

The proposed project would redevelop the project site (see **Figure 1**) with approximately 1,000 housing units (an increase of 372 units over the zoning as-of-right development), approximately 50,302 gross square feet (gsf) of local retail, 2,280 gsf of artist work space, a 250-space public parking garage, and a total of approximately 32,099 square feet (0.74 acres) of at-grade landscaped publicly accessible open area in four distinct areas including an approximately 20,733-square-foot landscaped area with passive and active recreational facilities on the southern portion of the block; an approximately 2,785-square-foot landscaped sitting area on Jackson Avenue at Crane Street; an approximately 6,694-square-foot open area with benches and trees along the project frontage on Davis Street; and an approximately 1,887-square-foot open area within the project site and fronting on Crane Street.

The following actions, which are subject to subject to review by New York City Planning Commission under the Uniform Land Use Review Procedure (ULURP), have been proposed to facilitate the proposed project: a zoning Special Permit (pursuant to the New York City Zoning Resolution Section 117-56, "Special Permit for Bulk Modifications on Blocks 86/72 and 403") that would allow an increase in the maximum floor area ratio (FAR) at the project site from 5.0 to 8.0 which is permitted when the proposed project provides a 250-space public parking garage and at least 20,000 square feet of publicly accessible open space; waivers from streetwall requirements that would allow widened sidewalks and open spaces along the street lines of Jackson Avenue, Crane and Davis Streets; and the waiver of setback requirements that would allow the buildings to rise without required setbacks along Jackson Avenue and Crane Street to provide a "chevron" architectural expression extending from the ground floor to the tower roofs and related design.

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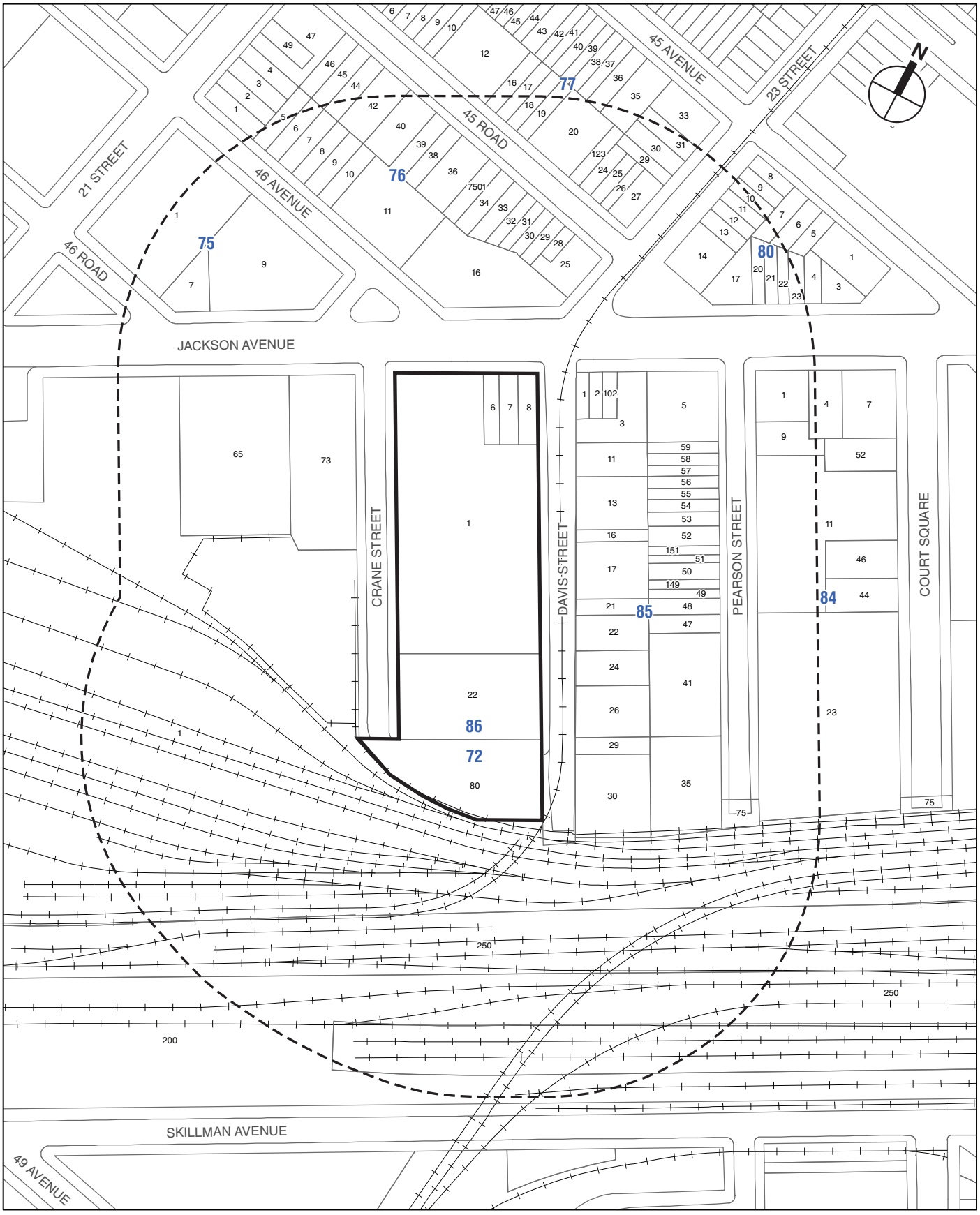


