

***Revised Environmental Assessment Statement (EAS)**

Kissena Center

Kissena Boulevard & Holly Avenue, Flushings, NY

CEQR No. 18DCP188Q

ULURP Nos. 190203ZRQ
190202ZMQ

prepared for:

Kimco Kissena Center, LLC
3333 New Hyde Park Road
New Hyde Park, NY 11042

prepared by:

AKRF, Inc.
440 Park Avenue South, 7th Flr.
New York, NY 10016

This Revised EAS supersedes the EAS issued on January 3, 2019 for the Kissena Center Rezoning proposal (CEQR # 18DCP188Q). Since certification of the project on January 4, 2019, the applicant has revised the proposed zoning map amendment over Queens Block 5200, Lots 39, 49, 50 and a portion of (p/o) 151, and the adjacent Block 5208, Lots 1 and p/o 5, from R3-2 and R3-2/C2-2 to R6A and R6A/C2-3 zoning districts. The first proposal called for an R7A and R7A/C2-3 zoning districts. Additionally, Block 5208, Lot 32 was removed from the Revised EAS analysis, originally known as "Projected Development Site B" in the first proposal. This Revised EAS reflects the updated zoning map amendment, the removal of Projected Development Site B, and an updated With Action Conditions Section. As the updated proposal contains a lower density zoning district, this updated proposal would not alter the conclusions of the original EAS, which found no significant adverse impacts.

January 3, 2019

*Revised May 13, 2019



City Environmental Quality Review

ENVIRONMENTAL ASSESSMENT STATEMENT (EAS) FULL FORM

Please fill out and submit to the appropriate agency ([see instructions](#))

Part I: GENERAL INFORMATION

PROJECT NAME Kissena Center

1. Reference Numbers

CEQR REFERENCE NUMBER (to be assigned by lead agency)
18DCP188Q

BSA REFERENCE NUMBER (if applicable)

ULURP REFERENCE NUMBER (if applicable)
190202ZMQ, 190203ZRQ

OTHER REFERENCE NUMBER(S) (if applicable)
(e.g., legislative intro, CAPA)

2a. Lead Agency Information

NAME OF LEAD AGENCY
New York City Department of City Planning

NAME OF LEAD AGENCY CONTACT PERSON
Olga Abinader

ADDRESS 120 Broadway, 31st Floor

CITY New York

STATE NY

ZIP 10271

TELEPHONE 212-720-3423

EMAIL
Rdobrus@planning.nyc.gov

2b. Applicant Information

NAME OF APPLICANT
Kimco Kissena Center, LLC

NAME OF APPLICANT'S REPRESENTATIVE OR CONTACT PERSON
Eldad Gothelf
Herrick Feinstein LLP

ADDRESS 2 Park Avenue

CITY New York

STATE NY

ZIP 10016

TELEPHONE (212) 592-1477

EMAIL egothelf@herrick.com

3. Action Classification and Type

SEQRA Classification

☒ UNLISTED ☐ TYPE I: Specify Category (see 6 NYCRR 617.4 and NYC Executive Order 91 of 1977, as amended):

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

☐ LOCALIZED ACTION, SITE SPECIFIC

☒ LOCALIZED ACTION, SMALL AREA

☐ GENERIC ACTION

4. Project Description

The applicant, Kimco Kissena Center, LLC is seeking a zoning map amendment and zoning text amendment (together the "proposed actions") in order to rezone an area around the proposed project (Block 5208 Lot 45), including Block 5208, Lots 1, a portion of (p/o) Lot 5, Lot 32, and the adjacent block Block 5200, Lots 39, 49, 50 and p/o 151 (collectively the "rezoning area"). The rezoning area is proposed to be rezoned from R3-2 and R3-2/C2-2 to R7A and R7A/C2-3, as well as designate the rezoning area a Mandatory Inclusionary Housing Area (MIHA). The proposed actions would facilitate the construction of an eight-story mixed-use development on Block 5208 Lot 45. The new building would contain approximately 244,339 gross square-feet (gsf) dedicated to residential uses; approximately 57,827 gsf of ground-floor commercial (retail) use; approximately 15,675 gsf of second-floor community facility use; and two below-grade levels of parking that would provide approximately 333 spaces accessory to the commercial and residential uses. The residential floor area would be comprised of approximately 244 dwelling units (DUs) and 25 to 30 percent of the residential floor area (approximately 61 to 73 DUs) would be designated as affordable per MIH regulations. For the purposes of conservative analysis it is assumed that 30 percent of DUs will be designated as affordable to an aggregate average of those earning 80 percent of the area median income (AMI). See Attachment A, "Project Description and Screening Analyses," for detailed project description and information regarding the projected development sites (Block 5208; Lots 1, 5, and 32).

Project Location

BOROUGH Queens

COMMUNITY DISTRICT(S) CD 7

STREET ADDRESS 46-15 Kissena Boulevard (Proposed Development Site); 46-01 Kissena Boulevard, 140-12 Holly Avenue, and 46-40 Laburnum Avenue (Projected Development Sites)

TAX BLOCK(S) AND LOT(S) Block 5208, Lot 45 (Proposed Development Site), Lots 1, 5 and 32 (Projected Development Sites)

ZIP CODE 11355

DESCRIPTION OF PROPERTY BY BOUNDING OR CROSS STREETS Block bound by 45th Avenue to the north, Union Street to the east, Laburnum Avenue to the south, and Kissena Boulevard to the west.

EXISTING ZONING DISTRICT, INCLUDING SPECIAL ZONING DISTRICT DESIGNATION, IF ANY R3-2; C2-2	ZONING SECTIONAL MAP NUMBER 10d
5. Required Actions or Approvals (check all that apply)	
City Planning Commission: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> UNIFORM LAND USE REVIEW PROCEDURE (ULURP) <input type="checkbox"/> CITY MAP AMENDMENT <input type="checkbox"/> ZONING CERTIFICATION <input type="checkbox"/> CONCESSION <input checked="" type="checkbox"/> ZONING MAP AMENDMENT <input type="checkbox"/> ZONING AUTHORIZATION <input type="checkbox"/> UDAAP <input checked="" type="checkbox"/> ZONING TEXT AMENDMENT <input type="checkbox"/> ACQUISITION—REAL PROPERTY <input type="checkbox"/> REVOCABLE CONSENT <input type="checkbox"/> SITE SELECTION—PUBLIC FACILITY <input type="checkbox"/> DISPOSITION—REAL PROPERTY <input type="checkbox"/> FRANCHISE <input type="checkbox"/> HOUSING PLAN & PROJECT <input type="checkbox"/> OTHER, explain: <input type="checkbox"/> SPECIAL PERMIT (if appropriate, specify type: <input type="checkbox"/> modification; <input type="checkbox"/> renewal; <input type="checkbox"/> other); EXPIRATION DATE:	
SPECIFY AFFECTED SECTIONS OF THE ZONING RESOLUTION ZR Section 23-154, Appendix F	
Board of Standards and Appeals: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> VARIANCE (use) <input type="checkbox"/> VARIANCE (bulk) <input type="checkbox"/> SPECIAL PERMIT (if appropriate, specify type: <input type="checkbox"/> modification; <input type="checkbox"/> renewal; <input type="checkbox"/> other); EXPIRATION DATE:	
SPECIFY AFFECTED SECTIONS OF THE ZONING RESOLUTION	
Department of Environmental Protection: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO If “yes,” specify:	
Other City Approvals Subject to CEQR (check all that apply) <input type="checkbox"/> LEGISLATION <input type="checkbox"/> FUNDING OF CONSTRUCTION, specify: <input type="checkbox"/> RULEMAKING <input type="checkbox"/> POLICY OR PLAN, specify: <input type="checkbox"/> CONSTRUCTION OF PUBLIC FACILITIES <input type="checkbox"/> FUNDING OF PROGRAMS, specify: <input type="checkbox"/> 384(b)(4) APPROVAL <input type="checkbox"/> PERMITS, specify: <input type="checkbox"/> OTHER, explain:	
Other City Approvals Not Subject to CEQR (check all that apply) <input type="checkbox"/> PERMITS FROM DOT’S OFFICE OF CONSTRUCTION MITIGATION AND COORDINATION (OCMC) <input type="checkbox"/> LANDMARKS PRESERVATION COMMISSION APPROVAL <input type="checkbox"/> OTHER, explain:	
State or Federal Actions/Approvals/Funding: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO If “yes,” specify:	
6. Site Description: <i>The directly affected area consists of the project site and the area subject to any change in regulatory controls. Except where otherwise indicated, provide the following information with regard to the directly affected area.</i> Graphics: <i>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 11 x 17 inches in size and, for paper filings, must be folded to 8.5 x 11 inches.</i> <input checked="" type="checkbox"/> SITE LOCATION MAP <input checked="" type="checkbox"/> ZONING MAP <input checked="" type="checkbox"/> SANBORN OR OTHER LAND USE MAP <input checked="" type="checkbox"/> TAX MAP <input type="checkbox"/> FOR LARGE AREAS OR MULTIPLE SITES, A GIS SHAPE FILE THAT DEFINES THE PROJECT SITE(S) <input checked="" type="checkbox"/> PHOTOGRAPHS OF THE PROJECT SITE TAKEN WITHIN 6 MONTHS OF EAS SUBMISSION AND KEYED TO THE SITE LOCATION MAP	
Physical Setting (both developed and undeveloped areas) Total directly affected area (sq. ft.): 209,450 Waterbody area (sq. ft.) and type: 0 Roads, buildings, and other paved surfaces (sq. ft.): 209,450 Other, describe (sq. ft.): 0	
7. Physical Dimensions and Scale of Project (if the project affects multiple sites, provide the total development facilitated by the action) SIZE OF PROJECT TO BE DEVELOPED (gross square feet): 456,752 gsf (Proposed Development Site); 327,994 gsf (Projected Development Sites) NUMBER OF BUILDINGS: 1 (Proposed Development Site), 2 (Project Development Sites) GROSS FLOOR AREA OF EACH BUILDING (sq. ft.): HEIGHT OF EACH BUILDING (ft.): up to 95' NUMBER OF STORIES OF EACH BUILDING: 8 (Proposed Development Site), 6 and 8 (Projected Development Sites)	
Does the proposed project involve changes in zoning on one or more sites? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO If “yes,” specify: The total square feet owned or controlled by the applicant: 68,200 (Proposed Development Site) The total square feet not owned or controlled by the applicant: 141,250 (Rezoning Area including the Projected Development Sites)	
Does the proposed project involve in-ground excavation or subsurface disturbance, including, but not limited to foundation work, pilings, utility lines, or grading? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO If “yes,” indicate the estimated area and volume dimensions of subsurface disturbance (if known):	

AREA OF TEMPORARY DISTURBANCE:	sq. ft. (width x length)	VOLUME OF DISTURBANCE:	cubic ft. (width x length x depth)
AREA OF PERMANENT DISTURBANCE:	sq. ft. (width x length)		
8. Analysis Year CEQR Technical Manual Chapter 2			
ANTICIPATED BUILD YEAR (date the project would be completed and operational): 2021			
ANTICIPATED PERIOD OF CONSTRUCTION IN MONTHS: 22			
WOULD THE PROJECT BE IMPLEMENTED IN A SINGLE PHASE? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF MULTIPLE PHASES, HOW MANY?			
BRIEFLY DESCRIBE PHASES AND CONSTRUCTION SCHEDULE: Single Phase.			
9. Predominant Land Use in the Vicinity of the Project (check all that apply)			
<input checked="" type="checkbox"/> RESIDENTIAL	<input type="checkbox"/> MANUFACTURING	<input checked="" type="checkbox"/> COMMERCIAL	<input type="checkbox"/> PARK/FOREST/OPEN SPACE <input type="checkbox"/> OTHER, specify:

DESCRIPTION OF EXISTING AND PROPOSED CONDITIONS

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

	EXISTING CONDITION	NO-ACTION CONDITION	WITH-ACTION CONDITION	INCREMENT
LAND USE				
Residential	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
If "yes," specify the following:				
Describe type of residential structures	Single family detached house	Single family detached house	Multi-Family Residence	
No. of dwelling units	1	1	445	444
No. of low- to moderate-income units			133	133
Gross floor area (sq. ft.)	1,000	1,000	445,452	444,452
Commercial	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
If "yes," specify the following:				
Describe type (retail, office, other)	Local / neighborhood retail	Local/ neighborhood retail	Neighborhood Retail	
Gross floor area (sq. ft.)	55,028	55,028	96,727	41,699
Manufacturing/Industrial	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
If "yes," specify the following:				
Type of use				
Gross floor area (sq. ft.)				
Open storage area (sq. ft.)				
If any unenclosed activities, specify:				
Community Facility	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
If "yes," specify the following:				
Type			Unknown, assumed Medical Office	
Gross floor area (sq. ft.)			15,675	15,675
Vacant Land	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
If "yes," describe:				
Publicly Accessible Open Space	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
If "yes," specify type (mapped City, State, or Federal parkland, wetland—mapped or otherwise known, other):				
Other Land Uses	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
If "yes," describe:				
PARKING				
Garages	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
If "yes," specify the following:				
No. of public spaces			0	
No. of accessory spaces			542	542
Operating hours			24/7	
Attended or non-attended			Attended and Self-parking	
Lots	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
If "yes," specify the following:				
No. of public spaces			0	
No. of accessory spaces	166	166	0	-166
Operating hours	24/7	24/7		
Other (includes street parking)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
If "yes," describe:				
POPULATION				

	EXISTING CONDITION	NO-ACTION CONDITION	WITH-ACTION CONDITION	INCREMENT
Residents	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
If "yes," specify number:	3	3	1,219	1,216
Briefly explain how the number of residents was calculated:	The 2010 U.S. Census Queens Community District 7, Persons Per Household number of 2.74 was used to calculate number of residents.			
Businesses	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
If "yes," specify the following:				
No. and type	Sit-down restaurant (6); Office (1); Gift Shop (1); Laundry (1); Supermarket (1); Bakery (2)	Sit-down restaurant (6); Office (1); Gift Shop (1); Laundry (1); Supermarket (1); Bakery (2)	Neighborhood Retail	
No. and type of workers by business	139	139	287	148
No. and type of non-residents who are not workers				
Briefly explain how the number of businesses was calculated:	The following employment multipliers were used: 1 employee per 25 residential units; 1 employee per 400 sf of retail; 1 employee per 1,000 sf of community facility use; and 1 employee per 50 parking spaces.			
Other (students, visitors, concert-goers, etc.)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
If any, specify type and number:				
Briefly explain how the number was calculated:				
ZONING				
Zoning classification	R3/C2-2	R3/C2-2	R7A and R7A/C2-3	
Maximum amount of floor area that can be developed	0.5/1	0.5/1	4.6 and 4.6/2	
Predominant land use and zoning classifications within land use study area(s) or a 400 ft. radius of proposed project	Commercial, Residential	Commercial, Residential	Commercial, Residential	
Attach any additional information that may be needed to describe the project.				
If your project involves changes that affect one or more sites not associated with a specific development, it is generally appropriate to include total development projections in the above table and attach separate tables outlining the reasonable development scenarios for each site.				

Part II: TECHNICAL ANALYSIS

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


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

	YES	NO
1. LAND USE, ZONING, AND PUBLIC POLICY: CEQR Technical Manual Chapter 4		
(a) Would the proposed project result in a change in land use different from surrounding land uses?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Would the proposed project result in a change in zoning different from surrounding zoning?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) Is there the potential to affect an applicable public policy?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(d) If "yes," to (a), (b), and/or (c), complete a preliminary assessment and attach. See Attachment B		
(e) Is the project a large, publicly sponsored project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o If "yes," complete a PlaNYC assessment and attach.		
(f) Is any part of the directly affected area within the City's Waterfront Revitalization Program boundaries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o If "yes," complete the Consistency Assessment Form .		
2. SOCIOECONOMIC CONDITIONS: CEQR Technical Manual Chapter 5		
(a) Would the proposed project:		
o Generate a net increase of more than 200 residential units or 200,000 square feet of commercial space?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▪ If "yes," answer both questions 2(b)(ii) and 2(b)(iv) below.		
o Directly displace 500 or more residents?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
▪ If "yes," answer questions 2(b)(i), 2(b)(ii), and 2(b)(iv) below.		
o Directly displace more than 100 employees?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▪ If "yes," answer questions under 2(b)(iii) and 2(b)(iv) below.		
o Affect conditions in a specific industry?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
▪ If "yes," answer question 2(b)(v) below.		
(b) If "yes" to any of the above, attach supporting information to answer the relevant questions below. If "no" was checked for each category above, the remaining questions in this technical area do not need to be answered.		
i. Direct Residential Displacement		
o If more than 500 residents would be displaced, would these residents represent more than 5% of the primary study area population?	<input type="checkbox"/>	<input type="checkbox"/>
o If "yes," is the average income of the directly displaced population markedly lower than the average income of the rest of the study area population?	<input type="checkbox"/>	<input type="checkbox"/>
ii. Indirect Residential Displacement		
o Would expected average incomes of the new population exceed the average incomes of study area populations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
o If "yes:"		
▪ Would the population of the primary study area increase by more than 10 percent?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
▪ Would the population of the primary study area increase by more than 5 percent in an area where there is the potential to accelerate trends toward increasing rents?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o If "yes" to either of the preceding questions, would more than 5 percent of all housing units be renter-occupied and unprotected?	<input type="checkbox"/>	<input type="checkbox"/>
iii. Direct Business Displacement		
o Do any of the displaced businesses provide goods or services that otherwise would not be found within the trade area, either under existing conditions or in the future with the proposed project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o Is any category of business to be displaced the subject of other regulations or publicly adopted plans to preserve,	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	YES	NO
enhance, or otherwise protect it?		
iv. Indirect Business Displacement		
o Would the project potentially introduce trends that make it difficult for businesses to remain in the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o Would the project capture retail sales in a particular category of goods to the extent that the market for such goods would become saturated, potentially resulting in vacancies and disinvestment on neighborhood commercial streets?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
v. Effects on Industry		
o Would the project significantly affect business conditions in any industry or any category of businesses within or outside the study area?	<input type="checkbox"/>	<input type="checkbox"/>
o Would the project indirectly substantially reduce employment or impair the economic viability in the industry or category of businesses?	<input type="checkbox"/>	<input type="checkbox"/>
3. COMMUNITY FACILITIES: CEQR Technical Manual Chapter 6		
(a) Direct Effects		
o Would the project directly eliminate, displace, or alter public or publicly funded community facilities such as educational facilities, libraries, health care facilities, day care centers, police stations, or fire stations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Indirect Effects		
i. Child Care Centers		
o Would the project result in 20 or more eligible children under age 6, based on the number of low or low/moderate income residential units? (See Table 6-1 in Chapter 6)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o If "yes," would the project result in a collective utilization rate of the group child care/Head Start centers in the study area that is greater than 100 percent?	<input type="checkbox"/>	<input type="checkbox"/>
o If "yes," would the project increase the collective utilization rate by 5 percent or more from the No-Action scenario?	<input type="checkbox"/>	<input type="checkbox"/>
ii. Libraries		
o Would the project result in a 5 percent or more increase in the ratio of residential units to library branches? (See Table 6-1 in Chapter 6)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o If "yes," would the project increase the study area population by 5 percent or more from the No-Action levels?	<input type="checkbox"/>	<input type="checkbox"/>
o If "yes," would the additional population impair the delivery of library services in the study area?	<input type="checkbox"/>	<input type="checkbox"/>
iii. Public Schools		
o Would the project result in 50 or more elementary or middle school students, or 150 or more high school students based on number of residential units? (See Table 6-1 in Chapter 6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
o If "yes," would the project result in a collective utilization rate of the elementary and/or intermediate schools in the study area that is equal to or greater than 100 percent?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o If "yes," would the project increase this collective utilization rate by 5 percent or more from the No-Action scenario?	<input type="checkbox"/>	<input type="checkbox"/>
iv. Health Care Facilities		
o Would the project result in the introduction of a sizeable new neighborhood?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o If "yes," would the project affect the operation of health care facilities in the area?	<input type="checkbox"/>	<input type="checkbox"/>
v. Fire and Police Protection		
o Would the project result in the introduction of a sizeable new neighborhood?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o If "yes," would the project affect the operation of fire or police protection in the area?	<input type="checkbox"/>	<input type="checkbox"/>
4. OPEN SPACE: CEQR Technical Manual Chapter 7		
(a) Would the project change or eliminate existing open space?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Is the project located within an under-served area in the Bronx , Brooklyn , Manhattan , Queens , or Staten Island ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c) If "yes," would the project generate more than 50 additional residents or 125 additional employees?	<input type="checkbox"/>	<input type="checkbox"/>
(d) Is the project located within a well-served area in the Bronx , Brooklyn , Manhattan , Queens , or Staten Island ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(e) If "yes," would the project generate more than 350 additional residents or 750 additional employees?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(f) If the project is located in an area that is neither under-served nor well-served, would it generate more than 200 additional residents or 500 additional employees?	<input type="checkbox"/>	<input type="checkbox"/>
(g) If "yes" to questions (c), (e), or (f) above, attach supporting information to answer the following:		
o If in an under-served area, would the project result in a decrease in the open space ratio by more than 1 percent?	<input type="checkbox"/>	<input type="checkbox"/>
o If in an area that is not under-served, would the project result in a decrease in the open space ratio by more than 5	<input type="checkbox"/>	<input checked="" type="checkbox"/>

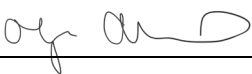
	YES	NO
percent?		
<ul style="list-style-type: none"> o If "yes," are there qualitative considerations, such as the quality of open space, that need to be considered? Please specify: See Attachment E 	<input type="checkbox"/>	<input type="checkbox"/>
5. SHADOWS: CEQR Technical Manual Chapter 8		
(a) Would the proposed project result in a net height increase of any structure of 50 feet or more?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c) If "yes" to either of the above questions, attach supporting information explaining whether the project's shadow would reach any sunlight-sensitive resource at any time of the year. See Attachment F		
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; that is listed or eligible for listing on the New York State or National Register of Historic Places; or that is within a designated or eligible New York City, New York State or National Register Historic District? (See the GIS System for Archaeology and National Register to confirm)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Would the proposed project involve construction resulting in in-ground disturbance to an area not previously excavated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) If "yes" to either of the above, list any identified architectural and/or archaeological resources and attach supporting information on whether the proposed project would potentially affect any architectural or archeological resources. See Attachment G		
7. URBAN DESIGN AND VISUAL RESOURCES: CEQR Technical Manual Chapter 10		
(a) Would the proposed project introduce a new building, a new building height, or result in any substantial physical alteration to the streetscape or public space in the vicinity of the proposed project that is not currently allowed by existing zoning?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Would the proposed project result in obstruction of publicly accessible views to visual resources not currently allowed by existing zoning?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c) If "yes" to either of the above, please provide the information requested in Chapter 10 . See Attachment H		
8. NATURAL RESOURCES: CEQR Technical Manual Chapter 11		
(a) Does the proposed project site or a site adjacent to the project contain natural resources as defined in Section 100 of Chapter 11 ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o If "yes," list the resources and attach supporting information on whether the project would affect any of these resources.		
(b) Is any part of the directly affected area within the Jamaica Bay Watershed ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o If "yes," complete the Jamaica Bay Watershed Form and submit according to its instructions .		
9. HAZARDOUS MATERIALS: CEQR Technical Manual Chapter 12		
(a) Would the proposed project allow commercial or residential uses in an area that is currently, or was historically, a manufacturing area that involved hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Does the proposed project site have existing institutional controls (e.g., (E) designation or Restrictive Declaration) relating to hazardous materials that preclude the potential for significant adverse impacts?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c) Would the project require soil disturbance in a manufacturing area or any development on or near a manufacturing area or existing/historic facilities listed in Appendix 1 (including nonconforming uses)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(d) Would the project result in the development of a site where there is reason to suspect the presence of hazardous materials, contamination, illegal dumping or fill, or fill material of unknown origin?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(e) Would the project result in development on or near a site that has or had underground and/or aboveground storage tanks (e.g., gas stations, oil storage facilities, heating oil storage)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(f) Would the project result in renovation of interior existing space on a site with the potential for compromised air quality; vapor intrusion from either on-site or off-site sources; or the presence of asbestos, PCBs, mercury or lead-based paint?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(g) Would the project result in development on or near a site with potential hazardous materials issues such as government-listed voluntary cleanup/brownfield site, current or former power generation/transmission facilities, coal gasification or gas storage sites, railroad tracks or rights-of-way, or municipal incinerators?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(h) Has a Phase I Environmental Site Assessment been performed for the site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
o If "yes," were Recognized Environmental Conditions (RECs) identified? Briefly identify: Historical/current on-site dry cleaning operations with associated hazardous waste generation of chlorinated solvents, potential undocumented releases to an on-site dry well, former on-site greenhouse operations and potential former on-site printing operations.		
(i) Based on the Phase I Assessment, is a Phase II Investigation needed? Yes	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10. WATER AND SEWER INFRASTRUCTURE: CEQR Technical Manual Chapter 13		
(a) Would the project result in water demand of more than one million gallons per day?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) If the proposed project located in a combined sewer area, would it result in at least 1,000 residential units or 250,000 square feet or more of commercial space in Manhattan, or at least 400 residential units or 150,000 square feet or more of	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	YES	NO
commercial space in the Bronx, Brooklyn, Staten Island, or Queens?		
(c) If the proposed project located in a separately sewered area , would it result in the same or greater development than that listed in Table 13-1 in Chapter 13 ?	<input type="checkbox"/>	<input type="checkbox"/>
(d) Would the project involve development on a site that is 5 acres or larger where the amount of impervious surface would increase?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(e) If the project 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, would it involve development on a site that is 1 acre or larger where the amount of impervious surface would increase?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(f) Would the proposed project be located in an area that is partially sewered or currently unsewered?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(g) Is the project proposing an industrial facility or activity that would contribute industrial discharges to a Wastewater Treatment Plant and/or contribute contaminated stormwater to a separate storm sewer system?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(h) Would the project involve construction of a new stormwater outfall that requires federal and/or state permits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(i) If "yes" to any of the above, conduct the appropriate preliminary analyses and attach supporting documentation. See Attachment J		
11. SOLID WASTE AND SANITATION SERVICES: CEQR Technical Manual Chapter 14		
(a) Using Table 14-1 in Chapter 14 , the project's projected operational solid waste generation is estimated to be (pounds per week): 22,673		
o Would the proposed project have the potential to generate 100,000 pounds (50 tons) or more of solid waste per week?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o If "yes," would the proposed project comply with the City's Solid Waste Management Plan?	<input type="checkbox"/>	<input type="checkbox"/>
12. ENERGY: CEQR Technical Manual Chapter 15		
(a) Using energy modeling or Table 15-1 in Chapter 15 , the project's projected energy use is estimated to be (annual BTUs): 81,485,904,700		
(b) Would the proposed project affect the transmission or generation of energy?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
13. TRANSPORTATION: CEQR Technical Manual Chapter 16		
(a) Would the proposed project exceed any threshold identified in Table 16-1 in Chapter 16 ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) If "yes," conduct the appropriate screening analyses, attach back up data as needed for each stage, and answer the following questions:		
o Would the proposed project result in 50 or more Passenger Car Equivalents (PCEs) per project peak hour?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 of Chapter 16 for more information.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
o Would the proposed project result in more than 200 subway/rail or bus trips per project peak hour?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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/rail trips per station or line?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o Would the proposed project result in more than 200 pedestrian trips per project peak hour?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
14. AIR QUALITY: CEQR Technical Manual Chapter 17		
(a) <i>Mobile Sources:</i> Would the proposed project result in the conditions outlined in Section 210 in Chapter 17 ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) <i>Stationary Sources:</i> Would the proposed project result in the conditions outlined in Section 220 in Chapter 17 ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
o If "yes," would the proposed project exceed the thresholds in Figure 17-3, Stationary Source Screen Graph in Chapter 17 ? (Attach graph as needed) See Attachment L	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) Does the proposed project involve multiple buildings on the project site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d) Does the proposed project require federal approvals, support, licensing, or permits subject to conformity requirements?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(e) Does the proposed project site have existing institutional controls (e.g., (E) designation or Restrictive Declaration) relating to air quality that preclude the potential for significant adverse impacts?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(f) If "yes" to any of the above, conduct the appropriate analyses and attach any supporting documentation. See Attachment L		
15. GREENHOUSE GAS EMISSIONS: CEQR Technical Manual Chapter 18		
(a) Is the proposed project a city capital project or a power generation plant?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Would the proposed project fundamentally change the City's solid waste management system?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c) Would the proposed project result in the development of 350,000 square feet or more?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d) If "yes" to any of the above, would the project require a GHG emissions assessment based on guidance in Chapter 18 ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	YES	NO
<ul style="list-style-type: none"> o If "yes," would the project result in inconsistencies with the City's GHG reduction goal? (See Local Law 22 of 2008; § 24-803 of the Administrative Code of the City of New York). Please attach supporting documentation. 	<input type="checkbox"/>	<input type="checkbox"/>
16. NOISE: CEQR Technical Manual Chapter 19		
(a) Would the proposed project generate or reroute vehicular traffic?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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 site to that rail line?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d) Does the proposed project site have existing institutional controls (e.g., (E) designation or Restrictive Declaration) relating to noise that preclude the potential for significant adverse impacts?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(e) If "yes" to any of the above, conduct the appropriate analyses and attach any supporting documentation. See Attachment M		
17. PUBLIC HEALTH: CEQR Technical Manual Chapter 20		
(a) Based upon the analyses conducted, do any of the following technical areas require a detailed analysis: Air Quality; Hazardous Materials; Noise?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) If "yes," explain why an assessment of public health is or is not warranted based on the guidance in Chapter 20 , "Public Health." Attach a preliminary analysis, if necessary.		
18. NEIGHBORHOOD CHARACTER: CEQR Technical Manual Chapter 21		
(a) Based upon the analyses conducted, do any of the following technical areas require a detailed analysis: Land Use, Zoning, and Public Policy; Socioeconomic Conditions; Open Space; Historic and Cultural Resources; Urban Design and Visual Resources; Shadows; Transportation; Noise?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) If "yes," explain why an assessment of neighborhood character is or is not warranted based on the guidance in Chapter 21 , "Neighborhood Character." Attach a preliminary analysis, if necessary. See Attachment A		
19. CONSTRUCTION: CEQR Technical Manual Chapter 22		
(a) Would the project's construction activities involve:		
o Construction activities lasting longer than two years?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o Construction activities within a Central Business District or along an arterial highway or major thoroughfare?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o Closing, narrowing, or otherwise impeding traffic, transit, or pedestrian elements (roadways, parking spaces, bicycle routes, sidewalks, crosswalks, corners, etc.)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
o Construction of multiple buildings where there is a potential for on-site receptors on buildings completed before the final build-out?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o The operation of several pieces of diesel equipment in a single location at peak construction?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o Closure of a community facility or disruption in its services?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o Activities within 400 feet of a historic or cultural resource?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
o Disturbance of a site containing or adjacent to a site containing natural resources?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o Construction on multiple development sites in the same geographic area, such that there is the potential for several construction timelines to overlap or last for more than two years overall?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) If any boxes are checked "yes," explain why a preliminary construction assessment is or is not warranted based on the guidance in Chapter 22 , "Construction." It should be noted that the nature and extent of any commitment to use the Best Available Technology for construction equipment or Best Management Practices for construction activities should be considered when making this determination. See Attachment A		
20. APPLICANT'S CERTIFICATION		
<p>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 the 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.</p> <p>Still under oath, I further swear or affirm that I make this statement in my capacity as the applicant or representative of the entity that seeks the permits, approvals, funding, or other governmental action(s) described in this EAS.</p>		
APPLICANT/REPRESENTATIVE NAME John Neil, AKRF Inc.	SIGNATURE 	DATE January 4, 2019
<p>PLEASE NOTE THAT APPLICANTS MAY BE REQUIRED TO SUBSTANTIATE RESPONSES IN THIS FORM AT THE DISCRETION OF THE LEAD AGENCY SO THAT IT MAY SUPPORT ITS DETERMINATION OF SIGNIFICANCE.</p>		