Project Site Boundary

Study Area Boundary (400-Foot Perimeter)

72 *Block Number*

250 *Lot Number*

22-44 JACKSON AVENUE

Tax Map

Figure 1

The proposed project has undergone City Environmental Quality Review (CEQR Reference No. 13DCP094Q) with the New York City Department of City Planning (DCP) acting as Lead Agency. An Environmental Assessment Statement (EAS) was prepared that examined the potential environmental impacts of the proposed project and DCP determined that it would not result in any significant environmental impacts with the implementation of the following:

- A signal timing modification intersection of Jackson Avenue and Davis Street/23rd Street.

That signal timing adjustment was reviewed and approved as feasible by the New York City Department of Transportation. (E) designations were previously recorded on the property during the 2001 Long Island City area wide rezoning. These (E) designations would avoid development impacts associated with air emissions from project heating systems, attenuation of ambient noise, and hazardous materials abatement. A Conditional Negative Declaration describing these requirements was issued by DCP on April 19, 2013.

C. MODIFICATIONS UNDER CONSIDERATION

DESCRIPTION OF THE PROPOSED MODIFICATIONS

Since issuance of the Conditional Negative Declaration and during Community Board review of the proposed project during ULURP, the project applicant has agreed to provide a number of community benefits that would modify the project. These modifications are presented in a letter from Queens Community Board 2 to the applicant dated June 26, 2013 and signed by both parties. The modifications include the following:

- Approximately 75 of the proposed project units would be made affordable to individuals or families where the household income levels are at or below 80 percent of the area median income and would be affordable in accordance with the guidelines of the New York City Department of Housing Preservation and Development (HPD). Inclusion of these affordable housing units in the project would not increase the number of project units analyzed in the EAS.
- The proposed modification would increase artist studio space to 12,000 sf, by adding approximately 10,000 square feet of artist work space to be on the 2nd and third floors of the proposed building in addition to the 2,280 gsf of artist studio/exhibition space at the street level that was analyzed in the EAS.
- A working partnership would be developed with a local art institution for the display of public art in the public open area along Davis Street. Art panels would be installed on a portion of the Davis Street facade in compliance with all City zoning and other applicable rules and regulations
- A car sharing program would be implemented at the proposed garage along with preferred parking rates and promotions that would encourage residents of the proposed development as well as local residents and business to use the proposed on-site public garage. This proposed modification would not increase the capacity of the proposed public garage from the 250 car spaces analyzed in the EAS.
- Commercial space in the proposed building would be encouraged to be programmed towards small neighborhood retail.
- Availability of a building space on a monthly basis for use as community meeting space at no charge. This would also not increase the size of the proposed project, but would be a monthly commitment of space already included in the proposed floor area.

The number of affordable units, provision of additional artist space on the second and third floors, and the placement and dimensions of the new art panels are governed by the ULURP application and are reflected in the revised ULURP drawings. Demising walls for the additional artist space and the number of artist studios is illustrative. Project elements related to the proposed parking garage, leasing of the commercial

space, and the availability of community facility spaces as described above are operational commitments of the proposed project.

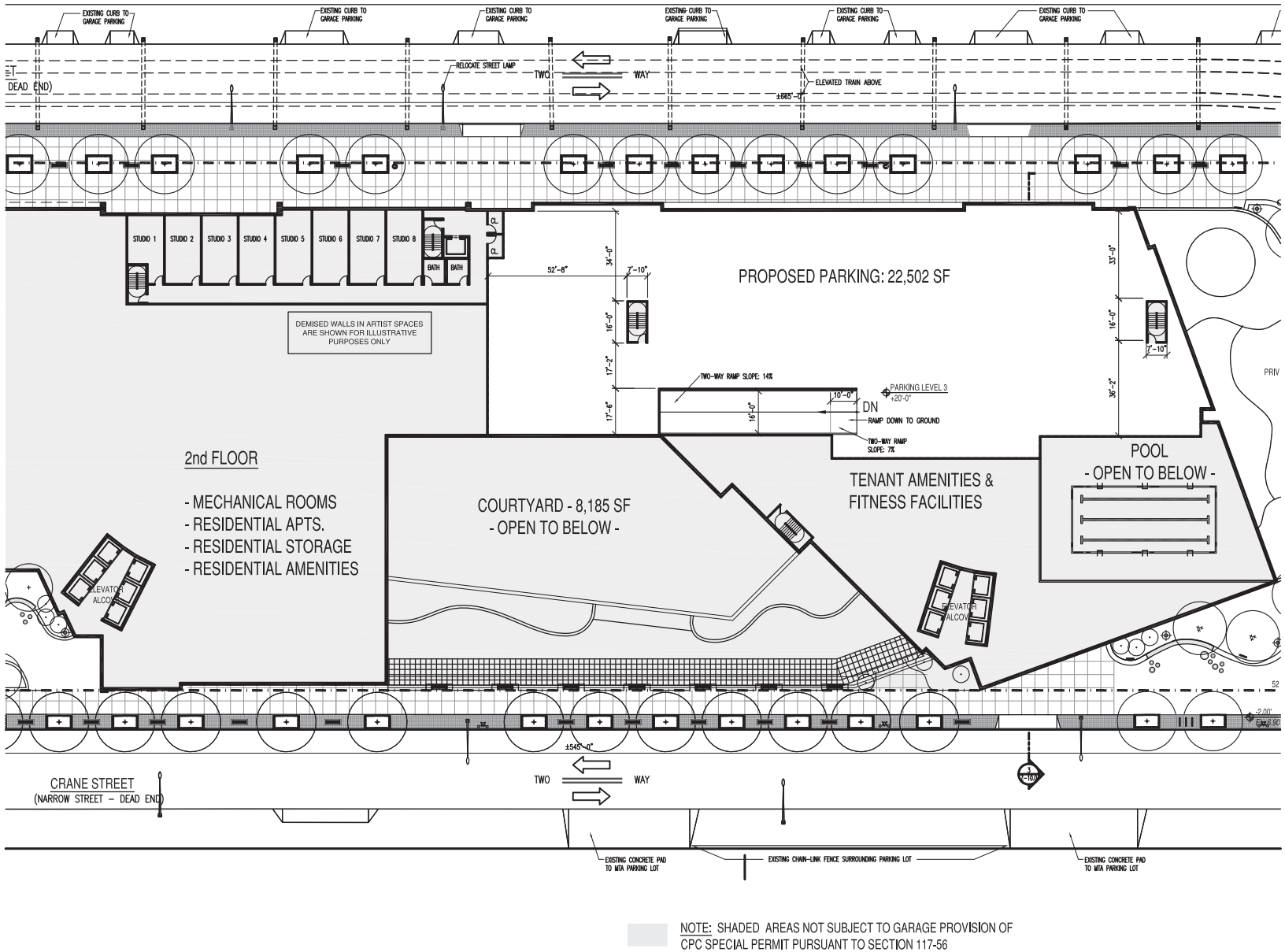
FRAMEWORK FOR ANALYSIS

The April 2013 EAS contained a framework for analysis that was prepared in accordance with the guidelines of the *2012 CEQR Technical Manual.* As described in detail in the EAS, existing conditions of the analysis are defined as the current conditions at the project site. The projection of future "No Build" conditions was assumed through the project completion year (2017) and is based on a reasonable as-of-right program for the project site, which assumes development under the current zoning with no discretionary approvals. Accordingly, the EAS assumed no public open spaces or public parking garage in this scenario. The as-of-right building, based on an FAR of 5.0 would have 628 dwelling units, 