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.		Potentially Significant Adverse Impact	
		YES	NO
IMPACT CATEGORY			
Land Use, Zoning, and Public Policy		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Socioeconomic Conditions		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Community Facilities and Services		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Open Space		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Shadows		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Historic and Cultural Resources		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Urban Design/Visual Resources		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Natural Resources		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Hazardous Materials		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Water and Sewer Infrastructure		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Solid Waste and Sanitation Services		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Energy		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Transportation		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Air Quality		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Greenhouse Gas Emissions		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Noise		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Public Health		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Neighborhood Character		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Construction		<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?		<input type="checkbox"/>	<input checked="" type="checkbox"/>
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:			
<input type="checkbox"/> 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 <i>Positive Declaration</i> and prepares a draft Scope of Work for the Environmental Impact Statement (EIS).			
<input checked="" type="checkbox"/> Conditional Negative Declaration: A <i>Conditional Negative Declaration</i> (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.			
<input type="checkbox"/> 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 <i>Negative Declaration</i> . The <i>Negative Declaration</i> 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 Acting Director, Environmental Assessment and Review Division		LEAD AGENCY NYC Department of City Planning	
NAME Olga Abinader		DATE May 31, 2019	
SIGNATURE 			

NEGATIVE DECLARATION (Use of this form is optional)**Statement of No Significant Effect**

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

Reasons Supporting this Determination

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

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

TITLE	LEAD AGENCY
NAME	DATE
SIGNATURE	



CITY PLANNING COMMISSION
CITY OF NEW YORK

OFFICE OF THE CHAIR

June 3, 2019

REVISED CONDITIONAL NEGATIVE DECLARATION

Project Identification

CEQR No. 18DCP188Q
ULURP Nos. 190203ZRQ, 190202ZMQ
SEQRA Classification: Unlisted

Lead Agency

City Planning Commission
120 Broadway, 31st Floor
New York, NY 10271
Contact: Olga Abinader
(212) 720-3493

Name, Description and Location of Proposal

Kissena Center Rezoning

The applicant, Kimco Kissena Center, LLC, is requesting a zoning map amendment and a zoning text amendment (collectively, the “Proposed Actions”) from the New York City Planning Commission (CPC) in order to rezone an area around the proposed project (Block 5208, Lot 45), including Block 5200, Lots 39, 49, 50 and p/o 151; and Block 5208, Lots 1, 5, and 45 (collectively the “rezoning area”). Per CPC modifications overriding the previous application, the rezoning area is proposed to be rezoned from R3-2 and R3-2/C2-2 to R6A and R6A/C2-3, and will be designated a Mandatory Inclusionary Housing Area (MIHA). The Proposed Actions would facilitate the construction of a seven-story mixed-use development on Block 5208 Lot 45. The new building would contain approximately 188,515 gross square-feet (gsf) dedicated to residential uses; approximately 53,733 gsf of ground-floor commercial use; approximately 15,104 gsf of second-floor community facility use; and two below-grade levels of parking that would provide approximately 291 spaces accessory to the residential, commercial, and community facility uses. The residential floor area would be comprised of approximately 189 dwelling units (DUs) and 25 to 30 percent of the residential floor area (up to approximately 57 DUs) would be designated as affordable per MIH regulations. The analysis year for the Proposed Actions is 2021.

To avoid the potential for significant adverse impacts, an (E) designation (E-514) for air quality, hazardous materials, and noise will be placed on Block 5208, Lots 1, 5, 45 and Block 5200 Lots 49 and 50, as part of the Proposed Actions.

The (E) designation text related to hazardous materials is as follows:

Task 1

The applicant submits to OER, for review and approval, a Phase 1 ESA for the Project Site along with a soil, soil gas and groundwater testing protocol, including a description of methods and a site map with all sampling locations clearly and precisely represented. If site sampling is necessary, no sampling should begin until written approval of a protocol is received from OER. The number and location of sample sites should be selected to adequately characterize the site, the specific source of suspected contamination (i.e., petroleum based contamination and non-petroleum based contamination), and the remainder of the site's condition. The characterization should be complete enough to determine what remediation strategy (if any) is necessary after review of sampling data. Guidelines and criteria for selecting sampling locations and collecting samples are provided by OER upon request.

Task 2

A written report with findings and a summary of the data must be submitted to OER after completion of the testing phase and laboratory analysis for review and approval. After receiving such results, a determination is made by OER if the results indicate that remediation is necessary. If OER determines that no remediation is necessary, written notice shall be given by OER. If remediation is indicated from the test results, a proposed remediation plan must be submitted to OER for review and approval. The applicant must complete such remediation as determined necessary by OER. The applicant should then provide proper documentation that the work has been satisfactorily completed. An OER-approved construction-related health and safety plan would be implemented during evacuation and construction and activities to protect workers and the community from potentially significant adverse impacts associated with contaminated soil and/or groundwater. This plan would be submitted to OER for review and approval prior to implementation. All demolition or rehabilitation would be conducted in accordance with applicable requirements for disturbance, handling and disposal of suspect lead-paint and asbestos-containing materials. In addition to the requirements for lead-based paint and asbestos, requirements (including those of NYSDEC) should petroleum tanks and/or spills be identified and for off-site disposal of soil/fill would need to be followed.

The (E) designation text related to air quality is as follows:

Block 5208 Lot 45

Any fossil fuel-fired heating and hot water equipment in any new development on the above-referenced property must use only natural gas and be fitted with low NOx burners with NOx emissions not to exceed 30 ppm. Fossil fuel-fired heating and hot water exhaust stacks must be located at least 88 feet above grade, and at a distance of no more than 182 feet from the southeastern lot line facing Laburnum Avenue.

Block 5208 Lots 1 & 5

Any fossil fuel-fired heating and hot water equipment in any new development on the above-referenced property must use only natural gas and be fitted with low NOx burners with NOx emissions not to exceed 30 ppm. Fossil fuel-fired heating and hot water

exhaust stack(s) are located at least 83 feet above grade, and at a distance of at least 67 feet from the southeastern lot line facing Laburnum Avenue.

Block 5200 Lots 49 & 50

Any fossil fuel-fired heating and hot water equipment in any new development on the above-referenced property must use only natural gas and be fitted with low NOx burners with NOx emissions not to exceed 30 ppm. Fossil fuel-fired heating and hot water exhaust stacks must be located at least 80 feet above grade.

The (E) designation text related to noise is as follows:

To ensure an acceptable interior noise environment, future development at Block 5208, Lots 1, 5, and 45, and Block 5200, Lots 39 and 50, must provide a minimum attenuation shown in Table M-8 of the Kissena Center January 2019 EAS to ensure an interior L10 noise level not greater than 45 dBA for residential and community facility uses or not greater than 50 dBA for commercial uses. To maintain a closed-window condition in these areas, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, central air conditioning.

Statement of No Significant Effect:

The Environmental Assessment and Review Division of the Department of City Planning, on behalf of the City Planning Commission, has completed its technical review of the revised Environmental Assessment Statement, dated May 2019, prepared in connection with the ULURP Application (Nos. 190203ZRQ, 190202ZMQ). The City Planning Commission has determined that the proposed action will have no significant effect on the quality of the environment, once it is modified as follows:

1. Declarant agrees, at Declarant's expense, to perform the following PCRE in consultation with DOT:
 - a. Install a new traffic signal at the intersection of Kissena Boulevard and Kalmia Avenue/Site driveway.
2. Declarant agrees, at Declarant's expense, to perform the following mitigation measures, at the specified locations, and that such measures shall be in consultation with DOT (the "Traffic Mitigation Measures"):
 - a. Kissena Boulevard and 45th Avenue
 - i. Install a "No Standing 7 AM to 7 PM Monday through Friday" regulation along the north curb of the westbound approach for 100 feet.
 - ii. During the weekday AM and PM peak periods, shift 2 seconds of green time from the westbound phase to the northbound/southbound phase; the lead pedestrian interval phase would remain the same.
 - b. Kissena Boulevard and Holly Avenue (south):
 - i. During the weekday AM peak period – shift 3 seconds of green time from the westbound phase to the northbound/southbound phase.

- ii. If the easement along Holly Avenue is not realized, modify the signal timing during the weekday midday and Saturday peak periods – shift 1 second of green time from the westbound phase to the northbound/southbound phase.
- c. Kissena Boulevard and Juniper Avenue:
 - i. Modify the signal timing during the weekday AM and Saturday peak periods. During the weekday AM peak period, shift 4 seconds of green time from the pedestrian phase to the northbound/southbound phase. During the Saturday peak period, shift 2 seconds of green time from the pedestrian phase to the northbound/southbound phase.
 - ii. If the easement along Holly Avenue is not realized, modify the signal timing during weekday PM peak period – shift 1 second of green time from the pedestrian phase to the northbound/southbound phase.
- ci. Kissena Boulevard and Booth Memorial Avenue:
 - i. Install “No Standing 7 am - 7 pm Except Sunday” regulations along the north curb of the west-bound approach for 175 feet.
 - ii. Modify the signal timing during the weekday AM, midday, PM, and Saturday peak periods – shift 2 second of green time from the eastbound/westbound phase to the southbound lead phase; the northbound/southbound phase remains the same.
 - iii. Restripe the westbound approach from one 10-foot-wide left-turn lane and one 20-footwide through-right lane with parking to one 10-foot-wide left-turn lane, 10-foot-wide through lane, and one 10-foot-wide parking lane which serves as a right-turn lane during specific periods.

Supporting Statement:


The above determination is based on an environmental assessment which finds that:

1. The applicant will enter into a Restrictive Declaration to ensure the implementation of project components relating to construction (transportation) which would avoid the potential for any significant adverse impacts related thereto.
2. The (E) designation for hazardous materials, air quality, and noise would ensure that the proposed action would not result in significant adverse impacts.
3. No other significant adverse effects on the environment which would require an Environmental Impact Statement are foreseeable.

It is fully agreed and understood that if the foregoing conditions, modification, and alterations are not fully incorporated into the proposed action, this Conditional Negative Declaration shall become null and void. In such event, the applicant shall be required to prepare a Draft Environmental Impact Statement before proceeding further with said proposal.

This Conditional Negative Declaration has been prepared in accordance with Article 8 of the Environmental Conservation Law 6NYCRR part 617.

I, the Undersigned, as the applicant or authorized representative for this proposal, hereby affix my signature in acceptance of the above conditions to the proposed action.



Signature of Applicant or Authorized Representative

Date: 05/31/2019

KIMCO KISSENA CENTER, LLC
NICHOLAS BROWN

Name of Applicant or Authorized Representative

Date: 05/31/2019



Olga Abinader, Acting Director
Environmental Assessment and Review Division
Department of City Planning

Date: 05/31/2019

Marisa Lago, Chair
City Planning Commission

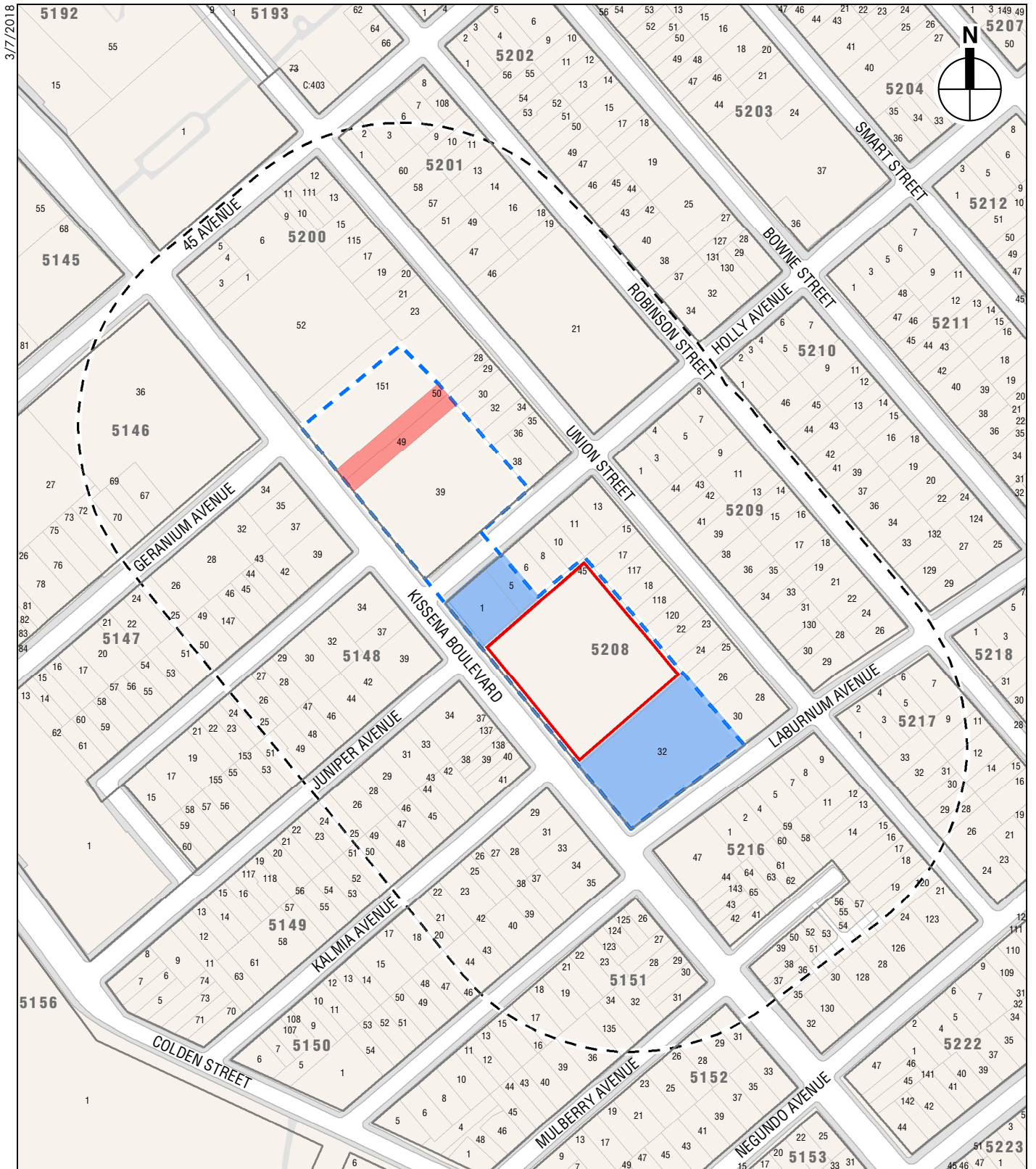
Date: 06/03/2019

A. INTRODUCTION

The applicant, Kimco Kissena Center, LLC, proposes the construction of a mixed-use residential, commercial and community facility building (the “proposed project”) at 46-15 Kissena Boulevard (Block 5208, Lot 45, the “development site”) in the Flushing neighborhood of Queens, Community District 7 (see **Figure A-1**). To facilitate the proposed project, the applicant is requesting a zoning map amendment and a zoning text amendment (collectively, the “proposed actions”) from the New York City Planning Commission (CPC) in order to rezone an area around the proposed project, including Block 5200, Lots 39, 49, 50 and p/o 151; and Block 5208, Lots 1, a portion of (p/o) Lot 5, Lot 32, and Lot 45 (collectively the “rezoning area”). Together the lots identified within the rezoning area compose the “project area,” which in addition to encompassing the entire rezoning area includes the portion of Block 5208, Lot 5 which is not proposed to be rezoned.

The proposed actions would facilitate the development of an eight-story mixed-use building on the development site. The proposed project would require the demolition of the existing single-story retail and surface parking lot on the development site, followed by the construction of the eight-story building, which would include approximately 244,339 gross square feet (gsf) dedicated to residential use; approximately 57,827 gsf of ground-floor commercial (retail) use; approximately 15,675 gsf of community facility use; and approximately 333 parking spaces in a below-grade garage. The residential floor area would be composed of 244 dwelling units (DUs), and 25 to 30 percent of the residential floor area (approximately 61 to 73 DUs) would be designated as affordable based on area median income (AMI). Additionally, to improve intersection operations in the study area, signal timing and phasing modifications would be proposed, as well as the placement of a two-phase traffic signal with a 90-second cycle installed at the entrance along Kissena Boulevard at Kalmia Avenue to facilitate vehicle and pedestrian traffic to the proposed project entrance. It is expected that the proposed project would be complete by 2021, identified as the analysis year for this Environmental Assessment Statement (EAS).

The proposed actions could result in additional development within the project area beyond what is proposed by the applicant for Block 5208, Lot 45. Based on the proposed rezoning and current market and site conditions, Block 5208, Lots 1, 5, and 32 also could be redeveloped by the proposed analysis year, and therefore these sites are analyzed in this EAS as “projected development sites.” Block 5200, Lots 49 and 50 also have the potential to be redeveloped as a result of the proposed actions, but would require assemblage under common ownership to maximize the additional density permitted under the proposed rezoning. Given Lots 49 and 50 are currently under separate ownership it is unlikely they would be assembled and redeveloped by the 2021 analysis year, and are therefore analyzed as “potential development sites” in the EAS. Lots 39 and p/o 151 are not expected to change as a result of the proposed actions and are therefore excluded from analysis.



- Project Area
- Development Site (Lot 45)
- Projected Development Sites (Lots 1, 5, and 32)
- Potential Development Sites (Lots 49 and 50)
- Study Area (400-foot boundary)

16124 Tax Block

33 Tax Lot

0 400 FEET

KISSENA CENTER

**Project Location
Figure A-1**

B. PROJECT DESCRIPTION

PROPOSED ACTIONS

The applicant is seeking a zoning map amendment to Zoning Map Section 10d, to rezone the rezoning area from R3-2 and R3-2/C2-2 to R7A and R7A/C2-3 (see **Figure A-2**). In addition, the applicant is seeking a zoning text amendment pursuant to Zoning Resolution (ZR) Section 23-154, Appendix F, designating the rezoning area a Mandatory Inclusionary Housing Area (MIHA), ensuring the proposed project and any future development within the rezoning area is designated to provide permanently affordable housing at a range of incomes.

DESCRIPTION OF THE DEVELOPMENT SITE

The development site (Block 5208 Lot 45) is currently a neighborhood shopping center consisting of one-story retail structures fronted by a surface parking lot. The lot is 68,200 sf and includes 22,520 sf of commercial retail, (a floor area ratio [FAR] of 0.33). Current tenants include Gold City Supermarket, Star Laundromat & Cleaners, Ming Xing Gift Shop, and Fay Da Bakery.

DESCRIPTION OF THE REZONING AREA

The rezoning area (shown in **Figure A-2**) is composed of eight tax lots:

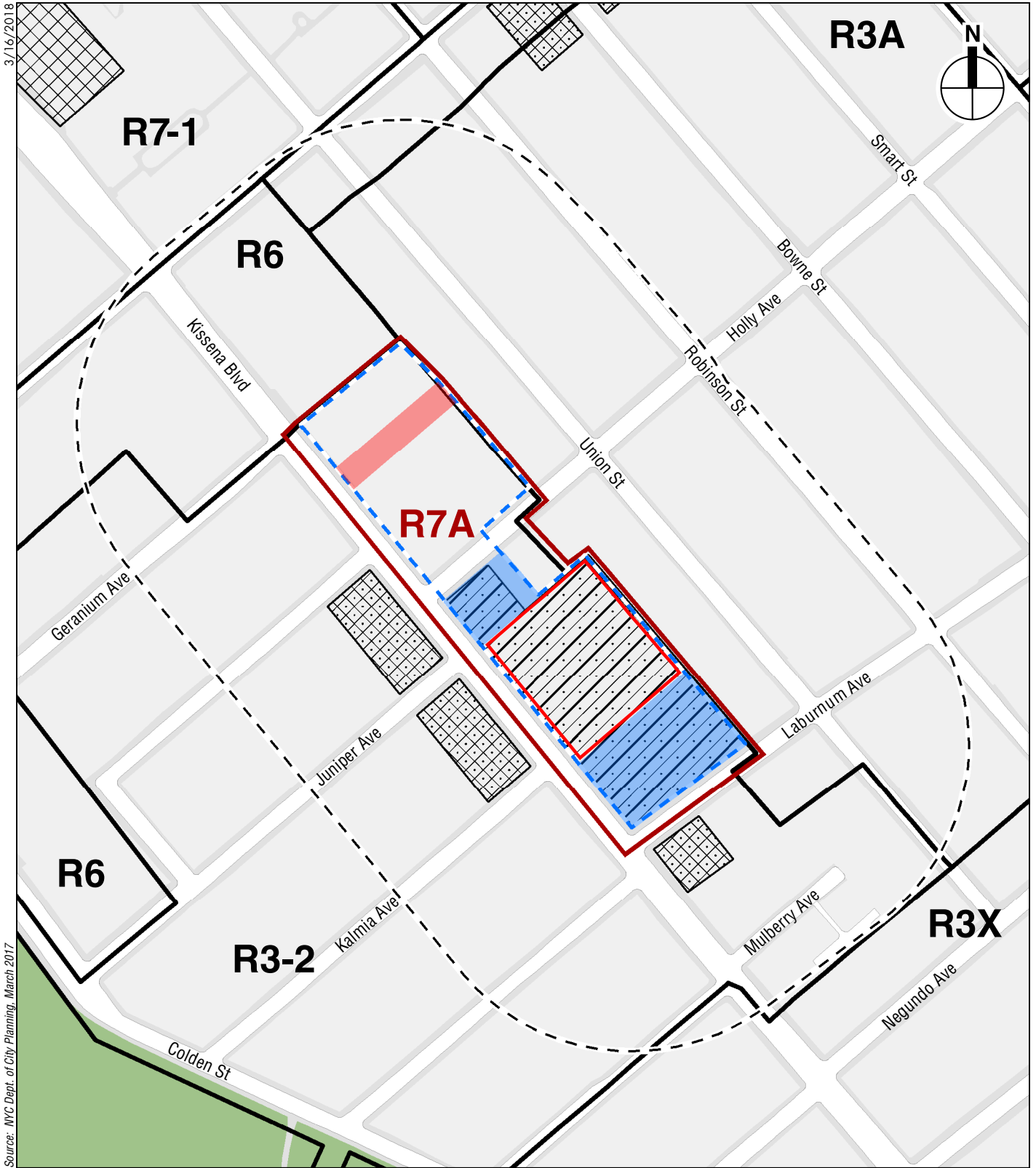
- Block 5208, Lot 1
- Block 5208, p/o Lot 5
- Block 5208, Lot 32
- Block 5208, Lot 45
- Block 5200, Lot 39
- Block 5200, Lot 49
- Block 5200, Lot 50
- Block 5200, p/o Lot 151

The rezoning area, located within R3-2 and R3-2/C2-2 zoning districts, includes a mix of single- and multifamily housing, and commercial retail. Within the rezoning area, in addition to the development site, Block 5208 includes a two-story retail building, a large banquet-style restaurant, and a single-family residence. Within the rezoning area, Block 5200 includes two multi-unit apartment buildings, and narrow single-family residential buildings.

DESCRIPTION OF THE PROPOSED PROJECT

Approval of the proposed actions would facilitate the demolition of approximately 22,520 gsf of existing commercial retail, and accessory surface parking on Block 5208, Lot 45, followed by the development of the proposed eight-story mixed-use building. Specifically, the proposed project would include 244 DUs including between approximately 61 and 73 affordable DUs.¹ In addition to this residential development, the proposed project would include 57,827 gsf of neighborhood

¹ As details of the planned MIH affordability option have not been finalized, for the purposes of conservative analysis it is assumed that 30 percent of the residential floor area (approximately 73 DUs) would be designated as affordable.



- Project Area
- Development Site (Lot 45)
- Projected Development Sites (Lots 1, 5, and 32)
- Potential Development Sites (Lots 49 and 50)
- Study Area (400-foot boundary)

- Zoning Districts
- C1-2 Commercial Overlay District
- C2-2 Commercial Overlay District
- Proposed Zoning District Boundary
- Proposed C2-3 - Zoning Commercial District Overlay

0 400 FEET

commercial retail; 15,675 gsf of community facility²; and a two-story subsurface parking garage with capacity for approximately 333 vehicles as an accessory to the proposed commercial, community facility, and residential uses.

C. ANALYSIS YEAR

Assuming completion through the Uniform Land Use Review Procedure (ULURP) process and certification in early 2019, followed by a 22-month construction period, it is anticipated that the proposed project would be operational by 2021. Based on these assumptions, 2021 has been identified as the analysis year for the proposed actions.

D. PURPOSE AND NEED FOR THE PROPOSED ACTIONS

The proposed actions are necessary to facilitate the proposed mixed-use development by permitting increased residential density in the rezoning area, permitting additional commercial development on Block 5208, Lots 32 and 45, and establishing the permanently affordable housing. Increasing the residential density of the rezoning area would address the demand for market-rate housing in eastern Queens by allowing for multifamily housing along the growing commercial corridor.

The designation of the rezoning area as a MIH area would require that 25 to 30 percent of residential floor area be committed to affordable development. Flushing, Queens along with New York City as a whole has a need for stable quality affordable housing for moderate- and low-income households. Increasing the supply of affordable DUs through the proposed actions would provide housing opportunities for New Yorkers at a range of incomes and households types and create a diverse neighborhood in line with New York City policy goals.

The provision of additional commercial opportunities on the development site would serve the growing population of the Kissena Boulevard corridor, providing retail to meet the diverse market demand within the area. The rezoning would also allow for quality retail development with a consistent streetwall and engagement with the neighborhood, consistent with more modern quality-of-life standards.

E. FRAMEWORK FOR ANALYSIS

This document has been prepared in accordance with the guidelines presented in the 2014 *City Environmental Quality Review (CEQR), Technical Manual*. For each technical area, the analysis includes a description of existing conditions and assessments of conditions in the future without the proposed actions (the “No Action” condition) and the future with the proposed actions (the “With Action” condition). As noted above, the proposed project is anticipated to be completed by the 2021 analysis year; therefore, the environmental setting is not the current environment, but the future environment in 2021. As a result, the technical analysis assesses the current environmental condition, and forecast these conditions into 2021 for the purpose of establishing a baseline condition for which the With Action condition is compared. The differences between the No Action and With Action conditions are then assessed to determine whether such differences are adverse and/or significant, and any potentially significant adverse environmental impacts are disclosed.

² For the purpose of conservative trip generation assumptions, the proposed community facility use is assumed to be medical office space.

EXISTING CONDITIONS

The analysis framework begins with an assessment of the existing conditions of the project area and in the relevant study area surrounding the project area, as these areas can be the most directly measured and observed. The assessment of existing conditions does not represent the condition against which the proposed actions are measured but generally serves as a starting point for the projection of future conditions with and without the proposed project.

DEVELOPMENT SITE

As explained above the development site, Lot 45, is currently a 68,200-sf multi-tenant commercial shopping center with surface parking.

PROJECTED DEVELOPMENT SITES

In addition to the proposed project on the development site, there are two additional sites where development is projected to occur as a result of the proposed actions. Projected Development Site A is composed of Block 5208, Lots 1 and 5. In the existing condition, Lot 1 contains a two-story commercial retail and office building, and Lot 5 contains a two-story single-family residence. Projected Development Site B is composed of Block 5208, Lot 32. In the existing condition Lot 32 is occupied by a two-story banquet-style restaurant that includes parking in the rear.

POTENTIAL DEVELOPMENT SITES

As a result of the proposed actions one additional site has been identified as having the potential to be redeveloped, but is not likely to be redeveloped by the 2021 analysis year. The potential development site is composed of Block 5200, Lots 49 and 50. Both lots are narrow, each with 25 feet of street frontage, located one block to the north of the projected development site. The lots are occupied by two-story residential buildings. Combined, Lots 49 and 50 have a total area of 11,613 sf.

OTHER SITES

The rezoning area includes two additional lots on Block 5200—Lot 39 and Lot 151. Currently, Lot 39 is occupied by the Holly Houses, a six-story multifamily apartment building with some ground-floor office space for dental and medical office use. Lot 151 is occupied by a five-story, multifamily elevator building.

The neighborhood surrounding the project area is composed of residential, commercial, and community facilities. Residential development is largely low-density one- and two-family homes along side streets, and higher density multifamily walkups fronting Kissena Boulevard. Commercial uses within the study area vary and include small neighborhood retail and several stand-alone vendors along Kissena Boulevard, including an auto dealership and auto-repair shop. The neighborhood also includes a number of institutional uses, including various houses of worship and a public school.

NO ACTION CONDITION

Absent the proposed actions, no new development is anticipated to occur within the project area. Existing buildings and uses observed in the existing condition would remain through the 2021 build year.

WITH ACTION CONDITION

PROPOSED DEVELOPMENT SITE

As described above, in the With Action condition the development site would be redeveloped with a new mixed-use residential, commercial and community facility building. The building would include 244 DUs, including 73 affordable DUs; 57,827 gsf of ground-floor commercial (retail) use; approximately 15,675 gsf of community facility use; and two levels of below-grade parking, which would provide 333 parking spaces accessory to the commercial, community facility, and residential uses. Also, signal timing and phasing modifications would be proposed to improve intersection operations in the study area. A two-phase traffic signal with a 90-second cycle would also be installed at the entrance along Kissena Boulevard at Kalmia Avenue to facilitate vehicle and pedestrian traffic to the proposed project entrance.

PROJECTED DEVELOPMENT SITES

For the purposes of conservative analysis it is assumed that the proposed actions would facilitate the development of the two projected development sites identified above. It is assumed that Projected Development Site A would be redeveloped as a six-story, 82,447-gsf mixed-use building, with 53 DUs (including approximately 16 affordable DUs); 7,630 gsf of commercial uses; and 46 accessory parking spaces. Projected Development Site B is assumed to be redeveloped with an eight-story, 245,547-gsf mixed-use building, with 148 DUs (including approximately 44 affordable DUs); 31,270 gsf of commercial use; and 163 accessory parking spaces.

POTENTIAL DEVELOPMENT SITE

In the With Action condition Block 5200 Lots 49 and 50 have the potential to be developed if assembled and redeveloped as a single development site. It is assumed that the potential development site would be redeveloped as a 58,465-gsf residential building with 53 DUs (including approximately 16 affordable DUs). However, as the site is identified as a potential development site, the potential impacts of this site on environmental conditions are not considered for density-based analysis such as socioeconomic conditions or community facilities. This potential development site is only analyzed for potential physical impacts such as shadows.

OTHER SITES

It is expected that Block 5200, Lots 39, and 151 would remain the same between the No Action and With Action conditions as they are existing substantial residential structures. Lot 151 is privately owned by Selfhelp, an organization that provides affordable senior housing; the existing building provides 70 affordable DUs on Lot 151. Lot 39 is owned by 140-15 Holly Avenue Owner Corporation (a co-op); the residential building includes 92 DUs. Given these lots are occupied with substantial residential buildings that include senior affordable and owner-occupied DUs, the lots would not likely be redeveloped as a result of the proposed rezoning.

REASONABLE WORST CASE DEVELOPMENT SCENARIO

As shown in **Table A-1**, the Reasonable Worst Case Development Scenario (RWCDS) represents the increment for analysis, understood as the difference between the With Action and No Action conditions, to be analyzed in the EAS. Based on the comparison between the No Action and With Action conditions the RWCDS includes an incremental increase in the number of DUs by 444 DUs, including approximately 133 affordable DUs; 41,699 gsf of commercial retail; and 15,675

gsf of community facility use. In addition, the proposed actions would increase the number of below-grade parking spaces by 542, and reduce the number of surface parking spaces by 166. As a result of the proposed actions an additional 1,243 residents are expected as a result of the proposed project, as are an additional 130 workers.³

Table A-1
Reasonable Worst Case Development Scenario

Use	Existing Condition	No Action Condition	With Action Condition	Increment
Residential Total DUs	Total-1 Development Site-0 Projected Sites-1	Total-1 Development Site-0 Projected Sites-1	Total-445 Development Site-244 Projected Sites-201	Total-444 Development Site-244 Projected Sites-200
Residential Affordable DUs	Total-0 Development Site-0 Projected Sites-0	Total-0 Development Site-0 Projected Sites-0	Total-133 Development Site-73 Projected Sites-60	Total-133 Development Site-73 Projected Sites-60
Commercial (sf)	Total-55,028 Development Site- 22,520 Projected Sites-32,508	Total-55,028 Development Site- 22,520 Projected Sites-32,508	Total-96,727 Development Site- 57,827 Projected Sites-38,900	Total-41,699 Development Site- 35,307 Projected Sites-6,392
Community Facility (sf)	Total-0 Development Site-0 Projected Sites-0	Total-0 Development Site-0 Projected Sites-0	Total-15,675 Development Site- 15,675 Projected Sites-0	Total-15,675 Development Site- 15,675 Projected Sites-0
Source: S9 Architecture, November 2017, AKRF, October 2017.				

F. TECHNICAL ANALYSIS

The identification of potential environmental impacts is based upon the comparison of the No Action and With Action conditions. In certain technical areas (e.g., traffic, air quality, and noise) this comparison can be quantified and the severity of impact rated in accordance with the *CEQR Technical Manual*. In other technical areas, (e.g., urban design) the analysis is qualitative in nature. The methodology for each analysis is presented at the start of each technical analysis. As summarized below and in the attachments to this EAS, the proposed actions would not result in any significant adverse environmental impacts.

LAND USE, ZONING, AND PUBLIC POLICY

See Attachment B, “Land Use, Zoning, and Public Policy.”

SOCIOECONOMIC CONDITIONS

See Attachment C, “Socioeconomic Conditions.”

COMMUNITY FACILITIES AND SERVICES

See Attachment D, “Community Facilities and Services.”

³ Incremental residential population was calculated by multiplying the number of additional DUs (444) by the average household size for Queens Community District 7 (2.8 persons per DU). Incremental worker population was calculated by multiplying the proposed and projected development programming by industry employment ratios commonly used for CEQR analyses.

OPEN SPACE

See Attachment E, “Open Space.”

SHADOWS

See Attachment F, “Shadows.”

HISTORIC AND CULTURAL RESOURCES

See Attachment G, “Historic and Cultural Resources.”

URBAN DESIGN AND VISUAL RESOURCES

See Attachment H, “Urban Design and Visual Resources.”

NATURAL RESOURCES

VEGETATION

The project area is fully occupied by dense, mixed-use development and is primarily covered by impervious surfaces—parking areas, sidewalks, and buildings. Within the project area, natural resources are limited to small landscaped areas adjacent to the apartment buildings containing ornamental shrubs and trees, and street trees within the public right-of-way. Street trees bordering the project area parcels are predominantly pin oak (*Quercus palustris*) and London planetree (*Platanus acerifolia*) ranging in diameter from 12 to 24 inches. Landscaped areas within the project area contain such ornamental species as boxwood (*Buxus sp.*), Rose of Sharon (*Hibiscus sp.*), river birch (*Betula nigra*), and adventitious trees scattered infrequently between existing buildings including principally Norway maple (*Acer platanoides*). Small patches of mowed lawn also occur within the residential apartment buildings occupying Block 5200 Lots 39, 49, 50 and 151.

The proposed actions would facilitate redevelopment of the lots comprising the rezoning area, which would necessitate removal of the existing small patches of landscaped area (trees/shrubs/lawn). Areas of new landscaping, with ornamental plants and mowed lawn, can be expected to be included in the new developments facilitated by the proposed action. It is not expected that any street trees under City jurisdiction would require removal for construction of the mixed-use building at the proposed development site. If necessary, the proposed actions would comply with Local Law 3 of 2010 and NYC Park’s Tree Protection Protocol to minimize potential adverse impacts related to construction work within 50 feet of trees under City jurisdiction. If any trees under City jurisdiction are removed, replacement and/or restitution for removed trees would be provided in compliance with Local Law 3 and Chapter 5 of Title 56 of the Rules of the City of New York. Therefore, the proposed project would not result in significant adverse impacts to vegetation and ecological communities within the project site.

WILDLIFE

Wildlife with the potential to occur within the project area is limited to those species common to highly developed urban areas within the New York metropolitan area, e.g., house sparrow (*Passer domesticus*), rock pigeon (*Columba livia*), European starling (*Sturnus vulgaris*), and gray squirrel (*Sciurus carolinensis*). The highly developed urban habitat within the project area would be disturbed during the construction of the mixed-use building proposed for the development site and during future redevelopment of the rezoning area. However, wildlife using the limited habitats

within the project area would be expected to find similar available habitat nearby within the surrounding area, and new landscaping would occur post-construction to replace or improve upon the habitat available to wildlife within the project area. Therefore, the temporary loss of habitat would during construction would not result in significant adverse impacts to any populations of urban wildlife species. The proposed project would be expected to support wildlife species similar to those currently using the project site.

The proposed eight-story mixed-use building would not be expected to present a collision hazard to resident or migratory birds. The overwhelming majority of bird-building collisions, including in New York City (Gelb and Delacretaz 2006, 2009; Klem et al. 2009) occur during the daytime and near ground level when lower-story windows reflect images of nearby trees and other vegetation (Loss et al. 2014). The proposed actions would consider implementing measures recommended by NYC Audubon (NYCA 2007), the American Bird Conservancy (Sheppard and Phillips 2011), and several others (e.g., Klem et al. 2009, Audubon Minnesota 2010, SFPD 2011) for effectively reducing the likelihood of daytime collisions of birds with windows. These measures include (1) reduced usage of glass relative to other building materials on the building's façade, (2) usage of low reflectivity glass, (3) fritting of glass surfaces, and (4) not placing shrubs and trees in close proximity to reflective surfaces.

THREATENED AND ENDANGERED SPECIES

Species expected to occur within Queens County based on records of past occurrence are available from the NYSDEC Nature Explorer database. Queens County has records of recent occurrence of the following state and/or federally-listed (threatened, endangered, special concern) animal species⁴: peregrine falcon (*Falco peregrinus*), piping plover (*Charadrius melodus*), roseate tern (*Sterna dougallii*), short-eared owl (*Asio flammeus*), common tern (*Sterna hirundo*), least bittern (*Ixobrychus exilis*), northern harrier (*Circus cyaneus*), pied-billed grebe (*Podilymbus podiceps*), upland sandpiper (*Bartramia longicauda*), black skimmer (*Rynchops niger*), common nighthawk (*Chordeiles minor*), seaside sparrow (*Ammodramus maritimus*), yellow-breasted chat (*Icteria virens*), eastern box turtle (*Terrapene carolina*), eastern hog-nosed snake (*Heterodon platirhinos*), spiny softshell turtle (*Apalone spinifera*), checkered white butterfly (*Pontia protodice*), little bluet damselfly (*Enallagma minisculum*), and northeastern beach tiger beetle (*Cicindela dorsalis dorsalis*).

A Search of the U.S. Fish and Wildlife Service's Information for Planning and Consultation (IPaC) database yields the following federally listed plant/animal species as having the potential to occur based on habitat in the region and records of past occurrence⁵: piping plover (*Charadrius melodus*), red knot (*Calidris canutus rufa*), roseate tern (*Sterna dougallii dougallii*), and seabeach amaranth (*Amaranthus pumilus*).

Except for peregrine falcon, the project area does not provide nesting/breeding/foraging habitats for the protected species listed above, and therefore they are not expected to occur. The majority of the protected species listed above are those that require aquatic or shoreline habitats for their critical life functions—habitat which does not occur onsite or in the vicinity of the project area. Only the NYS-endangered peregrine falcon (*Falco peregrinus*) is known to nest in urban areas on bridges and tall buildings in New York City between the months of February to May. The operation of the proposed new eight-story mixed use building, and others potentially constructed in the rezoning area, would not result in significant adverse impacts to potentially present falcons, but would constitute an typical

⁴ NYSDEC Nature Explorer, accessed 9.21.18

⁵ USFWS IPaC Database, accessed 9.21.18

component of the urban environment demonstrated to be acceptable to the peregrine falcon. Urban peregrine falcons primarily eat rock pigeons (DeMent et al. 1986, Rejt 2001), whose abundance would not change as a result of the proposed actions. Therefore, no significant adverse impacts to the peregrine falcon are anticipated from the proposed action's operation.

With regard to potential construction period impacts to the peregrine falcon, it is unlikely that any potentially present falcons would occur at ground level within the project area as the peregrine falcon typically strikes and captures its prey in mid-air. Therefore, construction equipment and activities are unlikely to directly disturb an individual falcon. Furthermore, peregrine falcons nest amidst the high levels of noise and human activity associated with urban environments, thus demonstrating a high tolerance for disturbance and an ability to exploit resources in human-dominated landscapes (Cade et al. 1996, White et al. 2002). As such, noise impacts from typical building construction activities, such as those associated with the proposed actions, are unlikely to result in a significant adverse impact on the potentially-present peregrine falcon. The New York Natural Heritage Program (NYNHP) will be contacted to determine if there is any recent nesting activity of peregrine falcons in the vicinity of project area. If present, in consultation with NYSDEC, the project would use measures to minimize potential adverse impacts to peregrine falcons. Potential measures could include bird control devices on the tops of cranes or other tall construction equipment to prevent young falcons from landing on such equipment and becoming entangled or otherwise injured.

Therefore, the proposed project would not have the potential to adversely affect state- or federally-listed species.

SURFACE AND GROUNDWATER RESOURCES

Because of the developed nature of the project area, other natural resources such as surface waters and wetlands are not present. Soils have already been modified as a result of the original, historic development of the project area.

The project area is not within the FEMA Preliminary or Effective FIRM 100-year or 500-year floodplains. Therefore, the provisions of the National Flood Insurance Program (NFIP) and Appendix G—Flood Resistant Construction of the NYC Building Code do not apply to the buildings constructed in the project area.

Groundwater within New York City is not currently utilized as a potable water source. Therefore, the project would not have the potential to adversely affect groundwater resources. Excavation for the proposed project is not expected to encounter significant groundwater. Should temporary groundwater dewatering be required during construction, the project sponsor would obtain a Long Island Wells permit (6NYCRR §602) and/or a permit to discharge to the city sewers from NYCDEP (RCNY Title 15, Ch. 19) as applicable.

In summary, the proposed project is not expected to result in significant adverse impacts to natural resources, and no further assessment is warranted.

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HAZARDOUS MATERIALS

See Attachment I, “Hazardous Materials.”

WATER AND SEWER INFRASTRUCTURE

See Attachment J, “Water and Sewer Infrastructure.”

SOLID WASTE AND SANITATION SERVICES

The *CEQR Technical Manual* specifies that few projects generate substantial amounts of solid waste (50 tons a week or more) that would result in a significant adverse impact. *CEQR Technical Manual* Table 14-1 “Solid Waste Generation Rates” provides solid waste generation rates for various uses. Based on this Table 14-1 and the RWCDS it is estimated that the proposed actions would generate approximately 18.6 tons of solid waste per week. Therefore, the proposed actions are not expected to result in the production of more than 50 tons of additional solid waste requiring further analysis, and the proposed actions would not result in any significant adverse impacts to solid waste and sanitation services.

ENERGY

According to the *CEQR Technical Manual*, a detailed assessment of energy impacts would be limited to actions that could significantly affect the transmission or generation of energy or that generate substantial consumption of energy. The *CEQR Technical Manual* Table 15-1 provides guidance on calculating projected energy needs for various building types by square foot. Based on this guidance, the RWCDS is estimated to demand 81,290,541,000 British Thermal Units

(BTUs) per year. This would be an incremental increase of 69,293,984,600 BTUs demanded in the No Action condition. The project area would be served by available energy suppliers, and the proposed actions are not expected to generate a significant demand for energy as defined under CEQR. Therefore, no further analysis is required, and the proposed actions would not result in significant adverse impacts to the consumption or supply of energy.

TRANSPORTATION

See Attachment K, “Transportation.”

AIR QUALITY

See Attachment L, “Air Quality.”

GREENHOUSE GAS EMISSIONS

Increased greenhouse gas (GHG) emissions are changing the global climate, which is predicted to lead to wide-ranging effects on the environment, including rising sea levels, increases in temperature, and changes in precipitation levels. According to the *CEQR Technical Manual*, GHG emissions assessment is typically conducted only for larger projects undergoing an Environmental Impact Statement (EIS), as well as in certain cases when the project would undergo an EIS and would result in development of 350,000 sf or greater, when the project is a City capital project, or when the project includes larger-scale power generation or has the potential to fundamentally change the City’s solid waste management system. A GHG emissions assessment has not been performed, as the development projected to result from the proposed actions does not meet the criteria that would warrant assessment.

NOISE

See Attachment M, “Noise.”

PUBLIC HEALTH

The proposed actions would not result in any significant unmitigated adverse impacts to air quality, water quality, hazardous materials, noise, or any other CEQR analysis area. Therefore, no further analysis of public health is required, and no significant adverse impacts to public health are expected to occur as a result of the proposed actions.

NEIGHBORHOOD CHARACTER

As defined in the *CEQR Technical Manual*, neighborhood character is considered to be an amalgam of the various elements that define a neighborhood’s distinct personality. These elements may include a neighborhood’s land use, urban design, visual resources, historic resources, socioeconomics, traffic, and/or noise. An assessment of neighborhood character is generally needed when a proposed project has the potential to result in significant adverse impacts in any of the technical areas listed above, or when the proposed project may have moderate effects on several of the elements that define a neighborhood’s character. As discussed above and in the attachments to this EAS, the proposed actions would not have significant adverse impacts to or result in any moderate effects in these technical areas related to neighborhood character. Therefore, the proposed actions would not result in any significant adverse neighborhood character impacts and a detailed neighborhood character analysis of is not warranted.

CONSTRUCTION

As with all construction projects, construction activities associated with the RWCDs would result in temporary disruptions to the surrounding area, including occasional noise and dust. However, such effects would be temporary and would be limited to the construction period. The proposed project would result in the demolition of the existing single-story retail center, and the construction of a new mixed-use development along Kissena Boulevard. The construction components and logistics for the proposed project would not be substantially different than other construction done within the area. The proposed building would be constructed in a single phase with an anticipated construction period of approximately 22 months and would be considered short-term (i.e., less than 2 years) in accordance with the *CEQR Technical Manual*. Construction of the proposed building would consist of the following primary construction stages, which may overlap at certain times: demolition, excavation and foundation (approximately 4 months); superstructure and exteriors (approximately 15 months); and interiors and finishing (approximately 13 months).

The proposed actions are also expected to result in new development on two projected development sites in the project area. As described above, based on the proposed rezoning and current market and site conditions, these projected development sites could be constructed by the proposed analysis year of 2021. The buildings that would be developed at each of the two projected development sites under the RWCDs would be smaller than the proposed project building and in particular Projected Development Site A, which is assumed to be redeveloped as a six-story 82,447-gsf mixed use-building. It is anticipated that both of the projected development sites would be completed with construction within 22 months, and would therefore be considered short-term.

Construction resulting from the proposed actions would be carried out in accordance with New York City laws and regulations, which allow construction activities between 7:00 AM and 6:00 PM on weekdays. If work is required outside of normal construction hours, necessary approvals would be obtained from the appropriate agencies (i.e., the New York City Department of Buildings). During construction of the proposed project, all necessary measures would be implemented to ensure adherence to the New York City Air Pollution Control Code to minimize construction-related dust emissions. In addition, the construction of the proposed project would comply with applicable control measures for construction noise. Construction noise is regulated by the New York City Noise Control Code and by the Environmental Protection Agency (EPA) noise emission standards for construction equipment. These federal and local requirements mandate that certain classifications of construction equipment and motor vehicles meet specified noise emissions standards. Furthermore, during construction of the proposed project, Maintenance and Protection of Traffic (MPT) plans would be developed for any curb-lane and/or sidewalk closures that may be required. Approval of these plans and implementation of all temporary closures during construction would be coordinated with the New York City Department of Transportation's (DOT) Office of Construction Mitigation and Coordination (OCMC).

Overall, the duration and severity of potential construction effects would be short-term and adverse effects associated with the proposed construction activities would be minimized through implementation of the measures described above. Accordingly, the proposed actions would not result in significant adverse impacts during construction, and no further analysis is required. *

A. INTRODUCTION

This attachment assesses the potential impacts of the proposed actions on land use, zoning, and public policy. According to the 2014 *City Environmental Quality Review (CEQR) Technical Manual*, a land use analysis evaluates the uses and development trends in the area that may be affected by a proposed action and determines whether a proposed action is compatible with those conditions or may affect them. The analysis also considers a proposed action's compliance with, and effect on, the area's zoning and other applicable public policies.

As described in Attachment A, "Project Description and Screening Analyses," the proposed actions include a zoning map amendment and zoning text amendment to facilitate the development of a mixed-use residential, commercial and community facility building on the applicant's development site. The proposed actions are also expected to result in new development on two projected development sites in the project area.

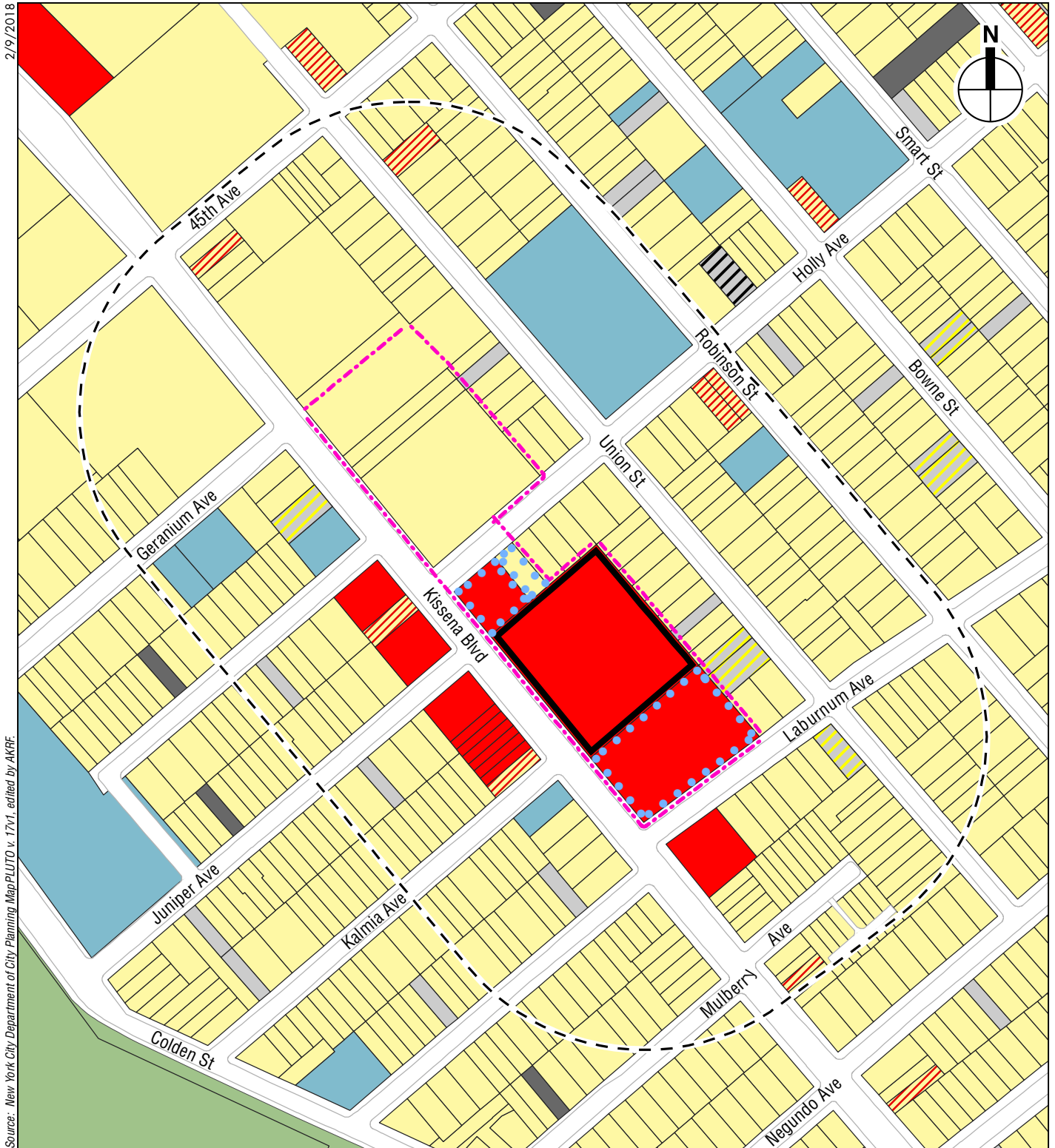
This analysis identifies anticipated changes in land use, zoning, and public policy that are expected to occur independent of the proposed project in the future without the proposed actions (the "No Action" condition) by the 2021 analysis year, and then assesses any potential impacts to land use, zoning, and public policy associated with the proposed project in the future with the proposed actions (the "With Action" condition). As described below, the assessment concludes that the proposed project would be compatible with existing uses in the surrounding area, and would not result in significant adverse impacts to land use, zoning, or public policy.

B. METHODOLOGY

In accordance with the *CEQR Technical Manual*, this analysis of land use, zoning, and public policy examines the area within 400 feet of the project area, which is the area where the proposed project could reasonably be expected to cause potential effects. As shown in **Figure B-1**, this study area is generally bounded by 45th Avenue to the northwest, Robinson Street to the northeast, Mulberry Avenue to the southeast, and midblock between Kissena Boulevard and Colden Street to the southwest.

The analysis characterizes existing conditions in the study area related to land use, zoning, and public policy, and then projects land use, zoning, and public policy conditions in the No Action condition in the 2021 analysis year by identifying developments currently under construction, proposed rezoning and potential policy changes expected to occur within that time frame. Probable impacts of the proposed project are then identified by comparing the conditions expected in the With Action condition to the No Action condition.

The analysis of land use, zoning, and public policy utilized publicly available data, including the online New York City Zoning and Land Use (ZoLa) mapping tool, the Primary Land Use Tax Lot Output (PLUTO) dataset, and the New York City Department of Buildings (DOB), Building Information System (BiIS). Data collected through third party sources was confirmed by field visits conducted by AKRF employees in October 2017.



- Rezoning Area
- Applicant's Development Site (Lot 45)
- Projected Development Sites (Lots 1, 5, and 32)
- Study Area (400-foot boundary)
- Commercial and Office Buildings
- Open Space and Outdoor Recreation
- Parking Facilities

KISSENA CENTER

- Public Facilities and Institutions
- Residential
- Residential with Commercial Below
- Vacant Land
- Vacant Building
- Under Construction

0 400 FEET

Existing Land Use
Figure B-1

C. EXISTING CONDITIONS

LAND USE

PROJECT AREA

As described in Attachment A, “Project Description and Screening Analyses,” the project area consists of eight tax lots that would be rezoned. Existing land uses in the project area are predominately a mix of auto-oriented local retail, commercial office, and residential uses. The development site is currently occupied by a single-story shopping center tenanted by local retail with a surface parking lot along Kissena Boulevard. Current tenants include Gold City Supermarket, Star Laundromat & Cleaners, Ming Xing Gift Shop, and Fay Da Bakery.

The projected development sites are occupied by commercial uses. Projected Development Site A (Block 5208, Lots 1, and 5) is occupied by a single-family residential building (Lot 5), and a two-story commercial retail and office building (Lot 1). The two-story commercial building is currently occupied on the ground floor by a local retail including several restaurants and a bakery, while the second floor contains office uses. Projected Development Site B (Block 5208, Lot 32) is occupied by Good Fortune Restaurant, a multilevel dining establishment with a surface parking lot.

The two remaining lots within the project area are occupied by five- and six-story multifamily apartment buildings. The residential building on Block 5200, Lot 39 also contains ground-floor office space, tenanted by medical and dental offices.

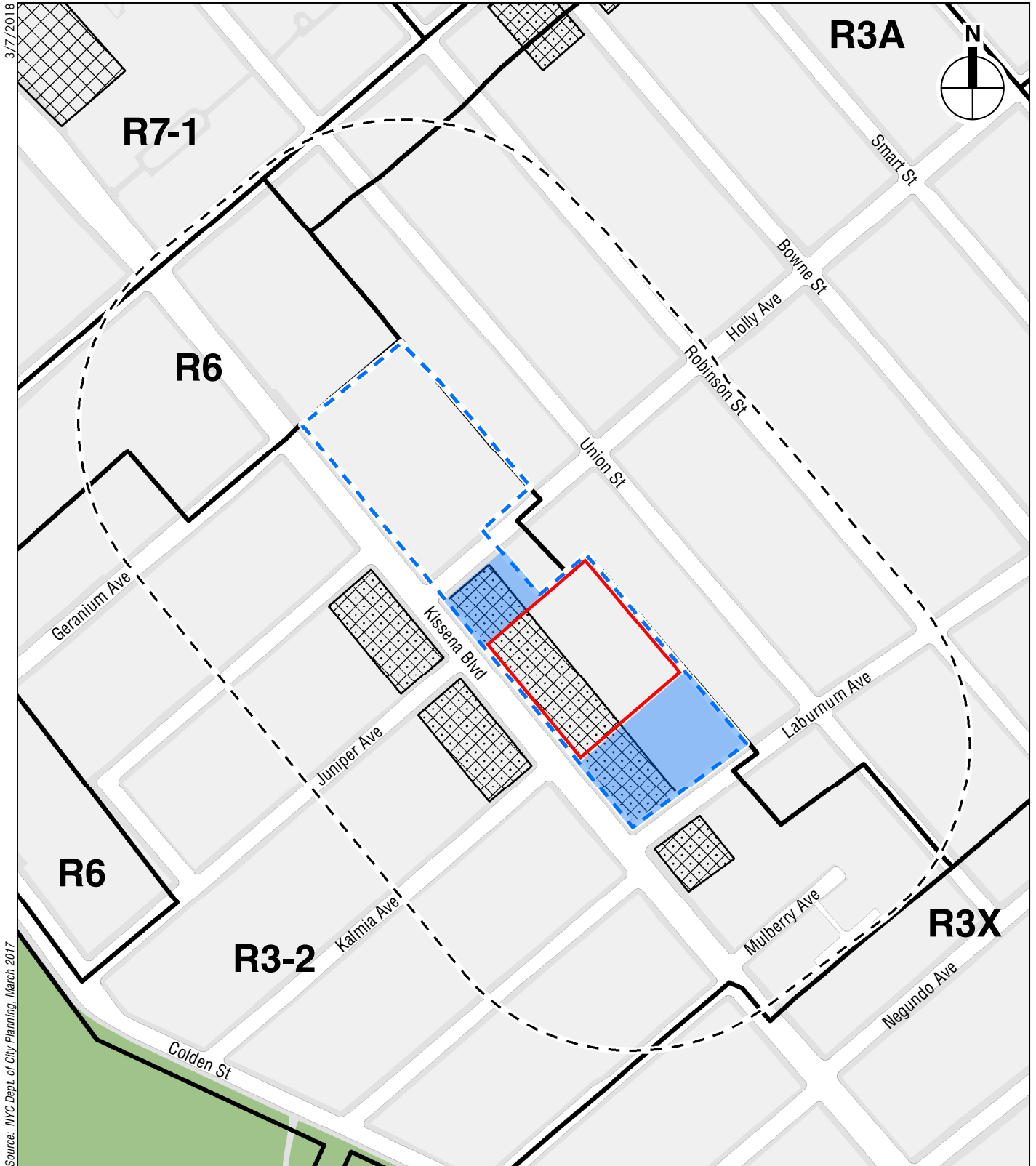
STUDY AREA

The study area extends to a 400-foot radius of the rezoning area. Land uses within the study area are primarily residential, commercial, and institutional. Residential uses generally consist of one- and two-family homes along side streets, multifamily walkup buildings along Kissena Boulevard, and four- to six- story multifamily elevator buildings north towards Main Street in downtown Flushing. Commercial uses primarily include neighborhood retail stores and restaurants. There are also several stand-alone automotive-related uses along Kissena Boulevard, including an auto dealership and auto-repair shop. The study area includes several institutional facilities, including a number of houses of worship serving the religiously diverse Flushing neighborhood, and public institutions, including P.S. 24 Andrew Jackson School.