50,240 gsf of retail, and a 225-space accessory parking garage. It was also assumed that the No Build and proposed projects would participate in the Brownfields Cleanup Program. The analysis of potential environmental impacts was based upon the comparison of the No Build conditions to the future with the proposed action (the Build Condition).

The incremental development analyzed in the EAS was comprised of 372 dwelling units, 62 gsf of retail space, 2,280 gsf of artist work space, a 250-space public parking garage, and approximately 32,099 square feet of publicly accessibly open area. The Reasonable Worst Case Development Scenario analyzed for each technical area assumed market-rate units except for community facilities (specifically the child care analysis) where it was assumed that 20 percent of the proposed dwelling units would be affordable.

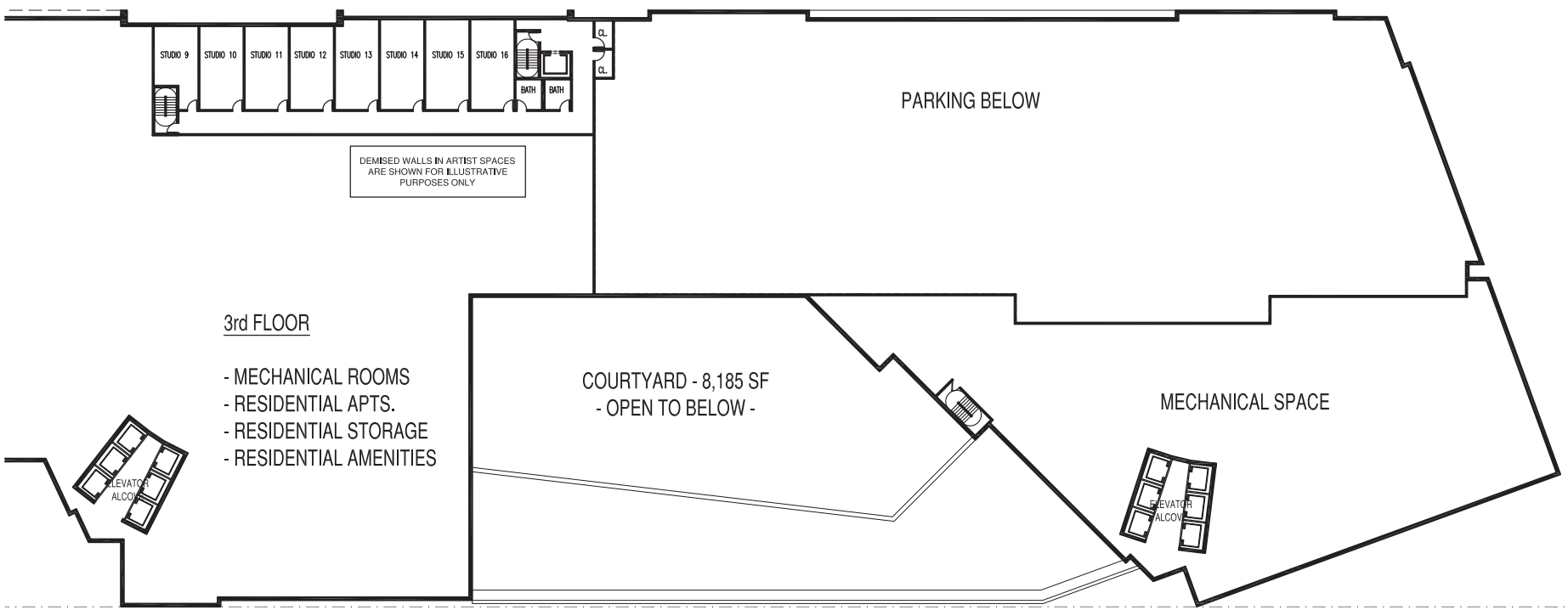
The proposed modifications are minor and stem from an agreement with Queens Community Board 2 that would expand the community benefits of the proposed project. **Table 1,** below, presents a comparison of existing, No Build, the incremental Build conditions (i.e., the proposed project analyzed in the EAS) and the incremental build conditions with these proposed modifications. (Table 1 is adapted from Table A-1 of the EAS).

The proposed modifications would result in approximately 10,000 square feet of additional artist work space on the second and third floors in the base of the proposed project. With this modification there would be a negligible decrease in retail space on the first floor to create a new entrance on Davis Street to provide access to the artist work space on the second and third floors. Figures 2a and 2b provide an illustrative floor plan with 16 artist studios divided between the second and third floors. Most artists would work independently in their studio space, though some artists could share work space depending on the nature and scale of art created by each artist. Accordingly, it is assumed that 16-20 artists would occupy the artist work space, which equates to an average of approximately 500 square feet per artist. This Technical Memorandum conservatively analyzes the additional artist work space with the proposed modifications without any corresponding decrease in residential units or retail space.



2nd Floor Plan (Proposed Modification)

Figure 2a



3rd Floor Plan (Proposed Modification)

Figure 2b

Table 1
Comparison of the Conditions: Existing, Future Without, and With the Proposed Action

Land Uses/Space Program	Existing Conditions	Future Without the Proposed Action/No Build	Proposed Project	Increment Over No Build Analyzed in April 2013 EAS	Increment Over No Build with Proposed Modification
Manufacturing space	173,250 gsf	0 gsf	0 gsf	0 gsf	0 gsf
Retail	4,350 gsf	50,240 gsf	50,320 gsf	+62 gsf	+62 gsf
Residential[(1)]	5,000 gsf	628 Dus	1,000 DUs	+372 DUs	+372 DUs
Publicly accessible open space[(2)]	0 gsf	0 gsf	+2,099 sf	+32,099 (+0.74 acres)	+32,099 (+0.74 acres)
Artist work space	20,000 gsf	0 gsf	2,280 gsf	+2,280 gsf	+12,360 gsf
Parking (gsf)	22,150 gsf	67,500 gsf	72,185 gsf	+4,685	+4,685
Accessory parking (spaces)	0	200 spaces (residential allocation), 25 spaces (commercial allocation)	0	-225 accessory parking spaces	-225 accessory parking spaces
Public parking (spaces)[(3)]	100 spaces	0	250 spaces	+250 public parking spaces	+250 public parking spaces

Notes:
[1]Assumes 1,000 gsf per dwelling unit.
[2]The total amount of project open space also includes 1,887 square feet of open space on the property but within the mapped but unimproved portion of Crane Street.
[3]Public parking is required as per zoning and Special Permit requirements.
Source: G&M Realty, L.P., H. Thomas O'Hara, Architects, July 2013; NYC Dept. of City Planning MapPLUTO March 2011 (11v1).