ZONING

PROJECT AREA

As shown in **Figure B-2** the project area is located within an R3-2 zoning district, with portions of the area along Kissena Boulevard mapped with a C2-2 commercial overlay. R3-2 districts are general residential districts that allow a variety of housing types, including low-rise attached houses, small multifamily apartment houses, and detached and semi-detached one- and two-family residences. In R3-2 districts the maximum floor area ratio (FAR) is 0.5; however a 20 percent attic allowance is permitted under a pitched roof, making the maximum effective FAR 0.6. R3-2 is the lowest density zoning district in which buildings with multiple dwellings are permitted. The applicant’s development site is currently non-conforming under the existing zoning as the commercial C2 overlay is mapped at the front of Lot 45 adjacent to the street, not at the rear of the lot as the retail building is currently located.



Rezoning Area

Development Site (Lot 45)

Projected Development Sites (Lots 1, 5, and 32)

Study Area (400-foot boundary)

Zoning Districts

C1-2 Commercial Overlay District

C2-2 Commercial Overlay District

0 400 FEET

KISSENA CENTER

Existing Zoning
Figure B-2

The Kissena Park Rezoning, adopted in 2005, included portions of the project area and study areas northeast of Kissena Boulevard. The Kissena Park Rezoning rezoned a 40-block area from the previously existing R3-2 district to R3X, R3A, and R2 zoning districts in order to maintain the low-density character of the neighborhood, and ensure that future residential development within the rezoning area is consistent with that character.

STUDY AREA

The study is mapped with R3-2, R3A, and R6 zoning districts. Portions of the R3-2 zoning district, along Kissena Boulevard, are mapped with a C2-2 commercial overlay. R3A districts are common in many of the City's older residential neighborhoods; R3A contextual districts feature modest single- and two-family detached residences on zoning lots as narrow as 25 feet in width. R6 districts are widely mapped in built-up, medium-density areas in Queens. The character of R6 districts is quite diverse with a mix of building types and heights, including large-scale "tower in the park" developments. Standard height factor regulations, introduced in 1961, support smaller buildings on small zoning lots, and taller, set back buildings, on large zoning lots. Optional Quality Housing regulations produce buildings with high lot coverage, set by height limits that reflect the scale of older, pre-1961 apartment buildings in the neighborhood. Depending on the type of R6 district and the use of Quality Housing, or height factor options, and the location of a property on a narrow or wide street the maximum permitted FAR ranges from 2.0 FAR to 3.6 FAR.

As mentioned above the Kissena Park Rezoning intersects portions of the study area, northeast of Kissena Boulevard.

PUBLIC POLICY

HOUSING NEW YORK

On May 5, 2014 the de Blasio administration released the *Housing New York* plan, a public policy initiative intended to create or preserve 200,000 units of affordable housing in New York over the coming decade. The plan details key policies and programs for implementing its goals, including developing affordable housing on underused public and private sites. *Housing New York* calls for increased community engagement in the planning process, so the community can inform land use and zoning changes intended to generate new affordable housing.

ONENYC

In April 2015, the de Blasio administration released OneNYC, a plan for growth, sustainability, resiliency, and equity. OneNYC is the update for the sustainability plan started under the Bloomberg administration, previously known as *PlaNYC 2030: A Greener, Greater New York*. While OneNYC still centers on growth, sustainability, and resiliency, the de Blasio administration added equity as a core principle to address the high poverty rate and rising income inequality. The new plan also addresses pressing issues such as population growth, aging infrastructure, and global climate change. This plan is being fulfilled through multiple programs and initiatives, such as creating and preserving affordable housing.

D. FUTURE WITHOUT THE PROPOSED ACTIONS

LAND USE

Under the No Action condition, the project area would not be rezoned and no changes to land use are anticipated to occur on the applicant's development site and other lots within the project area.

Within the study area, there are several planned and proposed development projects ("No Build projects"), anticipated to be completed by the 2021 build year (see **Table B-1**). These developments will introduce additional residential and institutional uses to the study area, contributing to the existing mix of residential, commercial, and institutional uses. In **Figure B-1** these No Build projects are identified as "under construction."

Table B-1
No Build Projects within 400-Foot Study Area

Address	Proposed Development	Build Year*
47-06 Union Street	Two-unit residential building	2021
46-38 Union Street	Two-unit residential building	2021
141-12 Laburnum Avenue	Conversion from single-family to a two-family residential building	2021
45-57 Union Street	A four-story, 121,771-sf educational facility, as an expansion to P.S. 24 Andrew Jackson School.	2021
Note: If exact build year is unknown, the proposed project's build year of 2021 was assumed. Sources: DOB, 2017; New York City Department of City Planning (DCP); AKRF field work, conducted October 2017.		

ZONING AND PUBLIC POLICY

No changes to zoning or public policy are expected to occur under the No Action condition by the 2021 build year within the project area and the study area.

E. FUTURE WITH THE PROPOSED ACTIONS

LAND USE

PROJECT AREA

The proposed actions would facilitate the redevelopment of the applicant's development site from a single-story retail use with surface parking to a mixed-use building with residential, retail, community facility, and accessory subsurface parking uses. The proposed project would introduce 244 dwelling units (DUs), including approximately 73 affordable DUs, to the applicant's development site. The proposed actions would change the land use character found on the applicant's development site by adding residential and community facility uses, along with new retail and parking.

As discussed above, the project area contains a mix of residential and commercial uses. In the With Action condition, Projected Development Site A is projected to be developed with 7,630 sf of ground-floor retail and 53 DUs. Projected Development Site B is projected to be developed with 31,270 gs of ground-floor retail, and 148 DUs. These land uses would be consistent with the mixed-use character of the Kissena Boulevard corridor.

STUDY AREA

The proposed project would be consistent with existing land uses in the study area, which includes multifamily apartment buildings, residential buildings with ground-floor retail space, and community facilities. The proposed project's retail uses would contribute to and be compatible with the existing Kissena Boulevard neighborhood retail corridor. The proposed residential uses would constitute a substantial increase in the residential density of the applicant's development site and the projected development sites, but this density would be consistent with other multifamily residential uses within the study area. The proposed project would be consistent with existing mixed-use residential, retail and community facility land uses along Kissena Boulevard, where many lots include C2-2 commercial overlays, supporting ground floor retail and the mixed-use character of the corridor. The proposed project would provide much-needed affordable housing in the community, as well as provide desired retail opportunities for local residents. Overall, the proposed actions would not adversely affect the land use character of the study area and would not result in significant adverse land use impacts.

ZONING

PROJECT AREA

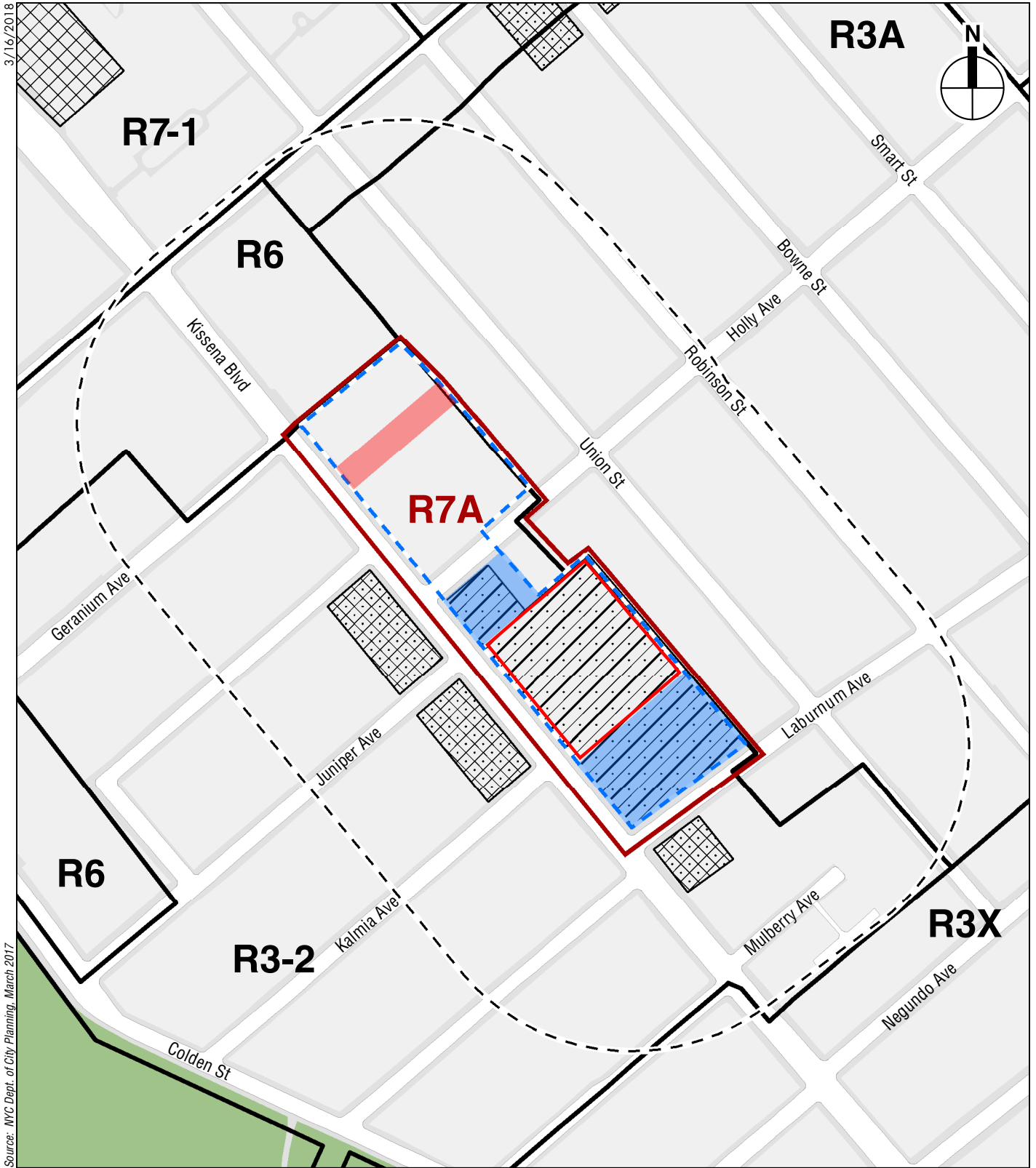
The proposed actions would rezone the project area from R3/C2-2 to R7A and R7A/C2-3 (see **Figure B-3**). The proposed actions would be consistent with the mix of zoning designations found within the study area. Medium-density housing exists throughout the study area, as does ground-floor retail use along Kissena Boulevard. Further, under the proposed actions the rezoning area would also be designated as a Mandatory Inclusionary Housing Area (MIHA) establishing requirements to ensure new development within the rezoning area includes permanently affordable housing at a range of income levels, as determined by New York City Planning Commission (CPC) and New York City Council. This zoning amendment would support affordable residential development within the project area.

Rezoning of the Project Area from R3/C2-2 to R7A and R7A/C2-3 would increase the maximum allowable FAR and built FAR compared to the No Action condition. R7A and R7A/C2-3 districts have a maximum residential FAR of 4.0, but with inclusionary housing receive a 0.6 FAR bonus making the total residential FAR 4.6. Further, R7A districts are contextual districts that utilize height regulations to create shorter buildings with higher lot coverage, closer to the lot line as opposed to tall buildings set back from the street. In the proposed R7A/C2-3 district the maximum commercial FAR is 2.0, and extends 150 feet from the lot line into the lot. In addition in the R7A/C2-3 district 1.0 FAR is permitted for community facility uses. The proposed project has a total built FAR of 4.6 (residential/commercial), with a residential FAR of 3.47, a commercial FAR of 0.87 and a community facility FAR of 0.22.

STUDY AREA

The underlying zoning R6, R3X and R3-2 zoning districts found within the study area would remain unchanged in the With Action condition. As discussed above, the proposed actions would result in land uses that would be compatible with the use and scale of existing land uses and would not affect the relationship between the project area and study area.

Therefore, the proposed actions would not result in any significant adverse zoning impacts on the study area.



- Project Area
- Development Site (Lot 45)
- Projected Development Sites (Lots 1, 5, and 32)
- Potential Development Sites (Lots 49 and 50)
- Study Area (400-foot boundary)

- Zoning Districts
- C1-2 Commercial Overlay District
- C2-2 Commercial Overlay District
- Proposed Zoning District Boundary
- Proposed C2-3 - Zoning Commercial District Overlay

0 400 FEET

PUBLIC POLICY

HOUSING NEW YORK

Housing New York, a major public policy goal of the City of New York is to build or preserve 200,000 units of affordable housing by 2024. The proposed actions would help achieve this goal through the establishment of the rezoning area as a MIHA, requiring new development to include permanently affordable housing at a variety of incomes. The proposed development project would include approximately 61 to 73 affordable DUs up to 80 percent of area median income (AMI), and it is projected that additional development within the project area would provide approximately 60 additional affordable DUs.

ONENYC

The mission of OneNYC is a plan for growth, sustainability, resiliency, and equity. The proposed project would facilitate new residential development with affordable housing, and would activate the Kissena Boulevard corridor by removing surface parking and improving the quality of the neighborhood streetscape. Therefore, the proposed project would be consistent with OneNYC's goals for growth and equity.

Overall the proposed actions would not result in significant adverse impacts to the land use, zoning, or public policies found within the study area. *

A. INTRODUCTION

This attachment assesses the socioeconomic changes that could result from the proposed actions, and whether such changes could result in significant adverse impacts. As described in the 2014 *City Environmental Quality Review (CEQR) Technical Manual*, the socioeconomic character of an area includes its population, housing, and economic activity. Socioeconomic changes may occur when a project directly or indirectly changes any of these elements. The objective of the CEQR analysis is to disclose whether any of these changes would result in significant impacts when compared with what could happen in the future without the proposed actions (the “No Action” condition).

In accordance with *CEQR Technical Manual* guidelines, this socioeconomic assessment considers five ways that the proposed actions could alter socioeconomic conditions: (1) direct residential displacement; (2) direct business displacement; (3) indirect residential displacement; (4) indirect business displacement; and (5) adverse effects on specific industries.

DIRECT RESIDENTIAL DISPLACEMENT

A screening-level assessment finds that the proposed actions would not result in significant adverse socioeconomic impacts due to direct residential displacement. Under the Reasonable Worst Case Development Scenario (RWCDS), projected development would directly displace an estimated three residents¹ living in one dwelling unit (DU). The single DU is located on Projected Development Site 1 (Block 5208, Lot 5).

According to the *CEQR Technical Manual*, direct displacement of less than 500 residents would not typically be expected to alter the socioeconomic character of a neighborhood. The three potentially displaced residents represent less than one-half of 1 percent of the socioeconomic study area population, and therefore the displacement does not have the potential to alter the socioeconomic character in the study area.

DIRECT BUSINESS DISPLACEMENT

A preliminary assessment finds that the proposed actions would not result in significant adverse socioeconomic impacts due to direct business displacement. Development facilitated by the proposed actions could directly displace up to 10 businesses and an estimated 246 jobs associated with those businesses. These 10 businesses are located on the development site (Block 5208, Lot 45) and on two projected development sites (Block 5208 Lots 1 and 5, and Lot 32).

¹ The estimated number of incremental residents is based on the U.S. Census Bureau’s 2010 American Community Survey (ACS) estimates of the average household size of renter-occupied homes within the Queens CD 7 (2.74 people per DU).

The 10 potentially displaced businesses include Quan Dong Yi Jin (restaurant); Carnation Bakery; Satay Malaysian Cuisine; Liu Bu Inc. (restaurant); T&T Restaurant; Good Fortune Restaurant; Fay Da Bakery; Gold City Supermarket; Ming Xing Gift Shop; and Star Laundromat and Cleaners. These 10 businesses do not represent a majority of study area businesses or employment for any given industry sector. While all businesses contribute to neighborhood character and provide value to the City's economy because there are alternative sources of comparable goods, services, and employment provided within and nearby the socioeconomic study area, the potentially displaced businesses are not of critical value to the socioeconomic conditions of the area as defined by CEQR. Further, there is no category of business that may be directly displaced that is the subject of regulations or plans to preserve, enhance, or otherwise protect it. Under the RWCDS the proposed actions would result in an approximately 41,699-gross-square-foot (gsf) increase in the amount of commercial (retail) space in the project area. In addition to the new employment opportunities associated with this space, comparable services to those provided by directly displaced commercial businesses could be provided as a result of the proposed actions.

INDIRECT RESIDENTIAL DISPLACEMENT

A preliminary assessment finds that the proposed actions would not result in significant adverse socioeconomic impacts due to indirect residential displacement. The concern under CEQR is whether a proposed project could lead to changes in local market conditions that could, in turn, lead to increases in residential property values and rents within the study area, making it difficult for some residents to remain in the area. While the proposed project would add new population which could have a higher average household income than the average household income in the study area, the proposed project would also result in a significant increase in permanently affordable DUs, making the area more affordable to low- and moderate-income households.

The proposed actions would result in an increment of 444 DUs and a net increase of approximately 1,217 residents.² In accordance with the Mandatory Inclusionary Housing (MIH)-designated area that would result from approval of the proposed rezoning, of the 444 DUs, between 89 and 133 DUs would be affordable to residents who would not likely be able to afford market-rate rents in the study area. While there is not a readily observable trend towards increasing rents in the study area, the RWCDS' potential to initiate trends towards increased rents is limited by the provision of a significant number of affordable DUs that would provide permanently affordable housing to low- and moderate-income residents. In this respect, the proposed project could serve to maintain a more diverse range of rental price points within the study area.

INDIRECT BUSINESS DISPLACEMENT

A screening-level assessment finds that the proposed actions would not result in significant adverse socioeconomic impacts due to indirect business displacement. The proposed actions would result in incremental development of 41,699 gsf of commercial (retail) space on the development site and projected development sites. According to the *CEQR Technical Manual*, commercial development of 200,000 sf or less would typically not result in significant socioeconomic impacts. As such, the proposed actions do not have the potential to alter the socioeconomic character in the study area and no further analysis of indirect business displacement was warranted.

² The estimated number of incremental residents is based on the U.S. Census Bureau's 2010 ACS estimates of the average household size of renter-occupied homes within the Queens CD 7 (2.74 people per DU).

ADVERSE EFFECTS ON SPECIFIC INDUSTRIES

A preliminary assessment finds that the proposed actions would not result in significant adverse impacts due to adverse effects on specific industries. An analysis is warranted if a substantial number of residents or workers depend on the goods or services provided by the affected businesses or if it would result in the loss or substantial diminishment of a particularly important product or service within the industry. The proposed actions would not significantly affect the business conditions in any industry or any category of business within or outside the study area. By 2021, the proposed actions could directly displace an estimated 10 businesses and 246 employees. The businesses that could be displaced do not represent a critical mass of businesses within any City industry, category of business, or category of employment. Although these businesses are valuable individually and collectively to the City's economy, the goods and services offered by potentially displaced uses can be found elsewhere within the socioeconomic study area, within a broader Queens area, and within the City as a whole. The products and services offered by the potentially displaced businesses are not expected to be essential to the viability of other businesses within or outside the study area. The proposed actions would not result in significant indirect business displacement, and therefore would not indirectly substantially reduce employment or have an impact on the economic viability in any specific industry or category of business.

B. METHODOLOGY

The socioeconomic analysis begins with a screening-level assessment that uses RWCDs information and *CEQR Technical Manual* analysis thresholds to determine whether there is a need for a preliminary assessment. As detailed in Section C, "Screening Assessment," the RWCDs warrants preliminary assessment of direct business displacement, indirect residential displacement, and effects on specific industries.

The preliminary assessments are conducted to learn enough about the potential effects of a project to either rule out the possibility of significant adverse impacts or determine that a more detailed analysis is required to fully determine the extent of the impacts. A preliminary assessment responds to questions based on guidance from the *CEQR Technical Manual*. If the responses to questions indicate there is no potential for significant adverse impacts, further analysis is not warranted. A detailed analysis, when warranted, addresses the same issues of concern, but frames the assessment to more particularly examine the changes to socioeconomic conditions in the With Action condition as compared to the changes that would be expected in the No Action condition. With respect to the proposed actions, for the three areas of concern warranting preliminary assessments—direct business displacement, indirect residential displacement, and adverse effects on specific industries—the preliminary assessment presented in Section D was sufficient to conclude that the proposed actions would not result in significant adverse socioeconomic impacts.

PROJECT AREA

The applicant proposes the construction of a mixed-use residential, commercial and community facility building (the "proposed project") at 46-15 Kissena Boulevard (Block 5208, Lot 45, the "development site") in the Flushing neighborhood of Queens, CD 7 (see Figure A-1). To facilitate the proposed project, the applicant is requesting a zoning map amendment and a zoning text amendment (collectively, the "proposed actions") from the New York City Planning Commission (CPC) in order to rezone an area around the proposed project, including Block 5200, Lots 39, 49, 50, and portion of 151; and Block 5208, Lots 1, a portion of Lot 5, Lot 32, and Lot 45 (collectively the "rezoning area"). Together the lots identified within the rezoning area compose the "project

area,” which in addition to encompassing the entire rezoning area includes the portion of Block 5208, Lot 5 which is not proposed to be rezoned. The analysis of the proposed actions is based on the proposed development on the development site and additional development projected to be completed by the 2021 Build Year within the bounds of the study area.

The proposed and projected development sites, shown in **Figure C-1**, lie at the center of the socioeconomic study area. The development site consists of a 68,200-sf lot generally bounded Kissena Boulevard to the southwest, Holly Avenue to the northwest, Union Street to the northeast, and Laburnum Avenue to the southeast. It is located in Queens CD 7. Lot 45 is currently improved with 22,520 gsf of commercial space and a parking area. Tenants of the commercial space include Gold City Supermarket, Star Laundromat and Cleaners, Ming Xing Gift Shop, and Fay Da Bakery.

The approximately two-block project area (Block 5208, Lots 1, 5, 32, and 45, and Block 5200, Lots 39, 49, 50, and 151), is generally bounded by Kissena Boulevard to the southwest, 45th Avenue to the northwest, Union Street to the northeast, and Laburnum Avenue to the southeast. There are two projected development sites within the project area: Block 5208, Lots 1 and 5 (Projected Development Site 1); and Block 5208, Lot 32 (Projected Development Site 2). Tenants of the commercial space located on Projected Development Site 1 include Quan Dong Ti Jin, a restaurant; Carnation Bakery; Satay Malaysian Cuisine; Liu Bu Inc., a restaurant; and T&T Restaurant. Tenants of the commercial space located on Projected Development Site 2 include Good Fortune Restaurant, Gold City Supermarket, Star Laundromat and Cleaners, Ming Zing Gift Shop, and Fay Da Bakery. The projected development sites are the sites most likely to experience redevelopment under the proposed actions by the 2021 analysis year.

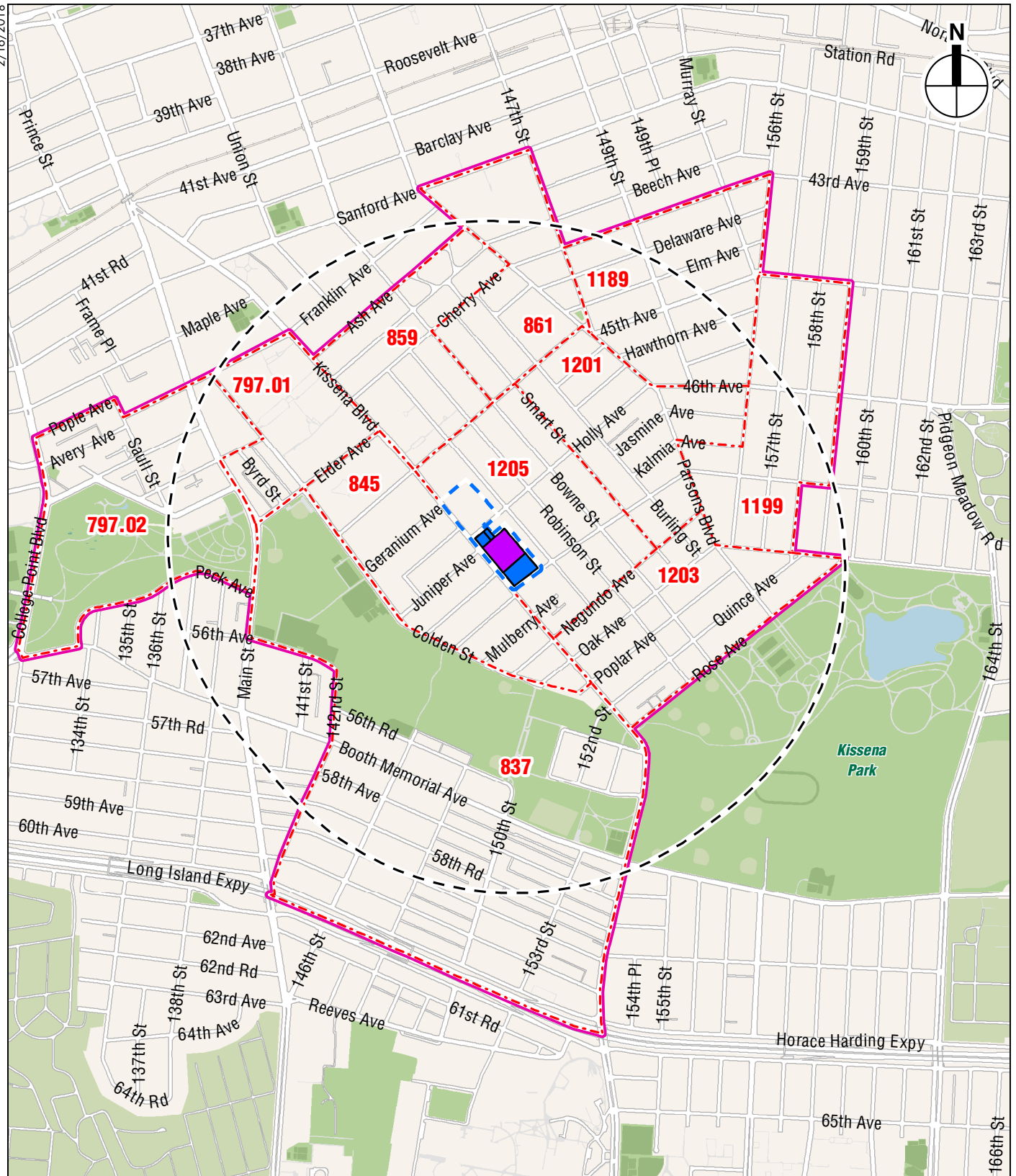
STUDY AREA DEFINITION

A socioeconomic study area is the area within which the proposed actions could directly or indirectly affect population, housing, and economic activities. A study area typically encompasses a project area and adjacent areas within approximately 400 feet, ¼-mile, or ½-mile, depending upon the project size and area characteristics. According to the *CEQR Technical Manual*, the larger ½-mile study area is appropriate for projects that would potentially increase the ¼-mile area population by more than five percent. Under the future with the proposed actions (the “With Action” condition), the proposed actions would increase the ¼-mile area population by approximately 1,217 people (16.8 percent), warranting a larger study area.³



Because socioeconomic analyses depend on demographic data, it is appropriate to adjust the study area boundary to conform to the census tract delineation that most closely approximates the desired radius (in this case, a ½-mile radius surrounding the boundary of the development site). For this analysis, the census tracts that comprise the “socioeconomic study area,” or “study area,” are shown in **Figure C-1**. Because of the geographic extent of the census tracts and changes in population between the 2000 Census and 2010 Census, the adjusted study area captures an approximately ½-mile to ¾-mile area surrounding the project area. The study area includes Census Tracts 797.01, 797.02, 837, 845, 859, 861, 1189, 1199, 1201, 1203, and 1205.⁴ The study area is

³ The estimated number of incremental residents is based on the U.S. Census Bureau’s 2010 ACS estimates of the average household size of renter-occupied homes within the Queens CD 7 (2.74 people per DU).


⁴ Census tracts generally have a population size between 1,200 and 8,000 people, with an optimum size of 4,000, and can be split due to population growth or merged due to population decline. Between the 2000 Census and 2010 Census, the population living within the bounds of Census Tract 797 during the 2000 Census grew such that the tract was split into Census Tracts 797.01 and 797.02 for the 2010 Census. The



 *Project Area*
 *Development Site (Lot 45)*
 *Projected Development Sites (Lots 1,5, and 32)*
 *Study Area (Half-mile Radius)*

 Socioeconomic Study Area
 837 Census Tracts

0 1,000 FEET



generally bounded by Sanford Avenue and Franklin Avenue to the north; 159th Street, Rose Avenue, and Kissena Boulevard to the east; Long Island Expressway to the South; and 142nd Street and Main Street to the west.

DATA SOURCES

Information used in the analyses of indirect residential displacement—including population, housing, rents, and incomes—were gathered from the U.S. Census Bureau’s 2000 Census and 2012–2016 ACS through Social Explorer. The average household size information for the CD was obtained through the New York City Department of City Planning (DCP) Community Portal and is based on the 2010 Census. Data on the study area were compared to Queens (Queens County) and New York City. Study area and comparative geographies’ market-rate asking rents were researched using Apartments.com, an online real estate listing site.

The assessments of direct business displacement, indirect business displacement, and potential effects on specific industries consider business and employment trends in the study area. Land use data was analyzed using MapPLUTO data provided by DCP. The data for the study area that were used to estimate the total number and types of businesses and jobs were based on the New York State Department of Labor (NYSDOL) Quarterly Census of Employment and Wages (QCEW) for the third quarter of 2016, compiled at the census-tract level by DCP Housing, Economics, and Infrastructure Planning (HEIP) Division in February 2017. QCEW Data on Queens County and New York City were gathered by AKRF, Inc. for the third quarter of 2016. The above-described data were supplemented by field surveys conducted by AKRF staff during the summer 2017 season. During the field surveys, AKRF staff characterized land uses and economic activities.

C. SCREENING ASSESSMENT

This screening assessment presents the *CEQR Technical Manual* threshold circumstances (numbered in italics below) that can lead to socioeconomic changes warranting further analysis, and compares those thresholds to the proposed actions’ RWCDs.

1. *Direct Residential Displacement: Would the project directly displace population to the extent that the socioeconomic character of the neighborhood would be substantially altered? Displacement of less than 500 residents would not typically be expected to alter the socioeconomic character of a neighborhood.*

There is one DU located on Projected Development Site 1 (Block 5208, Lot 5). The approximately three residents living in this DU could be directly displaced as a result of the proposed actions. Displacement of less than 500 residents would not typically be expected to alter the socioeconomic character of a neighborhood. The three potentially displaced residents represent less than one-half of 1 percent of the socioeconomic study area population, and therefore the displacement does not have the potential to alter the socioeconomic character in the study area. No further assessment of direct residential displacement is warranted.

2. *Direct Business Displacement: Would the project directly displace more than 100 employees, or would it displace any business that is unusually important because its products or services are uniquely dependent on its location, are subject of policies or plans aimed at its*

2012–2016 ACS uses 2010 Census Tract boundaries. For the purposes of this socioeconomic analysis, demographic trends are analyzed using the median and average household incomes of Census Tract 797 compared to the combined median and average household incomes of Census Tracts 797.01 and 797.02.

preservation, or that serves a population uniquely dependent on its services in its present location?

The proposed actions could directly displace up to 10 businesses located on the development site and projected development sites. Based on employment density ratios widely used in CEQR analyses, there are an estimated 246 workers associated with the 10 potentially directly displaced businesses. The 10 businesses include Quan Dong Yi Jin (restaurant); Carnation Bakery; Satay Malaysian Cuisine; Liu Bu Inc. (restaurant); T&T Restaurant; Good Fortune Restaurant; Fay Da Bakery; Gold City Supermarket; Ming Xing Gift Shop; and Star Laundromat and Cleaners. The number of potentially displaced employees exceeds the 100-employee threshold and, as such, further analysis of direct business displacement is warranted and is included in Section D, “Preliminary Assessment.”

3. *Indirect Residential and Business Displacement due to increased rents: Would the project result in substantial new development that is markedly different from existing uses, development, and activities within the neighborhood? 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 proposed actions would result in the incremental development of 444 DUs, including an increment of approximately 133 affordable DUs, exceeding the 200-unit threshold warranting assessment of potential indirect residential displacement. The proposed actions would also result in incremental development of 41,699 gsf of commercial (retail) space, well below the 200,000-sf threshold warranting assessment of potential indirect business displacement. As such, analysis of potential indirect residential displacement is warranted and is included in Section D, “Preliminary Assessment.” No further analysis of indirect business displacement is warranted.

4. *Indirect Business Displacement due to market saturation: Would the project 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 retail on a single development site would not typically result in socioeconomic impacts.*

Based on *CEQR Technical Manual* guidelines, an assessment of potential business displacement due to retail market saturation (i.e., competition) is not warranted. The proposed actions under the RWCDS would result in an incremental increase of 41,699 gsf of retail space, which is well below the *CEQR Technical Manual*’s 200,000-sf threshold for assessment. Development resulting from the proposed actions is not expected to 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. Therefore, the proposed actions would not have the potential to result in disinvestment on local retail streets due to retail market saturation and associated competitive effects. Further analysis of indirect business displacement due to market saturation is not warranted.

5. *Adverse Impacts on Specific Industries: Is the project expected to affect conditions within a specific industry? An analysis is warranted if a substantial number of residents or workers depend on the goods or services provided by the affected businesses or if it would result in the loss or substantial diminishment of a particularly important product or service within the industry.*

As noted in the response to screening question 2 above, the proposed actions would result in direct business displacement. As such, an assessment is warranted in order to understand whether a

substantial number of residents or workers depend on the goods or services provided by the affected businesses. Section D, “Preliminary Assessment” addresses whether the proposed actions could significantly affect business conditions in any industry or category of business within or outside the study area, or whether they could substantially reduce employment or impair viability in a specific industry or category of business.

Based on the above screening assessment, the proposed actions warrant further assessment of direct business displacement, indirect residential displacement due to increased rents, and adverse effects on specific industries.

D. PRELIMINARY ASSESSMENT

DIRECT BUSINESS DISPLACEMENT

The *CEQR Technical Manual* defines direct business displacement as the involuntary displacement of businesses from the site of, or a site directly affected by a proposed actions. In accordance with the guidelines, displacement of a business or group of businesses is not, in itself, considered a significant adverse environmental impact. While all businesses contribute to neighborhood character and provide value to the City’s economy, the *CEQR Technical Manual* specifies consideration of the following in determining the potential for significant adverse impacts: (1) whether the businesses to be displaced provide products or services essential to the local economy that would no longer be available to local residents or businesses; and (2) whether adopted public plans call for preservation of such businesses in the area.

As detailed below, under the RWCDs, the development that could result from the proposed actions could directly displace up to 10 businesses and an estimated 246 jobs associated with those businesses. As such, a preliminary assessment of direct business displacement was conducted, examining the employment and business value characteristics of the potentially affected businesses. The analysis begins with a description of overall business activities within the study area. It then describes the businesses and employment that could be directly displaced as a result of the proposed actions and associated RWCDs. CEQR assessment criteria are used to determine whether such displacement could result in significant adverse impacts.

PROFILE OF PRIVATE EMPLOYMENT IN THE SOCIOECONOMIC STUDY AREA

As of 2016, there were an estimated 5,103 employees in the socioeconomic study area (see **Table C-1**). These employees represented 0.9 percent of private employment in Queens and 0.14 percent of New York City’s private employment.

The economic sector with the most employees in the socioeconomic study area was Health Care and Social Assistance, representing approximately 52.6 percent of total employment. While the Health Care and Social Assistance sector also represents the industry with the largest amount of employment in Queens (23.7 percent of private employment) and New York City (18.5 percent of private employment), the prevalence of sector employment in the study area is almost three times as high as that in the comparison geographies. In the study area, 426 workers are employed in the Ambulatory Health Care Services sub-sector. Cathay Express Transportation, a medical transportation firm, has two locations within the study area boundaries. The New York-Presbyterian/Queens hospital and the Flushing Hospital Medical Center are both located within the study area.

Table C-1
2016 Private Employment in Socioeconomic Study Area,
Queens, and New York City

	Socioeconomic Study Area		Queens		New York City	
	Employees	%	Employees	%	Employees	%
Agriculture, Forestry, Fishing and Hunting	0	0.0	24	0.004	298	0.01
Mining	0	0.0	0	0.0	17	0.00
Utilities	0	0.0	0	0.0	5,193	0.1
Construction	288	5.6	52,425	9.5	146,050	4.0
Manufacturing	44	0.9	20,942	3.8	75,051	2.1
Wholesale Trade	123	2.4	22,611	4.1	134,907	3.7
Retail Trade	328	6.4	62,873	11.4	341,870	9.4
Transportation and Warehousing	102	2.0	63,998	11.6	111,939	3.1
Information	5	0.1	7,295	1.3	179,157	4.9
Finance and Insurance	32	0.6	16,233	2.9	330,820	9.1
Real Estate, Rental & Leasing	173	3.4	15,758	2.8	127,935	3.5
Professional, Scientific, & Tech. Services	119	2.3	15,698	2.8	396,917	11.0
Management of Companies and Enterprises	D	D	2,497	0.5	66,920	1.9
Administrative & Support & Waste Management & Remediation	64	1.3	34,478	6.2	225,114	6.2
Educational Services	103	2.0	15,466	2.8	166,750	4.6
Health Care & Social Assistance	2,686	52.6	131,047	23.7	669,489	18.5
Arts, Entertainment, and Recreation	115	2.3	7,755	1.4	85,035	2.4
Accommodation & Food Services	397	7.8	49,977	9.0	353,384	9.8
Other Services (except Public Administration)	357	7.0	26,750	4.8	172,360	4.8
Unclassified	D	D	5,362	1.0	24,105	0.7
Total	5,103	100	553,862	100	3,623,593	100

Notes:

1. Private employee counts for the socioeconomic study area are based on an aggregate of values from the QCEW, 3Q 2016 for the following 2010 Census Tracts: 797.01, 797.02, 837, 845, 859, 861, 1189, 1199, 1201, 1203, and 1205.
2. The number of the private sector employees in Queens and New York City is equal to the average number of employees in the first 3 months of 3Q 2016.
3. To avoid disclosing data for individual employees, the following sectors were considered non-disclosable and were symbolized with a "D": Information; Management of Companies and Enterprises; Unclassified. The number of non-disclosable employees is included in the total employee count to provide an accurate representation of the number of employees.

Sources:
 NYSDOL QCEW, 3Q 2016; NYSDOL QCEW, 3Q 2016 data was provided at the census tract-level for the socioeconomic study area by DCP HEIP Division (February 2018).

The next largest economic sector of employment is Accommodation and Food Services, representing approximately 7.8 percent of study area employment (397 workers). The third-largest economic sector of employment is Other Services (except Public Administration), representing approximately 7 percent of study area employment (257 employees). Two prominent sub-sectors within the study area include Personal and Laundry Services (169 workers) and Religious, Grantmaking, Civic, Professional, and Similar Organizations (164 workers). The Other Services (except Public Administration) sector represents 4.8 percent of private employment in Queens and New York City, respectively. Approximately 12 laundromats exist throughout the study area with no pattern of concentration. There are approximately 10 religious institutions within the study area, primarily concentrated along Holly Avenue and Browne Street.

The study area has less employment in the Finance and Insurance; Transportation and Warehousing; and Manufacturing sectors than compared with Queens or New York City, although these sectors do not represent a majority of employment in either of the comparative geographies. For example, the Finance and Insurance sector represents 0.6 percent (32 workers) of private employment in the study area, whereas it represents 2.9 percent (16,233 workers) of private employment in Queens and 9.1 percent (330,820 workers) of private employment in New York City. Similarly, The Transportation and Warehousing sector represents 2.0 percent of employment in the study area, whereas it represents 11.6 percent (63,998 workers) and 3.1 percent (111,939 workers) of employment in Queens and New York City, respectively.

PROFILE OF PRIVATE BUSINESSES IN THE SOCIOECONOMIC STUDY AREA

As of 2016, there were an estimated 803 private sector businesses within the socioeconomic study area (see **Table C-2**). Similar to the private employment, the Health Care and Social Assistance sector accounts for the largest share of private employment in the study area with approximately 102 firms representing 12.7 percent of total private businesses in the study area. Of private businesses in Queens and New York City, 10.4 percent of Queens' private businesses and 8.8 percent of New York City's private businesses are in the Health Care and Social Assistance sector. The Ambulatory Health Care Services sub-sector accounts for the greatest number of firms within the sector.

The second- and third-most prevalent private businesses in the study area are Other Services (except Public Administration), which accounts for 10.2 percent of private sector firms (82 firms) within the study area, and Construction, which accounts for 9.5 percent of private sector firms (76 firms) within the study area. The Other Services (except Public Administration) sector accounts for 11.4 percent of private firms in Queens and 13.8 percent of private firms in New York City. As for Construction, the sector represents 10.4 percent of private businesses in Queens and 5.3 percent of private businesses in New York City.

The Transportation and Warehousing sector represented a lower proportion of study area employment compared to Queens and New York City, but the proportion of firms within that sector higher than the comparison geographies. As such, there could be lower employment density within this sector in the study area compared to Queens and New York City.

Table C-2
2016 Private Businesses in Socioeconomic Study Area,
Queens, and New York City

	Socioeconomic Study Area		Queens		New York City	
	Firms	%	Firms	%	Firms	%
Agriculture, Forestry, Fishing and Hunting	0	0.0	8	0.02	48	0.02
Mining	0	0.0	0	0.0	8	0.00
Utilities	0	0.0	0	0.0	31	0.01
Construction	76	9.5	5,317	10.4	13,860	5.3
Manufacturing	11	1.4	1,340	2.6	5,693	2.2
Wholesale Trade	59	7.3	2,743	5.4	14,858	5.6
Retail Trade	73	9.1	7,444	15.0	33,246	12.6
Transportation and Warehousing	49	6.1	2,217	4.4	5,027	1.9
Information	6	0.7	488	1.0	6,590	2.5
Finance and Insurance	9	1.1	1,494	2.9	12,158	4.6
Real Estate, Rental & Leasing	56	7.0	3,366	6.6	21,412	8.1
Professional, Scientific, & Tech. Services	64	8.0	3,566	7.0	30,138	11.4
Management of Companies and Enterprises	D	D	94	0.2	1,439	0.5
Administrative & Support & Waste Management & Remediation	33	4.1	2,168	4.3	11,655	4.4
Educational Services	12	1.5	740	1.5	4,149	1.6
Health Care & Social Assistance	102	12.7	5,285	10.4	23,299	8.8
Arts, Entertainment, and Recreation	6	0.7	480	0.9	5,793	2.2
Accommodation & Food Services	64	8.0	4,810	9.4	22,356	8.5
Other Services (except Public Administration)	82	10.2	5,816	11.4	36,444	13.8
Unclassified	D	D	3,593	7.1	15,921	6.0
Total	803	100	50,992	100	264,182	100
Notes:						
1. Private business counts for the socioeconomic study area are based on an aggregate of values from the QCEW, 3Q 2016 for the following 2010 Census Tracts: 797.01, 797.02, 837, 845, 859, 861, 1189, 1199, 1201, 1203, and 1205.						
2. The number of the private sector businesses in Queens and New York City is equal to the average number of businesses in the first 3 months of 3Q 2016.						
3. To avoid disclosing data for individual businesses, the following sectors were considered non-disclosable and were symbolized with a "D": Information; Management of Companies and Enterprises; Unclassified. The number of non-disclosable businesses is included in the total business count to provide an accurate representation of the number of businesses.						
Sources:						
NYSDOL QCEW, 3Q 2016; NYSDOL QCEW, 3Q 2016 data was provided at the census tract-level for the socioeconomic study area by DCP HEIP Division (February 2018).						

PROFILE OF THE POTENTIALLY DISPLACED PRIVATE BUSINESSES

New York City's commercial streets are dynamic, with businesses regularly opening and closing in response to changes in the economy, local demographics, and consumer trends. Therefore, within the period up to 2021, it is possible that a number of the potentially displaced businesses identified below would close or relocate for reasons independent of the proposed actions. Further, there are a number of businesses that could be displaced in the No Action condition because of development projects unrelated to the proposed actions. The businesses displaced in the No Action condition are not considered displaced by the proposed actions in the With Action condition because displacement could occur regardless of the proposed actions. The following estimates are

based on current businesses, and the conservative assumption that these businesses would remain in the No Action condition.

As shown in **Table C-3**, under the RWCDS an estimated 246 employees working at 10 private businesses could be directly displaced by the proposed actions. These businesses, located on the development site and projected development sites, span a small range of industry sectors. The industry sector with the largest number of potentially displaced employees and businesses is Accommodation and Food Services, with an estimated 196 potentially displaced employees of seven potentially displaced businesses. The potentially displaced Accommodation and Food Services businesses include Quan Dong Yi Jin (restaurant); Carnation Bakery; Satay Malaysian Cuisine; Liu Bu Inc. (restaurant); T&T Restaurant; Good Fortune Restaurant; and Fay Da Bakery.

Table C-3
Directly Displaced Businesses

Industry Sector	Estimated Firms Displaced	Percent of Displaced Businesses	Estimated Employment Displaced ¹	Percent of Displaced Employment
Retail Trade	2	20.0	47	16.8
Accommodation and Food Services	7	70.0	196	82.1
Other Services (except Public Administration)	1	10.0	3	1.1
Total	10	100	246	100
Note: ¹ Employment estimates are based on AKRF field observations and standard industry employment density ratios commonly used for CEQR analysis: 1 employee per 150 sf of quick-service restaurant; 1 employee per 200 sf of full-service restaurant; 1 employee per 400 sf of retail trade; 1 employee per 1,000 sf of other services (laundromat and dry cleaners). Sources: AKRF, Inc.; DCP MapPLUTO 2016 data.				

The remaining potentially directly displaced businesses and employment are in two sectors: Retail Trade and Other Services (except Public Administration). The Retail Trade sector has the second-largest number of displaced firms and employees with two potentially displaced businesses and an associated 47 employees. The two potentially displaced businesses include Gold City Supermarket, and Ming Xing Gift Shop. There is only one Other Services (except Public Administration) sector potentially displaced business employing an estimated three workers. The Other Services (except Public Administration) sector business is Star Laundromat and Cleaners.

CEQR PRELIMINARY ASSESSMENT CRITERIA

According to the *CEQR Technical Manual*, the following threshold indicators are considered to determine the potential for significant adverse impacts due to direct business displacement.

1. *Would the businesses to be displaced provide products or services essential to the local economy that would no longer be available in their "trade areas" to local residents or businesses due to the difficulty of either relocating the businesses or establishing new, comparable businesses?*

The following details the industry sectors within which displacement could occur, and the potential effects on socioeconomic conditions in the study area.

Retail Trade

There are two potentially displaced Retail Trade sector businesses, Gold City Supermarket and Ming Xing Gift Shop, employing an estimated 47 people in aggregate. While the supermarket provides an important source of Asian groceries, there are several alternative, comparable businesses within the study area. Examples include Patel Brothers, Food Plus Supermarket, Yong Fa Supermarket, and Zhong US Supermarket. Additional Asian grocers exist north of the study area including Chung Fat Supermarket, Sky Foods, Jmart, two HMart locations, and two GreatWall Supermarket locations. As for Ming Xing Gift Shop, which sells primarily lottery tickets and small trinkets, there are several places to buy lottery tickets including Horizon Pharmacy and S.H. Stationary. There are several gift stores located outside of the study area that sell goods similar to those available in Ming Xing Gift Shop, including JoonHo's Banzai, Kpop Gift Shop, and Xing Yan Gift Store.

Within the broader study area, there are an estimated 73 Retail Trade businesses and 328 Retail Trade employees. The potentially displaced businesses represent 2.7 percent of Retail Trade businesses and 14.3 percent of sector employment in the study area.

Accommodation and Food Services

There are seven potentially displaced Accommodation and Food Services businesses with an estimated 196 associated employees. The Accommodation and Food Services businesses include Quan Dong Yi Jin (restaurant), Carnation Bakery, Satay Malaysian Cuisine, Liu Bu Inc. (restaurant), T&T Restaurant, Good Fortune Restaurant, and Fay Da Bakery. There are a plethora of regional Asian restaurants in the study area, including Ke Zhang, Yu Garden Dumpling House, Deng Ji Restaurant, Asian Gourmet, Shanghai Cuisine 33, Great Wall Kitchen, Hly Chinese Cuisine, Hunan Kitchen of Grand Sichuan, and Dumpling Galaxy. Alternative bakeries and cafés include Yeh's Bakery, Lucky Bakery, and Mugi Bakery Inc. Large-format Asian restaurants similar to that of Good Fortune Restaurant include East Buffet and Restaurant, and East Manor. While there are no alternative Malaysian restaurants in the study area, there are alternatives directly outside of the study area including Malay, Sentosa, and New Curry Leaves, all of which are located near the Main Street subway station at Roosevelt Avenue and Main Street. Many of the aforementioned businesses within the study area are concentrated along Kissena Boulevard, or on Main Street.

Within the broader study area, there are an estimated 64 Accommodation and Food Services businesses and 397 Accommodation and Food Services employees. The potentially displaced businesses represent 10.9 percent of Accommodation and Food Services businesses and 49.4 percent of sector employment in the study area.

Other Services (except Public Administration)

There is one Other Services (except Public Administration) sector business employing an estimated three employees that would potentially be directly displaced; this business is a laundromat. There are alternative locations within the study area for laundry services, including Da Lucky Laundromat, Mr. Bubble Wash and Dry, Carlyle Cleaners, Mr. Machine Laundromat, and 888 Booth Memorial Laundromat.

Within the broader study area, there are an estimated 82 Other Services (except Public Administration) businesses and 357 Other Services (except Public Administration) employees. The potentially displaced businesses represent 1.2 percent of Other Services (except Public Administration) businesses and 0.8 percent of sector employment in the study area.

In summary, the 10 potentially displaced businesses and 246 potentially directly displaced employees do not represent a majority of study area businesses or employment for any given sector. While all businesses contribute to neighborhood character and provide value to the City's economy, because there are alternative sources of goods, services, and employment provided within the socioeconomic study area, potentially displaced business are not of critical value to the socioeconomic conditions of the area as defined by CEQR.

2. *Is the category of businesses or institutions that may be directly displaced the subject of other regulations or publicly adopted plans to preserve, enhance, or otherwise protect it?*

Under the RWCDs, the proposed actions could directly displace up to 10 businesses, 70 percent of which are Accommodation and Food Services sector businesses. Accommodation and Food Services businesses are abundant within the study area, Queens, and New York City. None of the potentially displaced businesses are within a category of business that is subject of regulations or publicly adopted plans to preserve, enhance, or otherwise protect it.

Based on the above analysis, according to *CEQR Technical Manual* impact thresholds, the proposed actions would not result in significant adverse impacts due to direct business displacement. The businesses directly displaced by the proposed actions do not provide products or services essential to the local economy that would no longer be available in the study area. Further, there is no category of business that may be directly displaced that is the subject of regulations or plans to preserve, enhance, or otherwise protect it.

INDIRECT RESIDENTIAL DISPLACEMENT

As described in the *CEQR Technical Manual*, indirect residential displacement usually results from substantial new development that is markedly different from existing uses and activity in an area, which can lead to increased property values in the area. Increased property values can lead to increased rents, which can make it difficult for some existing residents to remain in their homes.

Generally, an indirect residential displacement analysis is conducted only in cases in which the potential impact may be experienced by renters living in privately held units unprotected by rent control, rent stabilization, or other government regulations restricting rents, and whose incomes or poverty status indicates that they may not support substantial rent increases. Residents who are homeowners, or who are renters living in rent-restricted units would not be vulnerable to rent pressures. The *CEQR Technical Manual's* step-by-step guide for a preliminary assessment of indirect residential displacement is presented in bold italics below.

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

Household income characteristics for the study area population are described using the average and median household incomes. The average household income is calculated by dividing the aggregate income by the total number of households in the study areas. The presence of high-income households raises the average income, sometimes substantially higher than the median household incomes in the study area. The median household income represents the mid-point of all household incomes in the study area.

As shown in **Table C-4**, the average and median household incomes of study area residents are significantly lower than that of Queens and New York City, and are declining at a faster rate than the same. According to the 2012–2016 ACS, the average household income in the study area was

approximately \$58,610, which is a 19.3 percent decline since 2000. During that same time period, the average household incomes of residents of Queens also declined, but by 3.6 percent, and that of New York City increased by 1.8 percent. In 2000, the study area's average household income (\$72,597) was more similar to that of Queens (\$82,116) and New York City (\$88,756). As the average household income of study area residents declined at a faster rate than that of the comparison geographies, the disparity between them grew larger. As of the 2012–2016 ACS, the average household income of study area residents was barely \$60,000 whereas that of New York City residents was over \$90,000.

Table C-4
Household Income Characteristics

Area	Households		Average Household Income			Median Household Income		
	2000	2012–2016	2000	2012–2016	Percent Change	2000	2012–2016	Percent Change
Socioeconomic Study Area	14,048	13,606	\$72,597	\$58,610	-19.3	\$58,208	\$40,365	-30.7
Queens	782,646	779,304	\$82,116	\$78,953	-3.6	\$64,383	\$60,866	-5.2
New York City	3,022,477	3,128,246	\$88,756	\$90,077	1.8	\$58,246	\$56,459	-2.8
Notes:								
1. All dollar figures have been adjusted to 2017 dollars based on the U.S. Department of Labor, Consumer Price Index, 2017 Annual.								
Sources:								
U.S. Census Bureau, Census 2000 and 2012–2016 ACS. Accessed through Social Explorer in August 2017 and January 2018.								

The median household income data shows a similar trend to that of the average household income. Between 2000 and the 2012–2016 ACS, the median household income of residents living in the study area declined by more than 30 percent from \$58,208 to \$40,365, respectively. The median household income of Queens and New York City declined by 5.2 percent and 2.8 percent, respectively. Whereas the median household income of study area residents was marginally greater than that of New York City in 2000, by the 2012–2016 ACS household incomes had dropped in the study area such that the median household income was approximately \$16,000 lower than that of New York City.

This area of Flushing has not seen as much real estate development as other parts of Queens, such as Downtown Flushing or Long Island City. According to MapPLUTO, most of the recent residential developments in the study area have been approximately two DUs each. Downtown Flushing, located north of the study area, has seen greater amounts of new development, including Sky View Parc (a 448-DU luxury condominium building); Royal Plaza (63 DUs built in 2011); and Prince Plaza (a 72-DU apartment building built in 2008). Downtown Flushing's new residential developments with amenities could be drawing the study area's wealthiest residents outside of the study area, thus causing a decline in average and median household incomes in the study area.⁵

Census data on average and median gross rents suggests that residential rents have been relatively stable in the study area since 2000 (see **Table C-5**). The average gross rent grew by 0.5 percent from 2000 to an average gross rent of \$1,167 according to the 2012–2016 ACS. The average gross rent grew at faster rates in Queens (0.9 percent) and a much faster rate in New York City (20.1

⁵ The study area's population has declined by 0.5 percent from 39,376 people in 2000 to 37,178 people according to the 2012–2016 ACS.

percent). The median gross rent grew marginally in the study area from \$1,217 in 2000 to \$1,251 according to the 2012–2016 ACS. Similar to average gross rent trends, the median gross rent for New York City grew at approximately 23 percent. In 2000, the median gross rent in the study area was marginally higher than that of Queens and New York City, however rents in the study area have not increased at the same pace and are lower than that of Queens and New York City according to the 2012–2016 ACS.

Table C-5
Average and Median Gross Rent

Area	Average Gross Rent			Median Gross Rent		
	2000	2012–2016	Percent Change	2000	2012–2016	Percent Change
Socioeconomic Study Area	\$1,173	\$1,167	-0.5	\$1,217	\$1,251	2.8
Queens	\$1,165	\$1,155	-0.9	\$1,176	\$1,191	1.3
New York City	\$1,162	\$1,395	20.1	\$1,070	\$1,318	23.3
Note: 1. All dollar figures have been adjusted to 2017 dollars based on the U.S. Department of Labor, Consumer Price Index, 2017 Annual.						
Sources: U.S. Census Bureau, Census 2000 and 2012–2016 ACS. Accessed through Social Explorer in August 2017 and January 2018.						

U.S. Census and ACS data do not provide specific rent information according to regulation status or unit size, but instead can paint a general picture about the rate at which housing costs are changing in a neighborhood. Market comparables are therefore used to provide a fuller understanding of where the market is today. **Table C-6** summarizes online listings for apartments for the study area. The average rents presented in the table were calculated based on market-rate rental units, and are up to two times higher than the data presented by the 2000 Census and the 2012–2016 ACS.

Table C-6
Average Asking Rents in Close Proximity to the Project Area

	Studio	One Bedroom	Two Bedroom	Three Bedroom or larger
Socioeconomic Study Area	\$1,475	\$1,718	\$2,163	\$2,744
Source: Apartments.com (http://apartments.com) accessed in August 2017.				

Under the RWCDs, the proposed actions would result in an incremental increase of 444 DUs; 243 DUs are proposed on the development site; and 200 DUs are associated with projected development within the rezoning area (on Projected Developments Sites 1 and 2). The proposed actions would result in an MIH-designated area. Under MIH, when new housing capacity is approved through land use actions, the CPC and the New York City Council can choose to impose one or several different options regarding affordable housing set-asides. The two options that are mapped for every MIH area are:

- MIH Option 1: 25 percent of the residential floor area would be set aside for persons making 60 percent of Area Median Income (AMI) on average, with 10 percent of that number set aside for persons making 40 percent of the AMI on average; or
- MIH Option 2: 30 percent of the residential floor area would be set aside for persons making 80 percent of the AMI on average.

For the purposes of a conservative analysis, this socioeconomic chapter assumes that 30 percent of DUs would be set aside for renters with incomes averaging 80 percent of the AMI.⁶ Under this conservative assumption, by 2021 the proposed project would result in an incremental increase of approximately 311 market-rate DUs and up to 133 affordable DUs.

In order to estimate the average household income of residents introduced under the RWCDs, it is necessary to estimate the incomes of future residents in both market-rate and affordable DUs. For the incomes of households in affordable DUs, this analysis assumes that 30 percent of the total residential floor area (an increment of up to 133 DUs) will be targeted for households making an average of 80 percent of the AMI. In this case, 80 percent of the AMI for a three-person household is \$68,720.⁷ For this socioeconomic analysis, it is most conservative to assume that all residents of the affordable DUs will have a household income equal to \$68,270.⁸

For market-rate DUs, an estimate was made based on research into current market-rate rents in the study area (see **Table C-6**), and the assumption that incoming market-rate renters would be spending approximately 30 percent of their household income on rent. The U.S. Department of Housing and Urban Development (HUD) defines families who pay more than 30 percent of their income for housing as rent-burdened. While a majority of renters in New York City are rent-burdened,⁹ assuming the 30 percent threshold is conservative for this analysis because it results in a higher assumed income for the market-rate renters generated by the proposed actions.

Current market rents were estimated through an online search of rental property listings within the study area. Studio units were advertised at an average of \$1,475 per month; one-bedroom units were advertised at \$1,718 per month; two-bedroom units were advertised at \$2,163 per month; and three-bedroom or larger units were advertised at \$2,744 per month (see **Table C-6**).

Assuming that the market-rate renters would be spending 30 percent of their income on rent, a person renting a market-rate unit that would be available as a result of the proposed actions would have an imputed income between approximately \$59,000 and \$110,000, depending upon the size of the apartment (see **Table C-7**). Assuming that the mix of unit types would be similar to the current distribution within the study area, a household renting a market-rate DU that would be available as a result of the proposed actions would have an imputed weighted average income of approximately \$79,000.

⁶ For the purposes of a conservative analysis, this socioeconomic chapter assumes that 30 percent of DUs will be set aside for renters with incomes averaging 80 percent of the AMI (MIH Option 2) because this option would result in higher project-generated average household incomes than MIH Option 1.

⁷ The AMI for a three-person family was utilized in this analysis because the average household size of Queens CD 7, where the project area is located, is 2.74 persons.

⁸ Assuming all residents of affordable DUs will have a household income equal to 80 percent AMI (\$68,720) is conservative because it results in a higher project-generated income than if there were residents of affordable DUs with incomes lower than 80 percent AMI.

⁹ Based on findings of the 2014 *New York City Housing and Vacancy Survey* conducted by the New York City Department of Housing Preservation and Development (HPD), an estimated 56 percent of New York City renters pay more than one-third of their income on rent and utilities, and about 30 percent of renter households in the City are “severely rent-burdened,” paying 50 percent or more of their household income for rent.

Table C-7

**Imputed Household Income of Market-Rate Renters
by Unit Type/Average Rental Rates**

Unit Size	Monthly Rent ¹	Estimated Monthly Income (market-rate renters)	Estimated Yearly Income ² (market-rate renters)
Studio	\$1,475	\$4,917	\$59,000
1-bedroom	\$1,718	\$5,727	\$69,000
2-bedroom	\$2,163	\$7,210	\$87,000
3-bedrooms or larger	\$2,744	\$9,147	\$110,000

Notes:
¹ Represents the average monthly rent based on August 2017 market listings.
² Household incomes were imputed using the HUD 30 percent guidelines described above, and rounded to the nearest thousand dollars.