D. POTENTIAL ENVIRONMENTAL IMPACTS OF THE PROPOSED MODIFICATIONS

INTRODUCTION

Since the proposed modifications would not alter the building uses, site plan, exterior envelope, or build year, the conclusions of the EAS with respect Land Use, Zoning, and Public Policy; Socioeconomic Conditions; Shadows; Hazardous Materials; Air Quality; Noise; and Construction would remain unaffected by the proposed modifications. Provided below is an examination of the proposed modifications with respect to open space, community facilities, urban design, and transportation.

COMMUNITY FACILITIES

The community facilities analysis of the EAS was limited to an examination of potential impacts on public schools. A detailed analysis of libraries was not necessary since the proposed project did not exceed the unit count threshold of the *CEQR Technical Manual* requiring such an analysis. In addition, the EAS did not need to analyze the potential for any impacts on fire protection, health care and emergency medical services, or police protection facilities since there would be no direct impact on these facilities. This conclusion applies to the proposed modifications as well.

The EAS provided a detailed analysis of the potential for impacts on public schools because the number of students anticipated with the 372 incremental residential units exceeded the CEQR Technical Manual threshold requiring that detailed analysis. The EAS disclosed that a projected 104 public elementary students and 45 public intermediate school students would be generated by the proposed project. It was the conclusion of the EAS that this represented a 2 percent increase in the seating utilization rate for elementary schools and an approximately 3 percent increase for intermediate schools in the local school district. Neither of these increases exceeded the CEQR Technical Manual threshold for significant impacts (that threshold is a 5 percent increase). Therefore, it was the conclusion of the April 2013 EAS that the proposed project would not result in a significant adverse impact on public schools. Since the proposed modification would not increase the number of housing units, that conclusion remains unchanged.

With respect to publicly financed child care services, projects that would produce substantial numbers of subsidized, low- to moderate-income family housing units may generate a so many eligible children that is affects the availability of slots at publicly funded group child care and Head Start center. If a project generates 20 or more eligible children under age 6, a detailed analysis may be required. As stated in the *CEQR Technical Manual*, the threshold for requiring detailed analysis is based on the number of low-income and low- to moderate-income units and the analysis threshold for projects located in Queens is 139 low- to moderate-income units. The EAS analyzed the potential for the applicant to apply to seek a 421a tax exemption program, which requires that 20 percent of the units be affordable. This yielded an increment of 74 affordable units over the as-of-right condition and no further analysis was necessary. This proposed modification is for 75 units of affordable housing. Since the proposed modification would similarly result in fewer than 139 low- to moderate-income units, no detailed analysis is necessary and the proposed project would not result in any significant adverse impacts on child care centers.

OPEN SPACE

As disclosed in the April 2013 EAS, it was concluded that the proposed project would not result in a significant adverse impact on open space because it would not decrease the total, active, or passive open space ratios by 5 percent or more. With the proposed project there was an increase in the passive open space ratio resulting from the provisions of the project's open spaces. Also, the proposed streetscape improvements were designed to enhance and support the City's Jackson Avenue Streetscape Project and to extend the "greening" of the Jackson Avenue corridor. These are the open space benefits of the proposed project.

With the proposed modification, the addition of an estimated 15-20 artists working at the site would be a non-resident population. According to the 2012 CEQR Technical Manual, a non-residential open space detailed analysis is conducted when a project would generate 500 or more employees. Since the proposed modification would result in only an estimated 15-20 artists working at the site (on average), an assessment of potential open space impacts from a non-residential population is not necessary with this proposed modification. Therefore, the proposed modifications would not result in any significant adverse impacts on open space.