Sources:
Apartments.com (<http://apartments.com>) accessed in August 2017.

As noted above, under the RWCDs the proposed actions would result in an incremental increase of 444 DUs, of which it is assumed for the purposes of this analysis that 133 DUs would be affordable to families making an average of 80 percent of AMI, and 311 DUs would be market-rate. The average income of a household with rental assistance would be approximately \$68,720 annually, and the average income of the household in a market-rate DU would be approximately \$79,000.

The estimates are then compared to the existing population to determine if there is a substantial difference in incomes that could substantively change area market conditions, leading to increased rents and potential indirect residential displacement. In aggregate, the average household income of the RWCDs population would be \$76,000, which is greater than the study area's current average household income by approximately \$17,000 (see "Existing Conditions and Trends," above).

Per the *CEQR Technical Manual* guidelines, if the expected average incomes of the new population would exceed the average incomes of the study area populations, Step 2 of the preliminary assessment should be conducted. Accordingly, Step 2 is appropriate in the present instance.

2. Determine if the project's increase in population is large enough relative to the size of the population expected to reside in the study area.

According to the ACS data, in 2012–2016 the study area had a population of 39,178, which is an approximately 0.5 percent decline from the population in 2000 (see **Table C-8**). In comparison, over the same time period the population of Queens increased by approximately 3.6 percent, and the population of New York City increased by approximately 5.7 percent.

Table C-8

Study Area Population Estimates and Projections

	2000 Census	2012–2016 ACS	Percent Change 2000 to 2012–2016	2021 Population Projections in the No Action Condition
Socioeconomic Study Area	39,376	39,178	-0.5	39,682
Queens	2,229,379	2,310,011	3.6	N/A
New York City	8,008,278	8,461,961	5.7	N/A
Note: Year 2021 population project is based on No Build projects and an average household size of 2.74 persons per DU in Queens CD 7.				
Sources: U.S. Census Bureau, Census 2000 and 2012–2016 ACS. Accessed through Social Explorer in August 2017 and January 2018.				

As detailed in Attachment B, “Land Use, Zoning, and Public Policy,” multiple development projects are expected in No Action condition. Based on information about these planned projects, 184 DUs are planned to be built within the study area by the 2021 build year. Assuming an average household size of 2.74 persons per DU and 100 percent occupancy rates, these planned development projects would add an estimated 504 people to the socioeconomic study area in the No Action condition. **Table C-8** presents the total population in the No Action condition which was estimated by adding the population from the no build projects to the 2012-2016 study area population estimates.

With the proposed actions, under the RWCDs by 2021 there would be an incremental increase of 444 DUs within the project area. These 444 DUs represent the net increase in DUs resulting from the proposed actions. With an average household size of 2.74 persons per DU, the added population would be approximately 1,217. **Table C-9** shows the breakdown of this new population and its size relative to the population in the No Action condition.

Table C-9

Projected Incremental Population by 2021 under the RWCDs

	2021 Population Projections in the No Action Condition	Number of Incremental DUs	Projected Population Increase from with action DUs	Percent Change from 2021 No Action Condition
Socioeconomic Study Area	39,682	444	1,217	3.1
Sources: AKRF, Inc.				

By adding a 1,217-person increment to the study area, under the RWCDs the proposed actions would increase the population by approximately 3.1 percent. According to *CEQR Technical Manual* analysis thresholds, if the population increase is greater than 5.0 percent in a study area, the incremental population may be large enough to affect real estate market conditions, and Step 3 of the preliminary assessment is warranted. While the incremental population resulting from the proposed actions would not represent 5 percent of the ½-mile study area, it would represent a substantial percentage of the ¼-mile area as detailed in Section B, “Methodology,” and, therefore, Step 3 was conducted. The ¼-mile area is the area where there is the greatest potential to affect real estate market conditions and, thus is the area subject to analysis in Step 3.

3. *Consider whether the study area has already experienced a readily observable trend toward increasing rents and the likely effect of the action on such trends within the study area.*

As presented in Step 1, the proposed actions could introduce a population with higher average household incomes than the existing population; however the proposed actions would also result in a significant increase in permanently affordable DUs, making the study area more affordable to low-to-moderate-income households.

This area of Flushing has not seen as much recent real estate development as other parts of Queens, such as Downtown Flushing or Long Island City. According to MapPLUTO, most of the recent residential developments in the study area have been approximately two DUs each. Low levels of development could be a contributing factor to the marginal increases in rents experienced by residents (see **Table C-5**) since new market-rate DUs command higher rents. Market-rate rents as they currently exist leave residents with household incomes similar to the average and median household incomes of the study area (\$58,610 and \$40,365, respectively) as rent-burdened.¹⁰ It is reasonable to conclude that, given the existing household income statistics and current rental rates, a portion of low- and moderate-income households in the study area live in housing that is protected by rent control, rent stabilization, or other government regulations limiting rent increases, and therefore it is not anticipated that these households would be vulnerable to displacement due to increased rents.

There are currently 3,044 households within a ¼-mile area around the development site. The 133 affordable DUs resulting from the proposed project would represent 4.4 percent of the existing housing stock. A 4 percent increase in the housing stock, all of which would be permanently affordable, would provide permanent DUs to low- to moderate-income residents. Residents of the permanently affordable DUs would patronize stores within their price range, ensuring availability of goods at a varying range of prices. While there has not been significant development activity, the proposed projects' potential to initiate trends towards increased rents is limited by the provision of a substantial number of affordable DUs that will provide permanently affordable housing to low- and moderate-income residents. In this respect, the proposed project could serve to maintain a more diverse range of rental price points within the study area.

ADVERSE EFFECTS ON SPECIFIC INDUSTRIES

According to the *CEQR Technical Manual*, a significant adverse impact may occur if an action would quantifiably diminish the viability of a specific industry that has substantial economic value to the City's economy. An example as cited in the *CEQR Technical Manual* is new regulations that prohibit or restrict the use of certain processes that are critical to certain industries.

1. Would the proposed project significantly affect business conditions in any industry or any category of business within or outside the study area?

The proposed actions would not significantly affect business conditions in any industry or any category of business within or outside the study area. As described in the direct business displacement analysis above, by 2021 under the RWCDs the proposed actions could directly displace up to 10 businesses and an estimated 246 employees associated with those businesses. The businesses include Quan Dong Yi Jin (restaurant); Carnation Bakery; Satay Malaysian Cuisine; Liu Bu Inc. (restaurant); T&T Restaurant; Good Fortune Restaurant; Fay Da Bakery; Gold City Supermarket; Ming Xing Gift Shop; and Star Laundromat and Cleaners.

As described above, the businesses that would be displaced do not represent a critical mass of businesses within any City industry, category of business, or category of employment. Although

¹⁰ HUD defines families who pay more than 30 percent of their income for housing as rent-burdened.

these businesses are valuable individually and collectively to the City's economy, the goods and services offered by potentially displaced uses can be found elsewhere within the socioeconomic study area, within a broader trade area, and within the City as a whole. Furthermore, the products and services offered by potentially displaced businesses are not essential to the viability of other businesses within or outside the study area. Therefore, the proposed actions would not adversely affect business conditions in any specific industry within or outside the study area.

2. Would the proposed project indirectly substantially reduce employment or have an impact on the economic viability in the industry or category of business?

As described in the indirect business displacement screening level assessment, the proposed actions would not result in significant indirect business displacement. Therefore, the proposed actions would not indirectly substantially reduce employment or have an impact on the economic viability in any specific industry or category of business.

Based on this preliminary assessment, the proposed actions would not result in significant adverse impacts due to adverse effects on specific industries. *

A. INTRODUCTION

This attachment assesses the potential impacts of the proposed actions on community facilities and services. The 2014 *City Environmental Quality Review (CEQR) Technical Manual* defines community facilities as public or publicly funded schools, child care centers, libraries, and health care facilities, fire, and police protection services. CEQR methodology assesses direct effects on community facilities, such as when a facility is physically displaced or altered, and indirect effects, which could result from increased demand for community facilities and services generated by new users such as the new population that would result from the proposed actions.

As discussed in Attachment A, “Project Description and Screening Analyses,” the applicant, Kimco Kissena Center, LLC, proposes the construction of a mixed-use residential, commercial and community facility building (the “proposed project”) at 46-15 Kissena Boulevard (Block 5208, Lot 45, the “development site”) in the Flushing neighborhood of Queens, Community District 7.

The proposed actions would facilitate the development of a total of 445 dwelling units (DUs) (including approximately 133 DUs of affordable housing) and 96,727 square feet (sf) of commercial (retail) space and 15,675 sf of community facility space. The proposed actions would introduce a new residential population to the study area, which could result in increased demand for community facilities and services. Therefore, an assessment was conducted to determine whether the proposed actions would result in any indirect significant adverse impacts to community facilities. As described in this attachment, the proposed actions would not result in significant adverse impacts on community facilities and services.

B. PRELIMINARY SCREENING

This analysis of community facilities has been conducted in accordance with *CEQR Technical Manual* methodologies and the latest data and guidance from agencies such as the New York City Department of Education (DOE) and the New York City Department of City Planning (DCP).

The purpose of the preliminary screening is to determine whether a community facilities assessment is warranted. As recommended by the *CEQR Technical Manual*, a community facilities assessment is warranted if a project has the potential to result in either direct or indirect effects on community facilities. 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 a 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, child care centers, health care facilities, or police and fire protection services.

DIRECT EFFECTS

The proposed project would not displace or otherwise directly affect any public schools, child care centers, libraries, health care facilities, or police and fire protection services. Therefore, an analysis of direct effects is not warranted.

INDIRECT EFFECTS

The *CEQR Technical Manual* provides thresholds for guidance in making an initial determination of whether a detailed analysis is necessary to determine potential impacts due to indirect effects on community facilities. **Table D-1** lists those *CEQR Technical Manual* analysis thresholds for each community facility type. If a project exceeds the threshold for a specific facility type, a more detailed analysis is warranted. A preliminary screening analysis was conducted to determine if the proposed project would exceed any of the *CEQR Technical Manual* thresholds.

Table D-1
Preliminary Screening Analysis Criteria

Community Facility	Threshold for Detailed Analysis
Public schools	More than 50 elementary/intermediate school or 150 high school students
Libraries	Greater than 5 percent increase in ratio of DUs to libraries in borough
Health care facilities (outpatient)	Introduction of sizeable new neighborhood where none existed before ¹
Child care centers (publicly funded)	More than 20 eligible children based on number of low- and low/moderate-income units by borough
Fire protection	Introduction of sizeable new neighborhood where none existed before ¹
Police protection	Introduction of sizeable new neighborhood where none existed before ¹
Note: ¹ The <i>CEQR Technical Manual</i> cites the Hunter's Point South project as an example of a project that would introduce a sizeable new neighborhood where none existed before. The Hunter's Point South project would introduce approximately 6,650 new DUs to the Hunter's Point South waterfront in Long Island City, Queens. Source: <i>CEQR Technical Manual.</i>	

The proposed actions would result in a new mixed-use development containing residential, retail, and community facility uses. The proposed actions would result in the development of up to a total of 445 DUs in the future with the proposed actions (the "With Action" condition), an increment of 444 DUs above the future without the proposed actions (the "No Action" condition).

As described below, based on the screening criteria in **Table D-1**, a detailed assessment of public schools (elementary and intermediate) is warranted. The proposed project would not have the potential to have a significant adverse impact on high schools, child care facilities, libraries, health care facilities, or police and fire services; therefore, detailed analyses of indirect effects on these facilities are not warranted.

PUBLIC SCHOOLS

The *CEQR Technical Manual* recommends conducting a detailed analysis of public schools if a proposed action would generate more than 50 elementary/intermediate school students and/or more than 150 high school students. The threshold for this assumption in Queens is the introduction of over 124 new DUs. The proposed actions would introduce an increment of 443 new DUs. Based on the student generation rates provided in the *CEQR Technical Manual* (0.28 elementary, 0.12 intermediate, and 0.14 high school students per housing DU in Queens), the

proposed actions would generate approximately 124 elementary school students, 53 intermediate school students, and 62 high school students. This number of students warrants a detailed analysis of the proposed actions' potential effects on elementary and intermediate schools. The number of high school students added by the proposed actions does not exceed the *CEQR Technical Manual* threshold warranting an analysis of potential effects on high schools.

LIBRARIES

Potential impacts on libraries can result from an increased user population. According to the *CEQR Technical Manual*, a proposed action that results in a 5 percent increase in the average number of DUs served per branch—which is 622 DUs in Queens—may cause a significant impact on library services and require further analysis. The proposed actions' incremental residential development would not exceed this threshold, and therefore a detailed analysis of libraries is not warranted.

CHILD CARE CENTERS

According to the *CEQR Technical Manual*, if a proposed action would add more than 20 children eligible for child care to the study area's child care facilities, a detailed analysis of its impact on publicly funded child care facilities is warranted. This threshold is based on the number of low-income and low/moderate-income DUs introduced by a proposed action. Low-income and low/moderate-income affordability levels are intended to approximate the financial eligibility criteria for publicly funded child care facilities established by the New York City Administration for Children's Services (ACS), which generally corresponds to 200 percent of the Federal Poverty Level or 80 percent of area median income (AMI). In Queens, projects introducing 139 or more low- to moderate-income DUs would meet the threshold for analysis of child care services. The proposed actions would not exceed this threshold; therefore, a detailed assessment of child care centers is not warranted.

HEALTH CARE FACILITIES

Health care facilities include public, proprietary, and nonprofit facilities that accept government funds (usually in the form of Medicare and Medicaid reimbursements) and that are available to any member of the community. Examples of these types of facilities include hospitals, nursing homes, clinics, and other facilities providing outpatient health services.

According to the *CEQR Technical Manual*, if a proposed action would create a sizeable new neighborhood where none existed before, there may be increased demand on local public health care facilities, which may warrant further analysis of the potential for indirect impacts on outpatient health care facilities. The proposed project is located in Flushing, which is a well-established residential neighborhood in eastern Queens, and therefore would not result in the creation of a sizeable new neighborhood where none existed before. Therefore, a detailed analysis of indirect effects on health care facilities is not warranted.

POLICE AND FIRE SERVICES

The *CEQR Technical Manual* recommends detailed analyses of impacts on police and fire service in cases where a proposed action would affect the physical operations of, or direct access to and from, a precinct house or fire station, or where a proposed action would create a sizeable new neighborhood where none existed before. The proposed actions would not result in these direct effects on either police or fire services, nor would it create a sizeable new neighborhood where none existed before; therefore, no further analysis is warranted.

C. POTENTIAL INDIRECT EFFECTS ON PUBLIC ELEMENTARY AND INTERMEDIATE SCHOOLS

METHODOLOGY

This section presents an assessment of the potential effects of the proposed actions on public elementary and intermediate schools serving the development site. Following the methodologies in the *CEQR Technical Manual*, the study area for the analysis of elementary and intermediate schools is the school district's "subdistrict" (also known as the "region" or "school planning zone") in which the project is located. The development site is located in Subdistrict 2 of Community School District (CSD) 25 (see **Figure D-1**).

In accordance with the *CEQR Technical Manual*, this schools analysis uses the most recent DOE data on school capacity, enrollment, and utilization rates for elementary and intermediate schools in the subdistrict study area and New York City School Construction Authority (SCA) projections of future enrollment. Specifically, the existing conditions analysis uses data provided in the DOE's *Utilization Profiles: Enrollment/Capacity/Utilization, 2016–2017* edition. Future conditions are then predicted based on SCA enrollment projections, data obtained from SCA's Capital Planning Division on the number of new DUs and students expected at the subdistrict level.

The future utilization rate for school facilities is calculated by adding the estimated enrollment from the proposed residential projects in the schools' study area to DOE's projected enrollment, and then comparing that number with projected capacity. DOE does not include charter school enrollment in its enrollment projections. DOE's enrollment projections for years 2016 through 2025 the most recent data currently available, were obtained from DCP. These enrollment projections are based on broad demographic trends and do not explicitly account for discrete new residential projects planned for the study area. Therefore, estimates for the student population that would be introduced by other new projects expected to be completed within the study area have been obtained from SCA's Capital Planning Division and are added to the projected enrollment to ensure a more conservative prediction of future enrollment and utilization. In addition, new capacity from any new school project identified in the DOE Five-Year Capital Plan are included if construction has begun or if deemed appropriate to include in the analysis by the lead agency and SCA.

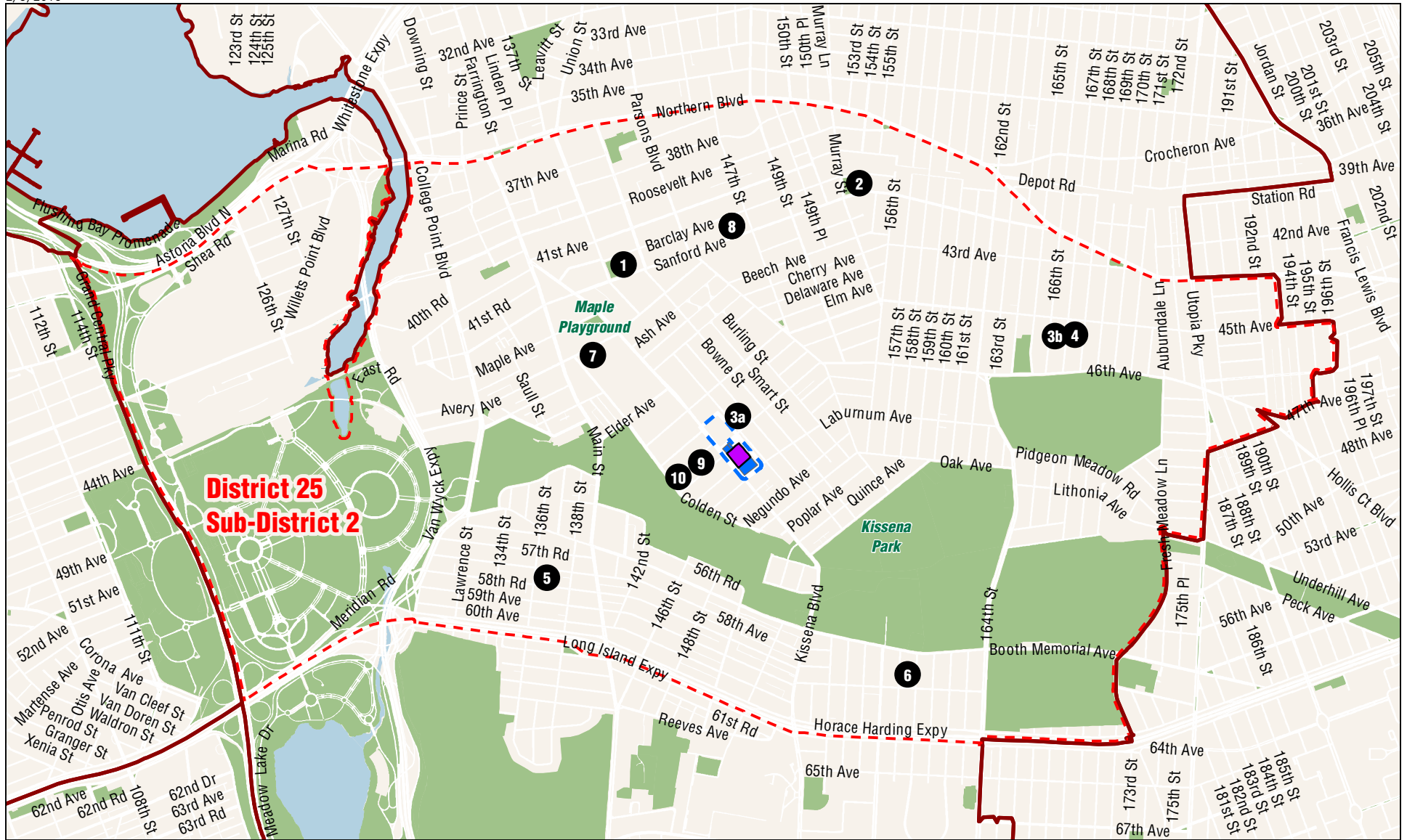
The effect of the new students introduced by the proposed actions on the capacity of schools within the study areas is then evaluated. According to the *CEQR Technical Manual*, a significant adverse impact may occur if a project would result in both of the following conditions:

1. A utilization rate of the elementary and/or intermediate schools in the subdistrict study area that is equal to or greater than 100 percent in the With Action condition; and
2. An increase of 5 percentage points or more in the collective utilization rate between the No Action and With Action conditions.

EXISTING CONDITIONS

ELEMENTARY SCHOOLS—SUBDISTRICT 2 OF CSD 25

Seven elementary schools serve Subdistrict 2/CSD 25 (see **Figure D-1**). As shown in **Table D-2**, elementary schools in the subdistrict have a total enrollment of 6,430 and are currently operating at 122.45 percent utilization, with a deficit of 1,179 seats. The zoned school for the project area is P.S. 24 Andrew Jackson School, located one block away along Holly Avenue.



- Project Area
- Development Site (Lot 45)
- Projected Development Sites (Lots 1,5, and 32)
- CSD Sub-District Boundary
- Community School District (CSD) Boundary
- 1 Schools - Elementary and Intermediate

Table D-2

**Public Elementary and Intermediate Schools Serving the Study Area,
Enrollment and Capacity Data, 2016–2017 School Year**

Map No. ¹	Name	Address	Enrollment	Capacity	Available Seats	Utilization
Elementary Schools						
Subdistrict 2 of CSD 25						
1	P.S. 20 John Bowne Elementary	142-30 Barclay Avenue	1,366	1,245	-121	109.7%
2	P.S. 22 Thomas Jefferson	153-33 Sanford Avenue	892	630	-262	141.6%
3a ²	P.S. 24 Andrew Jackson School	141-11 Holly Avenue	865	632	-233	136.9%
3b ²	P.S. 24 Andrew Jackson School	167-02 45 Avenue	125	70	-55	178.6%
4	P.S. 107 Thomas A Dooley	167-02 45 Avenue	963	895	-68	107.6%
5	P.S. 120	58-01 136 Street	1,077	733	-344	146.9%
6	P.S. 163 Flushing Heights School	159-01 59 Avenue	461	252	-209	182.9%
7	P.S. 244 The Active Learning Elementary School	137-20 Franklin Avenue	681	794	113	85.8%
CSD 25, Subdistrict 2 Total			6,430	5,251	-1,179	122.5%
Intermediate/Middle Schools						
Subdistrict 2 of CSD 25						
8	J.H.S. 189 Daniel Carter Beard	144-80 Barclay Avenue	722	866	144	83.4%
9	J.H.S. 237 Rachel Carson Intermediate School	46-21 Colden Street	1,339	1,124	-215	119.1%
10	East-West School of International Studies	46-21 Colden Street	336	298	-38	112.8%
CSD 25, Subdistrict 2 Total			2,397	2,288	-109	104.8%
Note: ¹ See Figure D-1 . ² P.S. 24 is temporarily split between two buildings, but will consolidate into a single building by the 2021 analysis year. Source: DOE Utilization Profiles: Enrollment/Capacity/Utilization, 2016–2017.						

INTERMEDIATE SCHOOLS—SUBDISTRICT 2 OF CSD 25

Three intermediate schools serve Subdistrict 2/CSD 25 (see **Figure D-1** and **Table D-2**). Intermediate schools in the subdistrict have a total enrollment of 2,397 students and are currently operating at 104.8 percent utilization, with a deficit of 109 seats. The zoned intermediate school for the development site is J.H.S. 237, which has a current enrollment of 1,339 students, and is operating at a 119.1 percent utilization rate.

FUTURE WITHOUT THE PROPOSED ACTIONS

The latest available SCA enrollment projections for Subdistrict 2/CSD 25 projected for 2016–2025 were used to form the baseline projected enrollment in the No Action condition, shown in **Table D-3** in the column titled “Projected Enrollment in 2021.” The students introduced by other No Action projects are added to this baseline projected enrollment using the SCA No Action student numbers for Subdistrict 2/CSD 25 (derived from the SCA’s “Projected New Housing Starts”). These students are represented in the column titled “Students Introduced by Residential Projects in the No Action condition” in **Table D-3**.

Table D-3

**Estimated Public Elementary and Intermediate School
Enrollment, Capacity, and Utilization: No Action Condition**

Study Area	Projected Enrollment in 2021 ¹	Students Introduced by Residential Projects in the No Action Condition ²	Total No Action Condition Enrollment	Capacity	Available Seats	Utilization
Elementary Schools						
Subdistrict 2 of CSD 25	7,938	517	8,455	5,851	-2,604	144.5%
Intermediate Schools						
Subdistrict 2 of CSD 25	2,535	232	2,767	2,288	-479	120.9%
Notes: ¹ Elementary and intermediate school enrollment in the subdistrict study area in 2021 was calculated by applying SCA supplied percentages for the subdistrict to the relevant district enrollment projections. For Subdistrict 2/CSD 25, the district's 2021 elementary enrollment was calculated by multiplying the district projection of 22,668 by 35.02 percent. The subdistricts intermediate enrollment was calculated by multiplying the district projection of 9,102 by 27.85 percent. ² SCA "Projected New Housing Starts" student numbers for Subdistrict 2/CSD 25. Sources: <i>Enrollment Projections 2016 to 2025 New York City Public Schools by Statistical Forecasting</i>						

The No Action condition analysis also takes into account changes to school utilization approved by the Panel of Educational Policy and new school capacity that is under construction as part of SCA's capital plan.

The Panel for Educational Policy approved a proposal to temporarily co-locate one grade level from P.S. 24 Andrew Jackson School with P.S. 107 Thomas A Dooley. The co-location was proposed in anticipation of the construction of the P.S. 24 extension which will provide for an additional 600 elementary school seats in Subdistrict 2/CSD25 once opened. The co-location will be terminated by the 2018–2019 school year when the P.S. 24 extension is complete.^{1,2}

ELEMENTARY SCHOOLS—SUBDISTRICT 2 OF CSD 25

As shown in **Table D-3**, the total No Action condition enrollment in the subdistrict is projected to be 8,455 elementary students. Elementary schools in the subdistrict study area would operate above capacity (144.5 percent utilization) with a deficit of 2,604 seats in the No Action condition.

INTERMEDIATE SCHOOLS—SUBDISTRICT 2 OF CSD 25

As shown in **Table D-3**, the total No Action condition enrollment at the subdistrict level is projected to be 2,767 intermediate students. Intermediate schools at the subdistrict level would operate above capacity with a deficit of 479 seats (120.9 percent utilization).

FUTURE WITH THE PROPOSED ACTIONS

The proposed actions would introduce an increment of 444 DUs to the project area. Based on the public school student generation rates in the *CEQR Technical Manual*, these DUs would introduce

¹http://schools.nyc.gov/NR/ronlyres/F9897383-334E-4238-B303AD920880C449/177179/EIS_25Q024_ResitingQ107vfinal.pdf

²https://dnnhh5cc1.blob.core.windows.net/portals/0/Capital_Plan/Capital_plans/11162017_15_19_CapitalPlan_CityCouncilBased.pdf?sr=b&si=DNNFileManagerPolicy&sig=mbqiGRCXIBhxKCvXa0PEMSkMmcVx2gRdXmrc8EnKvEE%3D

approximately 124 elementary students to Subdistrict 2/CSD 25. The proposed project would also introduce 53 intermediate school students (see **Table D-4**).

Table D-4

**Estimated Public Elementary and Intermediate School
Enrollment, Capacity, and Utilization: With Action Condition**

Study Area	No Action Enrollment	Students Introduced by the Proposed Project	Total With Action Enrollment	Capacity	Available Seats	Utilization	Change in Utilization Compared with No Action
Elementary Schools							
Subdistrict 2 of CSD 25	8,455	124	8,580	5,851	-2,729	146.6%	2.1%
Intermediate Schools							
Subdistrict 2 of CSD 25	2,767	53	2,820	2,288	-532	123.3%	2.3%
Sources: Enrollment Projections 2016 to 2025 New York City Public Schools by Statistical Forecasting; DOE, Utilization Profiles: Enrollment/Capacity/Utilization, 2015–2016, DOE 2015–2019 Proposed Five-Year Capital Plan, Amendment February 2016; SCA.							

ELEMENTARY SCHOOLS—SUBDISTRICT 2 OF CSD 25

In the With Action condition, total elementary school enrollment of Subdistrict 2/CSD 25 would increase by 124 students to 8,579 (146.6 percent utilization) with a deficit of 2,729 seats.

According to the *CEQR Technical Manual*, a significant adverse impact may occur if the proposed project would result in both of the following conditions: (1) a utilization rate in the subdistrict study area that is equal to or greater than 100 percent in the With Action condition; and (2) an increase of 5 percentage points or more in the collective utilization rate between the No Action and With Action conditions.

As shown in **Table D-4**, elementary schools in Subdistrict 2/CSD 25 would operate over capacity in the With Action condition. However, the proposed actions would not result in an increase in the utilization rate of 5 percentage points or more compared to the No Action condition. Therefore, the proposed actions would not result in a significant adverse impact to elementary schools.

INTERMEDIATE SCHOOLS—SUBDISTRICT 2 OF CSD 25

In the With Action condition total intermediate school enrollment of Subdistrict 2/CSD 25 would increase by 53 students to 2,820 (123.3 percent utilization) with a deficit of 532 seats. As shown in **Table D-4**, intermediate schools in Subdistrict 2/CSD 25 would operate over capacity in the With Action condition. However, the proposed actions would not result in an increase in the utilization rate of 5 percentage points or more compared to the No Action condition. Therefore the proposed actions would not result in a significant adverse impact to intermediate schools. *

A. INTRODUCTION

This attachment assesses the potential impacts of the proposed actions on open space resources. Open space is defined by the 2014 *City Environmental Quality Review (CEQR) Technical Manual* as publicly accessible, publicly or privately owned land that operates or is available for leisure, play, or sport, or serves to protect or enhance the natural environment. An open space assessment should be conducted if a project would have a direct effect on open space, such as eliminating or altering a public open space, or an indirect effect, such as when a substantial new population could place added demand on an area's open spaces.

The proposed actions would facilitate the development of a mixed-use residential, commercial and community facility building (the "proposed project") at 46-15 Kissena Boulevard (Block 5208, Lot 45, the "development site") in the Flushing neighborhood of Queens, Community District 7.