URBAN DESIGN AND VISUAL RESOURCES

It was the conclusion of the April 2013 EAS that proposed action would not result in significant adverse impacts on urban design or visual resources. It would not visually impact any historic features and would also not obstruct any view corridor, nor would it substantially alter the streetscape. Moreover the proposed project would not negatively affect the vitality, walkability, and visual character of the area. It was also the conclusion of the EAS that the proposed development would contain more active and diverse street uses than the No Build project, with ground floor artist work space and the approximately 32,099 sf of publicly assessable open area. The proposed building towers would also not be as tall as the as-of-right building and would have less of a setback along Crane and Davis Streets and from the pedestrian vantage

point, the proposed project does not represent an adverse impact from the as-of-right condition. It was also concluded that the modern façade of the proposed development would complement the glass transit structure at the Court Square Station and the new open space would reflect the plazas and landscaped triangles near the station and along Jackson Avenue. The projects streetscape improvements along Jackson Avenue would also enhance and support the "greening" of the corridor without significantly impacting any view corridors.

It was also recognized in the EAS that the proposed project incorporated artistic elements such as an art wall within the publicly accessible open space at the rear of the building (the South Public Open Area) as well as within the interior courtyard. The building would also feature art windows along Davis Street as well as sculptures within the open spaces. These design elements would not be provided in the No Build condition and were concluded to be positively contributing urban design features of the proposed project. Accordingly, it was the conclusion of the EAS that the proposed action would not result in a significant change in visual resources when compared with the No Build condition.

The proposed modifications would not alter the proposed site plan, building envelope, open spaces or overall facade treatment as presented in the EAS. Thus, the principal conclusions of the EAS remain unchanged. Under the proposed modifications, the use of art panels at the project site would be expanded with a series of art panels installed along the building base on the Davis Street frontage. The proposed art panels would be approximately 18 feet 7 inches in height above the first floor and would occupy the exterior wall up to about the roofline of the building base. This area was unadorned in the proposed project (see Figure 3a). The proposed art panels would provide surfaces to be decorated by artists and would be installed on the exterior wall beginning just south of the proposed ground floor retail space on Davis Street and continuing southward, above the proposed street level art studio space, to just south of the propose garage entrance (see **Figure 3b**). The objective of the proposed art panels is to evoke the artistic character of the current building. In addition to the proposed art panels and artist studios, the facade would also include art windows for the display of art. The installation of art panels along Davis Street in conjunction with the art windows and street level studios would be an urban design and visual character enhancement to the project that would provide an expanded community benefit over the proposed project. Together these elements would serve to maintain street wall art along this facade and the artistic composition of the current Davis Street frontage. The proposed art panels would also be affixed to the building and would not adversely impact any visual corridors along Davis Street.

Since the cultural amenities of the proposed project were concluded to be a positive urban design feature and would be expanded under this proposed modification, it is concluded that the proposed modification would not result in any potential significant adverse impacts on urban design and visual resources.

TRANSPORTATION

TRIP GENERATION

Trip generation for the proposed project addressed the incremental uses over the No Build conditions and included the proposed parking garage. The proposed modifications would dedicate an additional 10,000 square feet of building space to be used by artists for the creation of art (i.e., artist work space). This space would be located on the 2nd and 3rd floors of the proposed building. The proposed modifications also include implementing a car sharing program, which would encourage use of the public parking garage by local residents and commercial businesses, and would provide space for a monthly community meeting. None of these modifications would increase the zoning floor area or the project gross floor area, nor would they change the number of parking spaces or operational characteristics of the proposed garage, since it would be a public garage. Since the proposed parking garage was analyzed as a public garage, use of the parking garage by building residents as well as local residents and businesses was also already examined in the EAS transportation analyses. Finally, use of project building space by the

Davis Street Elevation (Proposed Project)

Figure 3a

Davis Street Elevation (Proposed Modification)

Figure 3b

community once a month would not affect the transportation analyses since the use would be infrequent and would, in most cases, be in the evening or non peak travel hours.