The proposed actions would not result in the direct displacement or alteration of public open spaces, but would introduce residential, commercial, and community facility uses that would increase the residential and non-residential populations. Based on *CEQR Technical Manual* guidelines, the incremental residential population warrants assessment of potential indirect impacts to open space resources within a ½-mile radius surrounding the project area.

This analysis finds that the development that would result from the proposed actions would not directly displace any open space resources or result in noise, air pollutant emission, odor, or shadows on existing open spaces. Under the Reasonable Worst Case Development Scenario (RWCDS), the proposed actions would introduce a substantial new residential population. A preliminary open space assessment was conducted for indirect impacts to open space resources within a ½-mile of the project area. The quantitative assessment of open space is based on ratios of usable open space acreage to the study area populations (the "open space ratios"). According to the *CEQR Technical Manual*, a decrease of 5 percent or more is considered a substantial change warranting more detailed analysis. In the future with the proposed actions (the "With Action" condition), open space ratios would decrease by less than 5 percent. Therefore, no further analysis is warranted and the proposed actions would not result in significant adverse impacts to open space resources.

B. METHODOLOGY

As defined by the *CEQR Technical Manual*, public open space is accessible to the public on a constant and regular basis, including for designated daily periods. Public open space may be under government or private jurisdiction and typically includes City, state, and federal parkland, esplanades, and plazas designated through regulatory approvals such as zoning. Private open space is not publicly accessible or is available only to limited users. It is not available to the public on a regular or constant basis. Examples of private open space are natural areas with no public access, front and rear yards, rooftop recreational facilities, and stoops or landscaped grounds used by

community facilities, such as public and private educational institutions, where the open space is accessible only to the institution-related population.

Open spaces can be characterized as either active or passive depending on the activities the space allows. In many cases, open space may be used for both active and passive recreation. Open space that is used for sports, exercise, or active play is classified as “active open space,” and consists primarily of recreational facilities. Passive open spaces are used for relaxation, such as sitting or strolling. Active and passive open spaces are further defined in Section C, “Preliminary Assessment.”

DIRECT EFFECTS

According to the *CEQR Technical Manual*, a proposed project would directly affect open space conditions if it causes the loss of public open space, changes the use of an open space so that it no longer serves the same user population, limits public access to an open space, or results in increased noise or air pollutant emissions, odor, or shadows that would temporarily or permanently affect the usefulness of a public open space. The development that would result from the proposed actions would not directly displace any open space resources. Furthermore, there are no open space resources in close proximity to the project area (within 400 feet), and therefore there would not be the potential for construction and operational activities of the proposed project to result in noise, air pollutant emission, odor, or shadows on existing open spaces.

INDIRECT EFFECTS

As described in the *CEQR Technical Manual*, open space can be indirectly affected by a proposed action if a project would add enough population, either residential or non-residential, to noticeably diminish the capacity of open space in the area to serve the future population. Typically, an assessment of indirect effects is conducted when a project would introduce more than 200 residents or 500 workers to an area; however, the thresholds for assessment are slightly different for areas of the City that have been identified as either underserved or well-served by open space. For areas underserved by open space, the threshold for assessment is more than 50 residents or 125 workers, and for areas well-served by open space, the threshold for assessment is more than 350 residents or 750 workers. The project area is located within an area that is considered well-served, and therefore, the 350-resident and 750-worker thresholds apply in determining whether an assessment is warranted.

As discussed in Attachment A, “Project Description and Screening Analyses,” under the RWCDs, the proposed actions are expected to result in a net increment of approximately 444 dwelling units (DUs), which would introduce an estimated 1,381 residents to the project area as compared with the future without the proposed actions (the “No Action” condition). In addition, the proposed actions would result in a net increment of approximately 35,307 gross square feet (gsf) of commercial (retail) space, and approximately 15,675 gsf of community facility space. Based on standard employment densities used for CEQR analyses, these commercial and community facility uses would employ approximately 134 workers. As such, an open space assessment is warranted for only the residential population generated by the proposed actions.

STUDY AREA

The *CEQR Technical Manual* recommends establishing a study area or areas as the first step in an open space assessment. The study areas are based on the distances that the respective users—workers and residents—are likely to walk to an open space. According to the *CEQR Technical Manual*, workers

are assumed to walk approximately 10 minutes, or ¼-mile from their place of work to an open space, while residents are assumed to walk approximately 20 minutes, or ½-mile to an open space.

Because the proposed actions would only introduce new residential population above the 350-resident population threshold and not a substantial enough population to exceed the 750-worker threshold, the adequacy of open space resources was assessed for the ½-mile (residential) study area. This study area was adjusted to include all census tracts with at least 50 percent of their area within the ½-mile boundary. In this way, the study area allows for analysis of both the open spaces in the area as well as population data. As shown on **Figure E-1**, the ½-mile residential study area includes the area within Census Tracts 857, 1189, 861, 859, 1201, 797.01, 845, 1205, 837, 1203, and 1199. The residential study area is generally bounded by Sanford Avenue to the north, 159th Street to the east, Colden Street to the south, and Main Street to the west.

ANALYSIS FRAMEWORK

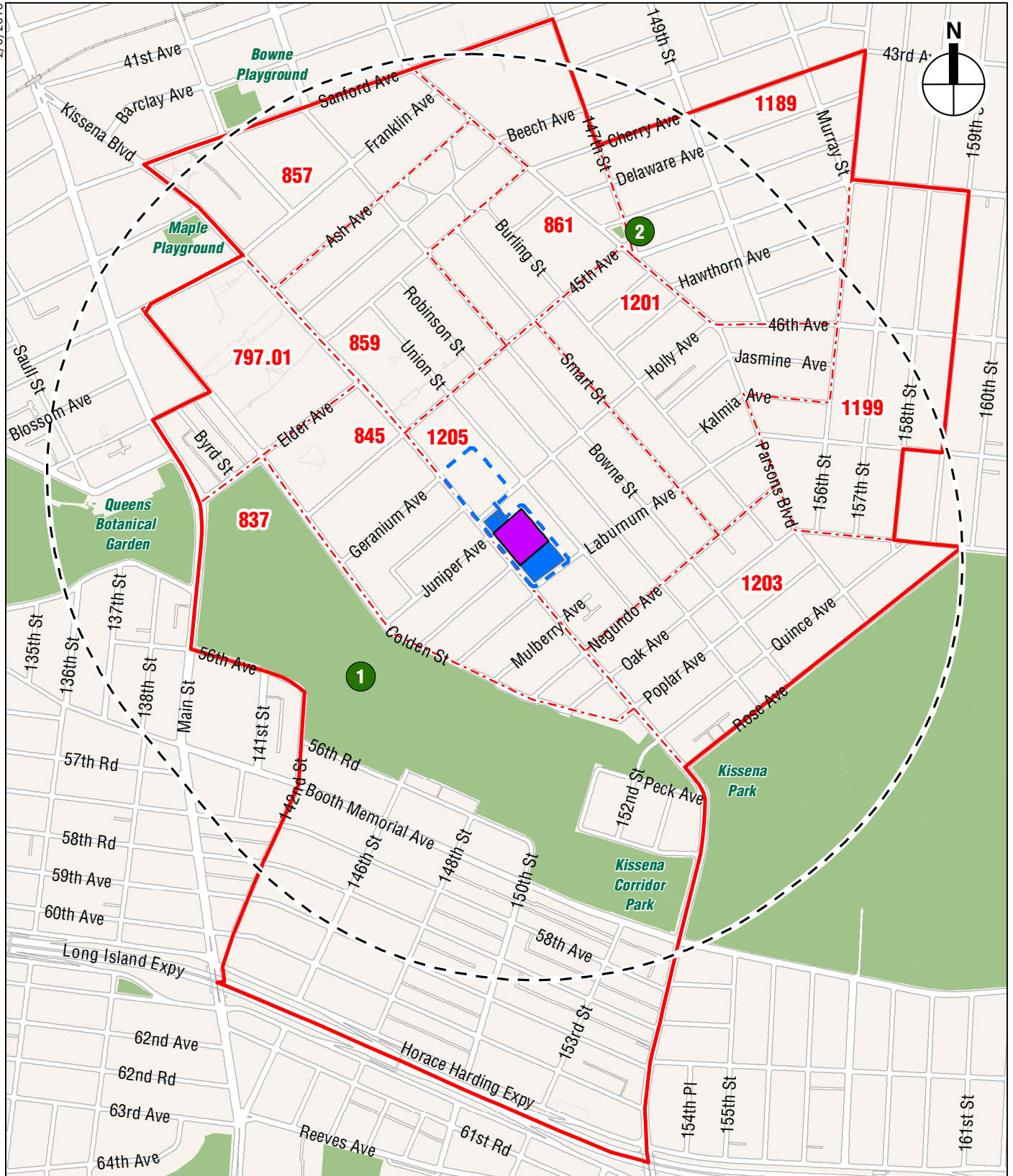
The *CEQR Technical Manual* methodology suggests conducting an initial quantitative assessment, or preliminary assessment, to determine whether more detailed analyses are appropriate. A preliminary assessment is useful if the open space assessment is able to be targeted to a particular user group (in this case, residential population), or if it is not clear whether a full, detailed open space analysis is necessary. Although the project area is located in an area well-served by open space resources, the proposed actions would introduce a residential population that exceeds the 350-resident *CEQR Technical Manual* threshold for assessment. Therefore a preliminary assessment was conducted to determine if a full, detailed analysis is warranted.

C. PRELIMINARY ASSESSMENT

According to the *CEQR Technical Manual*, a preliminary open space assessment involves calculating existing total population and open space acreage in a study area and comparing the existing ratio of total acres of open space per 1,000 residents with the anticipated open space ratio in the With Action condition. As shown in **Table E-1**, based on 2016 Census American Community Survey (ACS) data there are an estimated 39,763 residents within the ½-mile study area.

Table E-1
Open Space Study Area Census Tracts

Census Tract Number	Population
797.01	6,811
837	5,444
845	4,630
857	5,532
859	5,118
861	2,168
1189	2,492
1199	1,458
1201	1,712
1203	1,558
1205	2,840
Total (all selected census tracts)	39,763
Note: See Figure E-1 for census tract locations Source: 2016 ACS Five-Year Estimates.	



- Project Area
- Development Site (Lot 45)
- Projected Development Sites (Lots 1, 5, and 32)
- Half-mile Boundary
- Open Space Study Area
- Census Tracts
- Publicly Accessible Open Space Resources

0 1,000 FEET

Within the open space study area, there are two publicly accessible open space resources, described below and shown in **Figure E-1**. As detailed in **Table E-2**, these resources provide approximately 72.14 acres of publicly accessible open space.

Table E-2
Open Space Resources

Map no. ¹	Name	Total open space (acres)	Active space (acres)	Passive space (acres)	Condition/Utilization
1	Kissena Corridor Park	72	36	36	Adequate/Moderate
2	Lawrence Triangle	0.14	0	0.14	Adequate/Low
Total		72.14	36	36.14	
Notes: ¹ See Figure E-1 for open space locations. Sources: NYC Parks, NYC DCP MapPLUTO v16, Field work, GIS					

Kissena Corridor Park is a large open space roughly 1,000 feet south and west of the project area. The portion of Kissena Corridor Park within the study area serves as a green connector corridor between the Queens Botanical Garden to the west and Kissena Park to the east.

Kissena Corridor Park offers both active and passive recreational opportunities. It includes two smaller playgrounds and a community garden within its boundaries as well as baseball fields, basketball courts, bathrooms, cricket fields, eateries, fitness equipment, football fields, handball courts, playgrounds, soccer fields, and spray showers. A field visit to the park also noted pathways through wooded areas and grassy recreation areas. A large open space of 237.15 acres, the park was in adequate condition and has moderate utilization.

Lawrence Triangle is a small public open space at the intersection of Parsons Boulevard and 147th Street that includes a green space in the center, surrounded by fencing and benches. It is a passive open space resource in adequate condition and has low utilization.

In addition to the resources included in the quantitative assessment, there are three nearby public open space resources outside the study area but within approximately 1.5 miles of the project area—Kissena Park, Maple Playground, and Bowne Playground. These have not been included in the quantified analysis but would be readily accessible to project area residents. Kissena Park is a large publicly accessible open space approximately 0.30 miles to the southeast of the project area. The park contains baseball fields, basketball courts, bathrooms, bicycling and greenways, New York City’s only velodrome, bocce courts, eateries, fishing, fitness equipment, fitness paths, football fields, a golf course that can be played for a nominal fee (discounted for New York City residents), playgrounds, soccer fields, spray showers, tennis courts, volleyball courts, and WiFi hotspots. The park is in adequate to good condition, and has low utilization.

Maple Playground is located approximately 0.52 miles northwest of the project area just outside the study area. The playground contains basketball courts, bathrooms, fitness equipment, handball courts, playgrounds, spray showers, and outdoor chess tables. It is in adequate condition and has high utilization.

Bowne Playground is located just outside the study area to the north on Union Street between Barclay Avenue and Sanford Avenue. It is approximately 1.28 acres and features basketball courts, handball courts, sprays showers, bathrooms, playgrounds, and WiFi hotspots.

The Queens Botanical Garden is a garden located approximately 0.35 to the west of the project area that would be accessible to new residents. It contains gardens, WiFi hotspots, shops, and paths, but charges a fee for admission, and therefore has not been included in the quantitative or qualitative assessment of open space resources in the area.

As shown in **Table E-3**, the existing total open space ratio for the study area is 1.814 acres of active and passive open space per 1,000 residents, below the City's guideline of 2.5 acres per 1,000 residents. The existing active open space ratio for the study area is 0.905 acres per 1,000 residents, which is below the City's guideline of 2.0 acres of active open space per 1,000 residents. The existing passive open space ratio for the study area is 0.909 acres per 1,000 residents, which is greater than the City's guideline of 0.5 acres of passive open space per 1,000 residents.

Table E-3
Open Space Ratios Summary: With Action Condition

Ratio	DCP Guideline Ratio	Existing Ratio	No Action Ratio	With Action Ratio	Percent Change No Action to With Action
Residential Study Area					
Total/residents	2.5	1.814	1.789	1.729	-3.35%
Active/residents	2.0	0.905	0.893	0.863	-3.36%
Passive/residents	0.5	0.909	0.896	0.866	-3.35%
Notes: Ratios in acres per 1,000 people.					

In the No Action condition, new residential development would occur in the study area, which would introduce approximately 572 residents. The total open space ratio would decrease to 1.789 acres per 1,000 residents, and the active and passive open space ratios would decrease to 0.893 and 0.896 acres per 1,000 residents, respectively. As in existing conditions, the total and active open space ratios would be below City guidelines.

In the With Action condition, the RWCDs would introduce 1,381 additional residents compared to the No Action condition. Under the With Action condition, the total open space ratio for the study area is 1.729, compared to 1.789 in the No Action condition. As in existing conditions and No Action condition, the ratio would still be below the City's guideline of 2.5 acres of total open space, this would represent a decrease of 3.35 percent, below the *CEQR Technical Manual* threshold of a 5 percent or more decrease for further analysis. The active open space ratio for the study area would decrease to 0.863 under the With Action condition compared to 0.893 under the No Action condition. This represents a decrease of 3.36 percent, also below the *CEQR Technical Manual* 5 percent threshold for further analysis despite being below the City's guideline of 2.0 acres of active open space per 1,000 residents. The passive open space ratio for the study area would be 0.866 acres per 1,000 residents compared to the No Action ratio of 0.896 acres of passive open space per 1,000 residents. This ratio is above the City's guideline of 0.5 acres of passive open space per 1,000 residents and would not trigger the *CEQR Technical Manual* 5 percent threshold for further analysis.

Therefore, the proposed actions would not result in any significant adverse impact on open space resources in the study area, and a detailed open space assessment is not warranted. *

A. INTRODUCTION

This attachment assesses whether the proposed actions would result in a significant adverse shadow impact on any sunlight-sensitive resources. According to the 2014 *City Environmental Quality Review (CEQR) Technical Manual*, sunlight-sensitive resources of concern can include publicly accessible open space, Greenstreets, sunlight-dependent features of historic architectural resources, and natural resources. A shadow assessment is required for actions that would result in new structures or additions to existing structures at least 50 feet in height.

As described in Attachment A, “Project Description and Screening Analyses,” the Reasonable Worst Case Development Scenario (RWCDS) facilitated by the proposed actions would include the development of a 90-foot tall structure (the “proposed project”) on the development site (Block 5208, Lot 45) and the projected development of two additional structures that could reach maximum heights of 90 and 75 feet. The RWCDS also includes the potential development of a 95-foot structure that would be located one block to the north of the development site within the project area. Together the lots identified within the rezoning area (Block 5200, Lots 39, 49, 50, and portion of 151; and Block 5208, Lots 1, a portion of Lot 5, Lot 32, and Lot 45) compose the project area. The proposed project, and projected and potential developments, would all replace existing one- or two-story buildings that are over 50 feet shorter than the structures built under the RWCDS. Therefore, this attachment assesses the new shadow that would be cast by the proposed project and the projected and potential developments.

A Tier 1 shadow screening assessment determines that the structures developed on the development site and the projected and potential development sites under the RWCDS could not cast shadows long enough to reach any sunlight-sensitive resources. Therefore, a detailed analysis is not required and the proposed actions would not result in a significant adverse shadow impact on any sunlight-sensitive resource.

B. DEFINITIONS AND METHODOLOGY

This analysis has been prepared in accordance with CEQR procedures and follows the guidelines of the *CEQR Technical Manual*.

DEFINITIONS

Incremental shadow is the additional, or new, shadow that a structure resulting from a proposed 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* such as parks, beaches, playgrounds, plazas, schoolyards (if open to the public during non-school hours), greenways, and landscaped medians with seating. Planted areas within unused portions of roadbeds that are part of the Greenstreets program are also considered sunlight-sensitive resources.
- *Features of architectural resources that depend on sunlight for their enjoyment by the public.* Only the sunlight-sensitive features need be considered, as opposed to the entire resource. Such sunlight-sensitive features might include design elements that depend on the contrast between light and dark (e.g., recessed balconies, arcades, deep window reveals); elaborate, highly carved ornamentation; stained glass windows; historic landscapes and scenic landmarks; and features for which the effect of direct sunlight is described as playing a significant role in the structure's importance as a historic landmark.
- *Natural resources* where the introduction of shadows could alter the resource's condition or microclimate. Such resources could include surface water bodies, wetlands, or designated resources such as coastal fish and wildlife habitats.

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

- *City streets and sidewalks* (except Greenstreets);
- *Private open space* (e.g., front and back yards, stoops, vacant lots, and any private, non-publicly accessible open space, such as private open space that is accessory to NYCHA housing developments);
- *Project-generated open space* cannot experience a significant adverse shadow impact from the proposed project, according to CEQR, because without the project the open space would not exist.

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

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

If the third tier of analysis does not eliminate the possibility of new shadows on sunlight-sensitive resources, a detailed shadow analysis is required to determine the extent and duration of the incremental shadow cast by the proposed building. The detailed analysis provides the data needed to assess the shadow impacts. The effects of the new shadows on the sunlight-sensitive resources are

described, and their degree of significance is considered. The results of the analysis and assessment are documented with graphics, a table of incremental shadow durations, and narrative text.

C. PRELIMINARY SCREENING ASSESSMENT

A base map was developed using Geographic Information Systems (GIS)¹ showing the location of the proposed project, the projected and potential development sites, and the surrounding street layout (see **Figure F-1**). In coordination with the land use, open space, and historic and cultural resources assessments presented in this Environmental Assessment Statement (see Attachment B, “Land Use, Zoning, and Public Policy,” Attachment E, “Open Space,” and Attachment G, “Historic and Cultural Resources”), potential sunlight-sensitive resources were identified and shown on the map.

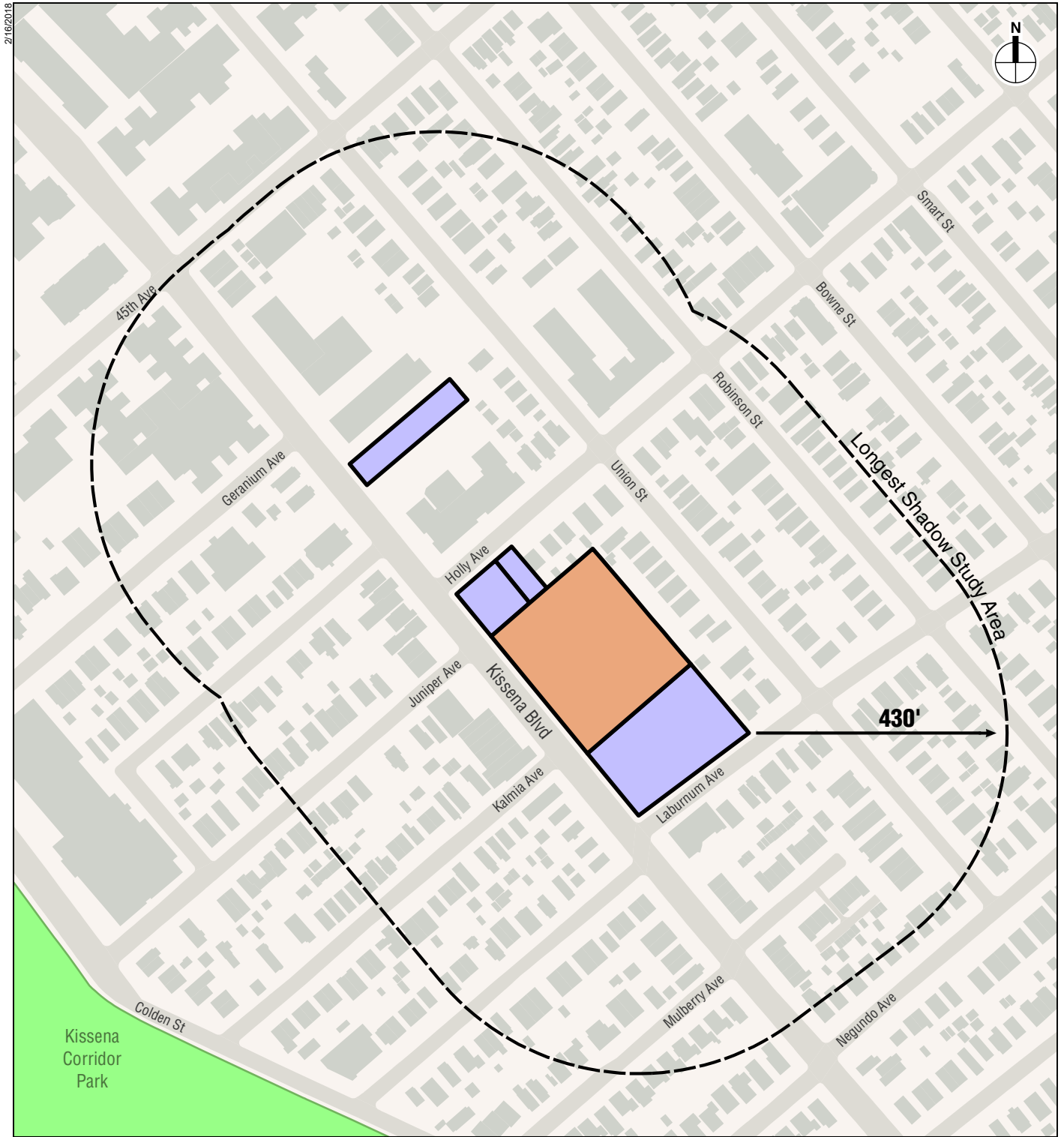
TIER 1 SCREENING ASSESSMENT

For the Tier 1 assessment, the longest shadow that could be cast by the structures built under the RWCDs is calculated, and, using this length as the radius, a perimeter is drawn around the projected and potential development sites (see **Figure F-1**). Anything outside this perimeter representing the longest possible shadow count never be cast in shadows originating from the proposed project, while anything inside the perimeter needs additional assessment. According to the *CEQR Technical Manual*, the longest shadow that a structure can cast at the latitude of New York City occurs on December 21, the winter solstice, at the start of the analysis day at 8:51 AM, and is equal to 4.3 times the height of the structure.

RWCDS

Including rooftop mechanical equipment, the structures built under the RWCDs would reach maximum heights of 75 to 95 feet. For shadow assessment, an additional 15 feet is added to the height of all structures to account for the placement of rooftop mechanical equipment, increasing the range of maximum heights to 90 through 110 feet. Within the analysis timeframe, a 110-foot structure could cast shadow up to 4.3 times as long, or approximately 430 feet. To perform a conservative screening assessment, this length is used as the longest shadow study area radius for all projected and potential sites. As illustrated on **Figure F-1**, no sunlight-sensitive features are located within 430 feet of any of the projected or potential development sites. Therefore, none of the structures built under the RWCDs would be tall enough for their shadow to reach a sensitive resource and no further shadow assessment is required. The proposed actions would not result in a significant shadow impact on any sunlight-sensitive resource. *

¹ Software: Esri ArcGIS 10.3; Data: New York City Department of Information Technology and Telecommunications (DoITT) and other City agencies, and AKRF site visits.



- Proposed Project Site
- Projected / Potential Development Sites
- Tier 1: RWCDs longest shadow study area
- Sunlight-Sensitive Resource

Note: There are no sunlight-sensitive resources located within the longest shadow study area.

A. INTRODUCTION

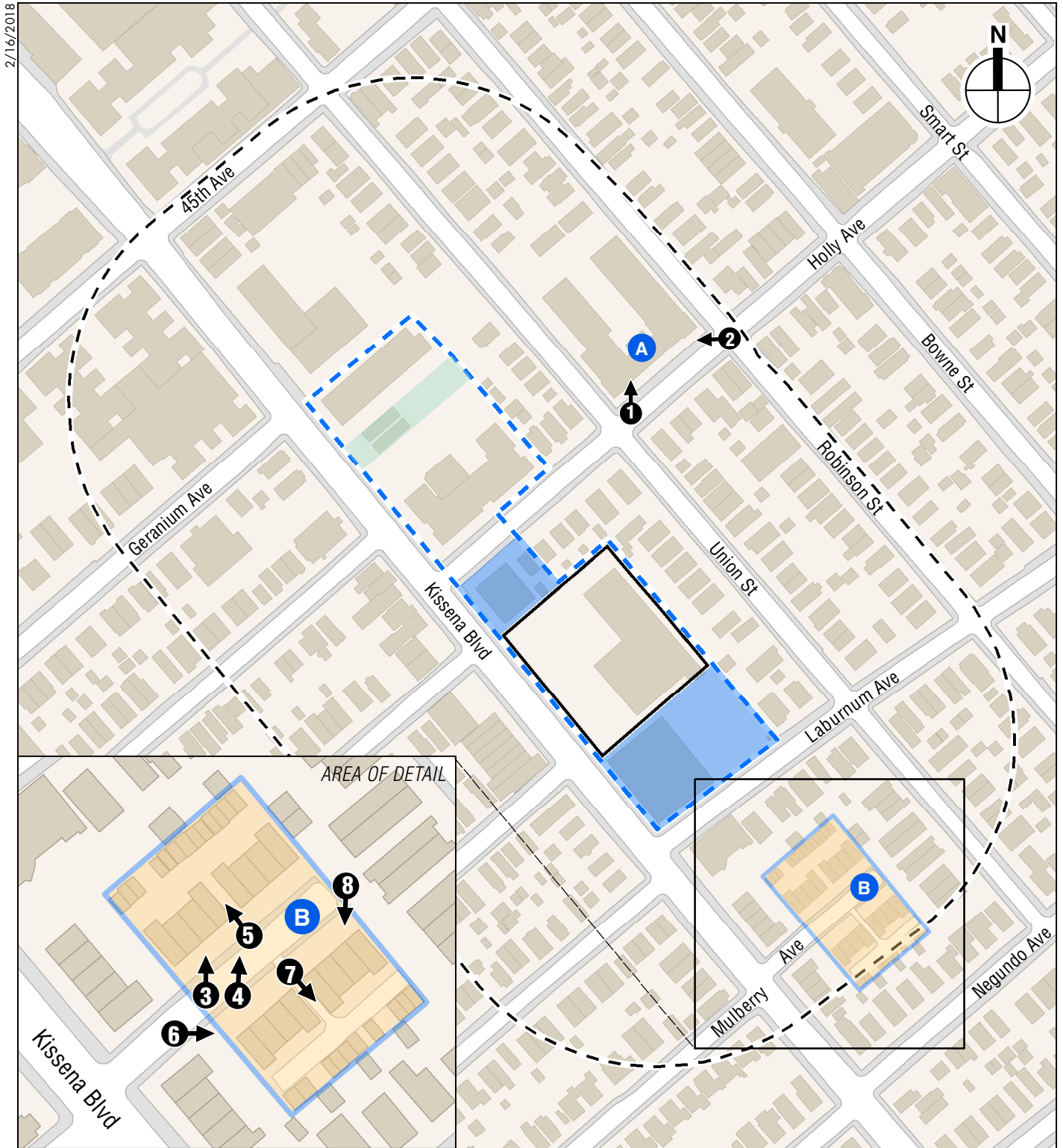
This attachment assesses the potential of the proposed actions to affect historic and cultural resources. The development site is located at 46-15 Kissena Boulevard (Block 5208, Lot 45) in the Flushing neighborhood of Queens (see **Figure G-1**). The Kimco Kissena Center comprises local retail stores arranged within a one-story retail structure fronted by surface parking. The proposed actions would demolish the existing retail use on the development site and develop a new eight-story building (the “proposed project”) that would contain approximately 244,339 gross square-feet (gsf) dedicated to residential uses (244 dwelling units [DUs]); approximately 57,827 gsf of ground-floor commercial (retail) use; approximately 15,675 gsf of community facility use; and two below-grade levels of parking that would provide 333 spaces accessory to the commercial and residential uses. Additionally, the proposed actions could result in additional development within the project area. The projected development sites (Block 5208, Lots 1, 5, and 32) and potential development sites (Block 5200, Lots 49 and 50) would be developed with new residential and retail uses.

Historic and cultural resources include both archaeological and architectural resources. The study area for archaeological resources is the area that would be disturbed by the proposed project’s construction and the associated rezoning, or the project area itself. In a letter dated September 10, 2018, the New York City Landmarks Preservation Commission (LPC) determined that the project area (including the development site, projected development sites, and potential development sites) is not archaeologically or architecturally significant (see **Appendix 1**). Therefore, this analysis focuses on standing structures in the study area.

B. METHODOLOGY

Study areas for architectural resources are determined based on the area of potential effect for construction impacts, as well as the larger area in which there may be visual or contextual impacts. The 2014 *New York City Environmental Quality Review (CEQR) Technical Manual* sets the guidelines for the study area as being typically within an approximately 400-foot radius of the project area (see **Figure G-1**). Within the study area, architectural resources analyzed include State and National Register (S/NR)-listed or S/NR-eligible properties, New York City Landmarks (NYCLs), New York City Historic Districts (NYCHDs), and properties pending such designation. Additionally, a field survey was conducted to identify any previously undesignated properties that appear to meet S/NR or NYCL eligibility criteria.