With the proposed modification there would be an increase in the artist work space. Adding this space to the project program, the total amount of proposed artist work space at the site with the proposed project would be about half of the existing artist work space at the site (which totals about 20,000 gross square feet, see Table 1 above). This existing artist work space is generating users of the local transportation systems including streets and transit. Therefore, the trips to and from the site associated with these current activities were already counted in the baseline data collection undertaken for the EAS and then incorporated into the transportation impact analysis. However, none of these baseline trips were removed from the transportation impact analysis of the EAS even though the uses would be removed from the site (thus the EAS analysis was conservative). Therefore, the proposed replacement of artist work space at the project site under the proposed modification with about half the amount of the existing use would not add any additional trips to the EAS transportation impact analyses.

TRAFFIC

Four intersections along the Jackson Avenue Corridor were analyzed for potential traffic impacts in the EAS: Jackson Avenue at Crane Street; Jackson Avenue at Davis/23rd Street; Jackson Avenue at Pearson Street; and Jackson Avenue at Thomson Avenue. Based on the impact criteria of the *CEQR Technical Manual,* only the traffic level-of-service at the intersection of Jackson Avenue and Davis Street/23rd Street would decline to the extent that project improvements were necessary to avoid traffic impacts. As disclosed in the EAS, it was determined for this intersection that a 1.0-second shift of green time from the eastbound/westbound approaches to the northbound/southbound approaches is required during the AM and midday peak hours with a 3.0-second shift of green time during the PM peak hour. These proposed signal timing changes were therefore incorporated into the proposed project. The proposed modification would not affect the EAS traffic analysis and therefore the conclusions would remain unchanged with this proposed modification.

TRANSIT

The April 2013 EAS examined the potential for the proposed project to impact transit systems and the analysis was targeted towards subway station operations. The analysis disclosed that with the proposed project all the analyzed station stairs would operate at acceptable levels of service and there were no potentially significant adverse transit impacts. The proposed modification would not affect the EAS transit analysis and therefore the EAS conclusions would remain unchanged with this proposed modification.

PEDESTRIANS

As disclosed in the EAS, with the proposed project all the sidewalk, corner reservoir, and crosswalk analysis locations would continue to operate acceptably at mid-LOS D or better. The proposed modification would not affect the EAS pedestrian analysis and therefore these conclusions would remain unchanged with this proposed modification.

PARKING

As stated above, the proposed project would provide a total of up to 250 off-street public parking spaces. The EAS provided a weekday parking analysis that accounted for changes in off-street parking facilities due to the addition or loss of public parking spaces and changes in demand generated by background growth. The EAS disclosed parking shortfalls of 680, 538, 403, and 420 spaces during the weekday morning, midday, evening, and overnight peak periods, respectively. Most of this shortfall was expected to be accommodated at parking facilities located outside of the parking analysis study area. It was also assumed that some drivers would seek on-street parking in the area while others may choose alternate modes of transportation. In conclusion, a parking shortfall for projects located in Manhattan and other CBD neighborhoods such as Long Island City, is not a significant adverse parking impact due to the availability of alternative modes of transportation.

The proposed project modifications include implementing a car sharing program, which would encourage use of the public parking garage by local residents and commercial businesses, and would provide additional artist work space and space for a monthly community meeting. None of these modifications would increase the zoning floor area or the project gross floor area, nor would they change the number of parking spaces or operational characteristics of the proposed garage, since it would be a public garage. Since the proposed parking garage was analyzed as a public garage, use of the parking garage by building residents as well as local residents and businesses was also already examined in the analysis. Finally, use of space by the community once a month for community events would not affect the parking analyses since the use would be infrequent and would, in most cases, be in the evening or non peak travel hours; thus the proposed modifications would have no effect on the conclusions of the parking analysis as presented in the EAS.

VEHICULAR AND PEDESTRIAN SAFETY

The proposed modifications would have no effect on the EAS analyses of vehicular and pedestrian safety which concluded that there would not be any impacts.

E. CONCLUSION

The proposed modifications under consideration are intended to address the concerns of the community board. As described above, the proposed modifications would not result in any significant adverse environmental impacts.