Effects on architectural resources can include both direct physical impacts and indirect impacts. As set forth in the *CEQR Technical Manual*, direct impacts include damage from vibration and additional damage from adjacent construction that could occur from falling objects, subsidence, collapse, or damage from construction machinery. Adjacent construction is defined as any construction activity



- Project Area
- Development Site (Lot 45)
- Study Area (400-foot boundary)
- Projected Development Sites (Lots 1, 5, and 32)
- Potential Development Sites (Lots 49 and 50)
- Photograph View Direction and Reference No

Known Architectural Resources

- Andrew Jackson School, P.S. 24 (S/NR-eligible)

Potential Architectural Resources

- 140-12 through 140-26 Mulberry Avenue
- 140-11 through 140-25 Mulberry Avenue

that would occur within 90 feet of an architectural resource, as defined in the New York City Department of Buildings (DOB) *Technical Policy and Procedure Notice* (TPPN) #10/88.¹

Indirect impacts on architectural resources are visual or contextual impacts that could result from the construction of a project or its operation. As described in the *CEQR Technical Manual*, indirect impacts could result from blocking public views of a resource; isolating a resource from its setting or visual relationship to the streetscape; altering the resources setting; introducing incompatible visual, audible, or atmospheric elements to a resource's setting; or introducing shadows, or lengthening their duration over a historic landscape or resource with sun-sensitive features (e.g., a church with stained-glass windows).

C. EXISTING CONDITIONS

ARCHITECTURAL RESOURCES

PROJECT AREA

There are no known or potential architectural resources located within the project area, including the development site, project development sites, and potential development sites (see Attachment H, “Urban Design and Visual Resources” Figures H-2 through H-4). The development site features a one-story shopping center built circa 1961, which meets the minimum S/NR 50-year age criterion. Yet, the façade has undergone multiple alterations, such as replacement windows and the addition of metal roofing, that have negatively affected the architectural integrity of the complex. The same can be said of two of the three sites that make up the projected development sites, which contain two commercial buildings and one single-family residential structure. One of the commercial buildings (Block 5208, Lot 1) was built in 1976 and therefore, is not eligible for listing on the S/NR as it does not meet the minimum S/NR 50-year age criterion. The two potential development sites are occupied by two narrow, two-story residential buildings. Built in 1901, these structures meet the minimum S/NR 50-year age criterion; however, alterations to the façades—the addition of vinyl siding and replacement windows—have negatively affected the architectural integrity of the structures.

STUDY AREA

There is one known architectural resource located within the 400-foot study area. This resource is mapped on **Figure G-1** and described below.

KNOWN ARCHITECTURAL RESOURCES

The Andrew Jackson School (P.S. 24, S/NR-Eligible) is roughly bound by Robinson Street to the north, Holly Avenue to the east, Union Street to the south, and 45th Avenue to the west (see **Figure G-1**). The school is located approximately 230 feet north of the development site, approximately 296 feet northeast of northernmost corner of the projected development sites, and approximately 182 feet west of the potential development sites.

¹ TPPN #10/88 was issued by DOB on June 6, 1988, to supplement Building Code regulations with regard to historic structures. TPPN #10/88 outlines procedures for the avoidance of damage to historic structures that are listed on the NR or NYCLs resulting from adjacent construction, defined as construction within a lateral distance of 90 feet from the historic resource.

Built in 1931, the school was designed by Walter C. Martin, who served as the Superintendent of Buildings for the Board of Education between 1928 and 1938. The school was originally built with a “Type M” plan, which Walter Martin had created to use for phased construction with elementary and junior high schools. Subsequently in 1957, a three-story wing was added to the northeastern end of the school, providing the school with additional classroom space, an auditorium, and gymnasium. Another one-story addition was made that same year to the northwestern end of the school, which was to be used for kindergarten classrooms. Today, the one-story addition has been demolished to make way for a new five-story addition.

The original building was constructed in the Neoclassical style with a three-story-plus-basement plan. The building’s first floor is clad in limestone, which red brick above. The building is symmetrically fenestrated along its southern façade with two end pavilions. Additionally, the building’s ornamentation is centered around the two symmetrical entrances located along Holly Avenue. The entranceways on the ground floor are highlighted by pilasters that support an entablature above. These details are constructed of both terra-cotta and limestone. A belt course runs below the second-story windows with limestone panels separating the second- and third-story windows. The two end pavilions are decorated with limestone quoining, fluted pilasters, blind round-arched windows with a keystone, and a centrally placed circular medallion above the window; these elements are all reminiscent of the Neoclassical style. The building is capped by a prominent cornice (see **Figure G-2**).

POTENTIAL ARCHITECTURAL RESOURCES

A field survey of the study area was conducted to identify any previously undesignated properties that appear to meet S/NR or NYCL eligibility criteria. The cluster of residences located on at the end of Mulberry Avenue, and north of Kissena Boulevard—140-12 to 140-26 Mulberry Avenue (east side) and 140-11 to 140-25 Mulberry Avenue (west side)—compose four groups of buildings (see **Figure G-1**).

The dark brick, Tudor-style buildings were built between 1924 and 1951. Located approximately 350 feet southeast of the development site, each of the structures is identical, split into four apartments with two outer sections and one interior section. The buildings are also approximately 175 feet southeast of southernmost portion of the projected development sites, and approximately 953 feet southeast of the potential development sites. Symmetrically fenestrated, the two outer apartments of each structure feature two steeply pitched gable roofs, one over the entranceway and one over the second story window. Above the entranceways are brick motifs reflective of the Tudor style. Above some of the second story windows, below the gabled roof, are faint markings of the original half-timbering design. The only apartment featuring the original timber detailing is 140-12 Mulberry Avenue. Separating the outer sections from the interior apartments are elaborate brick chimneys. The roof is of multicolor slate (see **Figure G-3**, Photo 6 of **Figure G-4**, and Photo 8 of **Figure G-5**).

Behind the structures are garages. To access these garages is a central lane between the structures on the north and south sides of Mulberry Avenue. These entranceways feature a brick archway that runs between each structure, decorated with a keystone (see Photo 5 of **Figure G-4** and Photo 7 of **Figure G-5**).

D. FUTURE WITHOUT THE PROPOSED ACTIONS

As described in Attachment A, “Project Description and Screening Analyses,” no new development is anticipated to occur within the project area absent the proposed actions.



View of the Andrew Jackson School, P.S. 24 at the intersection of Union Street and Holly Avenue

1



View northwest of the Andrew Jackson School along Holly Avenue

2



View of 140-11 through 140-17 Mulberry Avenue 3



View of 140-19 through 140-25 Mulberry Avenue 4



View of the brick archway and keystone between 140-17 Mulberry Avenue and 140-19 Mulberry Avenue

5



View of 140-12 through 140-18 Mulberry Avenue

6



View of the brick archway and keystone between 140-18 Mulberry Avenue and 140-20 Mulberry Avenue

7



View of 140-20 through 140-26 Mulberry Avenue

8

However, in the future without the proposed actions (the “No Action” condition), the status of architectural resources could change. The S/NR-eligible Andrew Jackson School could be determined S/NR-eligible and potential architectural resources could be determined S/NR or considered for NYCL designation. Architectural resources that are listed on the S/NR or that have been found eligible for listing are given a measure of protection under Section 106 of the National Historic Preservation Act from the effects of projects sponsored, assisted, or approved by federal agencies. Although preservation is not mandated, federal agencies must attempt to avoid adverse effects on such resources through a notice, review, and consultation process. Properties listed on the Registers are similarly protected against effects resulting from projects sponsored, assisted, or approved by State agencies under the State Historic Preservation Act. However, private owners of properties eligible for, or even listed on, the Registers using private funds can alter or demolish their properties without such a review process. Privately owned properties that are NYCLs, in NYCHDs, or pending designation as NYCLs are protected under the New York City Landmarks Law, which requires LPC review and approval before any alteration or demolition can occur, regardless of whether the project is publicly or privately funded. Publicly owned resources are also subject to review by LPC before the start of a project; however, LPC’s role in projects sponsored by other City or State agencies generally is advisory only.

The New York City Building Code, in Section BC 3309: Protection of Adjoining Property, provides some measures of protection for all properties against accidental damage from adjacent construction by requiring that all buildings, lots, and service facilities adjacent to foundation and earthwork areas be protected and supported. While these regulations serve to protect all structures adjacent to construction areas, they do not afford special consideration for historic structures.

The second protective measure applies to NYCLs, properties within NYCHDs, and NR-listed properties. For these structures, *TPPN #10/88* applies. *TPPN #10/88* supplements the standard building protections afforded by Building Code C26-112.4 by requiring a monitoring program to reduce the likelihood of construction damage to adjacent NYCLs and NR-listed properties (within 90 feet) and to detect at an early stage the beginnings of damage so that construction procedures can be changed.

As discussed in Attachment B, “Land Use, Zoning, and Public Policy,” four development projects are currently anticipated to be completed by 2021 within the 400-foot study area. Three of these are proposed near the intersection of Union Street and Laburnum Avenue at 47-06 Union Street (Block 5216, Lot 9), 46-38 Union Street (Block 5208, Lot 24), and 141-12 Laburnum Avenue (Block 5217, Lot 5). 47-06 and 46-38 Union Street will be two-story multifamily residential buildings and contain two DUs each. The development project at 141-12 Laburnum Avenue will convert a single-family building to a multifamily residence with two DUs. The fourth project within the study area at 45-57 Union Street (Block 5201, Lot 21) will construct a new five-story, approximately 125,155 sf educational facility as an expansion to the Andrew Jackson School (P.S. 24). None of these projects will directly affect the architectural resources. The Andrew Jackson School, with the construction of the new addition, will be protected under the New York City Building Code; however, since the property is S/NR-eligible it would not be subject to *TPPN #10/88* since the property is not listed or landmarked. Also, these developments would be similar to current uses; therefore, the projects are not expected to affect architectural resources in the No Action condition.

E. FUTURE WITH THE PROPOSED ACTIONS

PROJECT AREA

DEVELOPMENT SITE

In the future with the proposed actions (the “With Action” condition), the development site would be redeveloped with a new eight-story mixed-use building that would be clad in prefabricated gray paneling of two different textures and large floor-to-ceiling windows. The building would contain retail with parking below grade as well as residential use, which is the primary land use in the area. As the development site does not contain architectural resources, the proposed project would not have any significant adverse impacts on architectural resources.

PROJECTED DEVELOPMENT SITES

The projected development sites would be redeveloped in the With Action condition. Block 5208, Lot 1 would be redeveloped with a six-story mixed-use building that includes below-grade parking, ground-floor retail, community facility use, and residential use. Lot 5 would be used as an easement connection from Holly Avenue to the development site. Block 5208, Lot 32 would be redeveloped with an eight-story mixed-use development. The building would include below-grade parking, ground-floor retail, and seven stories dedicated to residential use.

Similar in design and use to the development site, the With Action condition for the projected development sites would continue to have retail use, but more residential space would be developed, providing more residential space in the area. As the projected development sites do not contain architectural resources, the projected developments would not have any significant adverse impacts on architectural resources.

POTENTIAL DEVELOPMENT SITES

In the With Action condition, the potential development sites could be redeveloped with two seven-and nine-story residential buildings connected at the ground floor. The nine-story section would be located along Kissena Boulevard. The seven-story section would be located further back on the property. This new development would increase residential uses along the street. Since, the potential development sites do not include architectural resources, potential development on these sites would not adversely impact architectural resources.

STUDY AREA

As described above, the Andrew Jackson School and the residences located on Mulberry Avenue are located over 90 feet from the development site, projected development sites, and potential development sites. Therefore, they are outside the area of potential impacts for construction related activities, and would not be adversely impacted by the proposed actions.

The proposed actions would also not result in any significant adverse indirect impacts to the architectural resources in the study area. The proposed actions would replace a one-story retail structure and surface parking on the development site, two commercial buildings, and one single-family residential structure on the projected development sites, and two two-story residential buildings on the potential development sites with new mixed-use and residential buildings. The proposed buildings would not obstruct views to the architectural resources. The architectural resources are located a block or more from the development site, projected development sites, and

potential development sites, and existing intervening buildings and mature trees obstruct views between the architectural resources and the sites. The proposed actions would introduce buildings that are similar in height to residential buildings located northwest of the development site along Kissena Boulevard, which range from five to twelve stories. Therefore, the proposed new six- to nine-story buildings would be consistent with the mix of shorter and taller buildings that make up the architectural resources' setting. Additionally, the With Action condition would result in the development of buildings that contain residential and commercial uses, consistent with uses in the study area. Therefore, the proposed actions would not introduce incompatible visual, audible, or atmospheric elements to a resource's setting, nor would they isolate a resource from its relationship with the streetscape. Lastly, the new developments would not introduce shadows over a historic landscape or architectural resource with sunlight-sensitive features. This action has been reviewed by LPC, of which they have no concerns as the affected properties have no architectural or archaeological significance (see **Appendix 1**). Therefore, the With Action condition would not result in significant adverse impacts to architectural resources. *

A. INTRODUCTION

This attachment considers the potential for the proposed actions to result in significant adverse impacts to urban design and visual resources. As described in Attachment A, “Project Description and Screening Analyses,” the proposed actions include a zoning map amendment and zoning text amendment to facilitate the development of a mixed-use residential, commercial and community facility building (the “proposed project”) on the development site. The proposed actions are also expected to result in new development on two projected development sites in the project area.

As defined in the 2014 *City Environmental Quality Review (CEQR) Technical Manual*, urban design is the totality of components that may affect a pedestrian’s experience of public space. A visual resource can include views of the waterfront, public parks, landmark structures or districts, otherwise distinct buildings, and natural resources.

The proposed actions would result in noticeable alterations to the project area by replacing smaller-scale structures in the project area with new developments that exceed some of the existing heights and stories of present buildings within the area. Therefore, the following urban design and visual resources analysis has been prepared for the future without the proposed actions (the “No Action” condition) and future with the proposed actions (the “With Action” condition) for the 2021 build year.

B. METHODOLOGY

In accordance with the *CEQR Technical Manual*, this analysis considers the effects of the proposed actions on the experience of a pedestrian in the 400-foot study area. The assessment focuses on those project elements that have the potential to alter the built environment, or urban design, of the project area and study area, which is collectively formed by the following components:

- *Streets.* For many neighborhoods, streets are the primary component of public space. The arrangement and orientation of streets define the location and flow of activity in an area, set street views, and create the blocks on which buildings and open spaces are organized. The apportionment of street space between cars, bicycles, transit, and sidewalks and the careful design of street furniture, grade, materials used, and permanent fixtures, including plantings, street lights, fire hydrants, curb cuts, or newsstands are critical to making a successful streetscape.
- *Buildings.* Buildings support streets. A building’s street walls form the most common backdrop in the City for public space. A building’s size, shape, setbacks, lot coverage, and placement on the zoning lot and block; the orientation of active uses; and pedestrian and vehicular entrances all play major roles in the vitality of the streetscape. The public realm also extends to building façades and rooftops, offering more opportunity to enrich the visual character of an area.
- *Open Space.* Open space includes public and private areas such as parks, yards, cemeteries, parking lots, and privately owned public spaces.

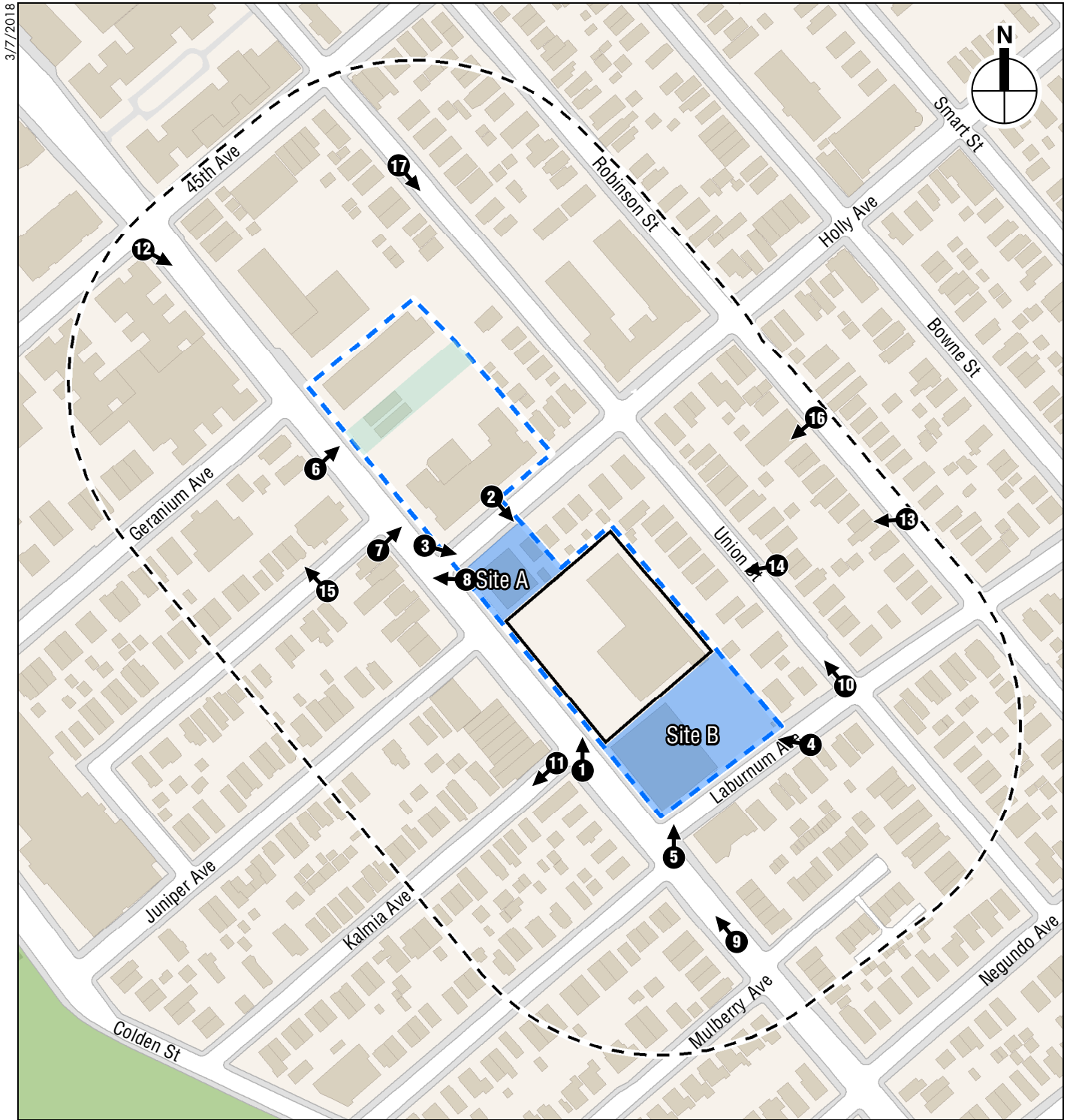
- *Natural Features.* Natural features include vegetation and geologic, topographic, and aquatic features. Rock outcroppings, steep slopes or varied ground elevation, beaches, or wetlands may help define the overall visual character of an area.
- *View Corridors and Visual Resources.* A visual resource is the connection from the public realm to significant natural or built features, including important view corridors, views of the waterfront, public parks, landmark structures or districts, otherwise distinct buildings or groups of buildings, or natural resources.
- *Wind.* Channelized wind pressure from between tall buildings and downwashed wind pressure from parallel tall buildings may cause winds that affect pedestrian comfort and safety.

This analysis considers the urban design characteristics and visual resources of the project area and the area within 400 feet of the project area (see **Figure H-1**). Within the study area, the proposed actions would be most likely to influence land use patterns and the built environment. The development site, projected and potential development sites, and study area are discussed in detail for the existing conditions, No Action condition, and With Action condition. The following analysis addresses each of these characteristics for existing conditions and the No Action and With Action conditions for the 2021 build year.

Based on the *CEQR Technical Manual*, a preliminary assessment of urban design and visual resources is appropriate when there is the potential for a pedestrian to observe, from the street level, a physical alteration beyond that allowed by existing zoning. Examples include projects that permit the modification of yard, height, and setback requirements, and projects that result in an increase in built floor area beyond what would be allowed “as-of-right” or in the No Action condition.

The proposed actions include a zoning map amendment to replace the existing R3-2 and R3-2/C2-2 zoning districts with R7A and R7A/C2-3 zoning districts in the rezoning area, which encompasses Block 5200, Lots 39, 49, 50, and 151, as well as Block 5208, Lots 1, 32, and 45. The proposed rezoning would allow for additional floor area ratio (FAR) to be developed within the project area, which includes the rezoning area in addition to Block 5208, Lot 5. Therefore, as the proposed actions would result in physical alterations beyond those allowed by existing zoning, the proposed project would meet the threshold for a preliminary assessment of urban design and visual resources.

The *CEQR Technical Manual* guidelines state that if the preliminary assessment shows that changes to the pedestrian environment are sufficiently significant to require greater explanation and further study, then a detailed analysis is appropriate. Examples include projects that would potentially obstruct view corridors, compete with icons in the skyline, or make substantial alterations to the streetscape of a neighborhood by noticeably changing the scale of buildings. Detailed analyses also are generally appropriate for area-wide rezonings that include an increase in permitted floor area or changes in height and setback requirements, General Large-Scale Develops (GLSDs), or projects that would result in substantial changes to the built environment of a historic district or components of a historic building that contribute to the resource’s historic significance. Conditions that merit consideration for further analysis of visual resources include when the project partially or totally blocks a view corridor or a natural or built visual resource and that resource is rare in the area or considered a defining feature of the neighborhood; or when the project changes urban design features so that the context of a natural or built visual resource is altered (i.e., if the project alters the street grid so that the approach to the resource changes; if the project changes the scale of surrounding buildings so that the context changes; or if the project removes lawns or other open areas that serve as a setting for the resource).



- Project Area
- Development Site (Lot 45)
- Study Area (400-foot boundary)
- Projected Development Sites (Lots 1, 5, and 32)
- Potential Development Sites (Lots 49 and 50)
- Photograph View Direction and Reference No

0 500 FEET

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

The proposed actions include a proposed rezoning that would result in an increase in permitted floor area within the project area, and thus would allow for noticeable alterations to the development site and projected and potential development sites, as compared to the existing conditions and No Action condition. Therefore, the proposed actions would meet the threshold for a detailed assessment of urban design and visual resources. This analysis is provided below.

C. EXISTING CONDITIONS

PROJECT AREA

The project area comprises the development site and the projected and potential development sites, described below, as well as two other sites, Block 5200, Lots 39 and 151, which are included within the project area. The project area includes commercial structures on the east side of Kissena Boulevard between Laburnum and Holly Avenues, and tall, multifamily residential structures and smaller single-family structures in the mid-block between Holly and 45th Avenues. The project area’s topography is flat.

URBAN DESIGN

Development Site

The development site comprises Lot 45 of Block 5208 and is approximately 68,200 square feet (sf) in size. It is located towards the southern end of the project area and rezoning area, with frontage along Kissena Boulevard (see Photo 1 of **Figure H-2**). The development site contains an approximately 22,520 sf single story, L-shaped retail structure consisting of multiple local retail stores fronted by surface parking. The building includes the Gold City Supermarket, Star Laundromat & Cleaners, Ming Xing Gift Shop, and Fay Da Bakery and has a large footprint but low lot coverage. The smaller storefronts are clad in red brick, while the supermarket’s storefront is constructed of cinderblock and painted gray. Entrances to these stores are located along the western façade of the building. Above the smaller storefronts the building has a gable roof clad in asphalt shingles that runs along the western edge of the building. Along the southern half of the building, above the grocery store, the structure has a hipped, ribbed metal roof along its western edge. The site has two existing curb cuts along Kissena Boulevard. The parking lot contains approximately 90 parking spaces and is separated from the pedestrian sidewalk by a short concrete wall. A mixture of mature and young trees lines the sidewalk between the two curb cuts.

Projected Development Sites

The projected development sites are located on Block 5208 and include Lots 1, 5, and 32. Projected Development Site A (Lots 1 and 5) is directly northwest of the development site, while Projected Development Site B (Lot 32) is directly southeast. Lot 5 has frontage along Holly Avenue and is approximately 3,567 sf in size. The building on this lot has low lot coverage and a small building footprint. The property contains an approximately 1,000 sf approximately two-story, single-family



View north from Kissena Boulevard and Kalmia Avenue to the Development Site
(Block 5208, Lot 45)

1



View southeast from Holly Avenue to Projected Development Site A Block 5208, Lot 5

2

Existing Conditions Photographs—
Development Sites
Figure H-2

residence clad in red brick (see Photo 2 of **Figure H-2**). The structure's main entrance is along the northern edge of the west façade. It contains a half-story clad in wood paneling and has a gable roof. A driveway runs along the southern edge of the property with an existing curb cut along Holly Avenue, leading to a rear garage. The property is separated from the sidewalk by a brick and cinder block wall that has metal detailing above and a small landscaped yard.

Lot 1 is approximately 9,219 sf in size and has frontages along Holly Avenue and Kissena Boulevard. The two-story commercial structure on this lot has high lot coverage and a large building footprint; the structure is approximately 15,708 sf in size. Faced in brick, the structure has three commercial storefronts along Kissena Boulevard and two along Holly Avenue. An enclosed staircase located along the south façade of the building leads to office space on the second story. Many of the building's windows have been infilled. East of the staircase on the ground floor is an additional commercial storefront that faces south towards the surface parking lot of the development site. The structure surrounded by surface parking spaces along its north and west façades (see Photo 3 of **Figure H-3**). Chain-link fencing and garbage bins are located along the south side of the property separating the property from neighboring Lot 45.

Projected Development Site B (Lot 32) has frontages along Laburnum Avenue and Kissena Boulevard. The site is approximately 38,500 sf and includes a two-story banquet-style restaurant building that encompasses approximately 16,800 sf and includes parking in the rear (see Photos 4 and 5 of **Figures H-3 and H-4**). The building on the lot has a large building footprint and low lot coverage. The surface parking lot surrounding the restaurant building provides 63 parking spaces with two curb cuts along Laburnum Avenue. Constructed of concrete and faced with a mixture of tiling on the ground floor, the main entrance to the building is located along Kissena Boulevard with another entrance to a market further south along the façade. The second story has floor to ceiling windows that run almost the full length of the building along Kissena Boulevard as well as for a short distance along the north and south façades. Planter boxes are lined along the western exterior of the building, while a concrete and brick wall with planter boxes separate the rear parking lot from the sidewalk. Metal gates are connected to wall sections to allow for parking lot security. There is also an entrance into the building from the parking lot.

Potential Development Sites

The potential development sites are adjacent to one another on Block 5200, Lots 49 and 50. Lot 49 is approximately 5,925 sf in size, with frontage along Kissena Boulevard. Lot 50 is directly north of Lot 49, and is approximately 5,688 sf in size. The properties each have a narrow, rectangular-plan two-story residential building clad in vinyl siding (see Photo 6 of **Figure H-4**). The structure on Lot 50 is approximately 2,354 sf in size, and the building on Lot 49 is approximately 2,952 sf in size. Both houses are set back from Kissena Boulevard with curb cuts and paved parking areas in front. Both of the properties buildings have small footprints and low lot coverage.

Other Sites

Block 5200, Lots 39 and 151 are located within the project area boundaries, but are not projected or potential development sites. Lot 39 is centrally located within the project area and is approximately 48,000 sf in size. It is occupied by a seven-story, approximately 99,338-sf multifamily elevator building. The building has street frontages along Kissena Boulevard and Holly Avenue, with two curb cuts along Kissena Boulevard leading to a rear surface parking lot and an underground garage. The building has low lot coverage and a large footprint. It is brick faced and constructed in a C-plan, and is surrounded by landscaping and mature trees. The main



View southeast from Holly Avenue and Kissena Boulevard to
Projected Development Site A Block 5208, Lots 1 and 5

3



View northwest of the rear parking lot of Projected Development Site B
Block 5208, Lot 32

4



View north from Laburnum Avenue and Kissena Boulevard of the west and south facades of the building on Lot 32 (Projected Development Site B)

5



View northeast of Potential Development Sites Block 5200, Lots 49 and 50 from Kissena Boulevard

6

Existing Conditions Photographs—
Development Sites
Figure H-4

entrance to the building is located along Holly Avenue, with three additional entrances along the ground floor to offices.

Lot 151 is a 40,260-sf through-lot that runs from Kissena Boulevard to Union Street. The five-story, multifamily elevator residential building on Lot 151 has a large footprint, a rectangular plan, and is approximately 60,324 sf. The building is in a landscaped setting with mature trees and plantings, separated from the sidewalks by a low iron-gate and brick wall. An awning covered walkway leads to a courtyard and the building's main entrance located on the north façade. The lot includes a surface parking lot that is bordered by a high iron gate in the rear with curb cut access via Union Street. Mature trees line the sidewalks fronting both of these lots.

VIEW CORRIDORS AND VISUAL RESOURCES

As defined in the *CEQR Technical Manual*, “a visual resource is 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.”

Within the project area, Kissena Boulevard provides the most extensive view corridor. Views along the boulevard generally extend for long distances, but without any notable focus or visual resources within those views. Views west on Holly and Laburnum Avenues end at Kissena Boulevard, due to the change in the street pattern. Views on the avenues also are partially obscured by large, mature street trees (see Photo 9 of **Figure H-6**). There are no visual resources on the development site or projected or potential development sites or visible from sidewalks immediately adjacent to these sites.

Development Site

Pedestrian views from the Kissena Boulevard sidewalk adjacent to the development site include the existing development on this site, as well as the structures on the projected development sites directly north and south. Views north and south along Kissena Boulevard also include commercial and residential buildings beyond the development site and projected development sites; however, as described above there are no visual resources in these views.

Projected Development Sites

Views from the Holly Avenue sidewalk adjacent to Projected Development Site A include the existing development on Lots 1 and 5, as described above. Views east and west along Holly Avenue also include the residential structures on this street and the Andrew Jackson School, as well as the commercial structures on the south side of Kissena Boulevard at its intersection with Holly Avenue. Views from the Kissena Boulevard sidewalk adjacent to Lot 1 include the development on this lot, as well as the development site and the Kissena Boulevard frontage of Projected Development Site B. Views north and south along Kissena Boulevard adjacent to Lots 1 and 32 also include the commercial buildings located along the west side of Kissena Boulevard and the taller multifamily residential buildings on Kissena Boulevard in the northern portion of the study area (see Photo 8 of **Figure H-5**).

Views from the Laburnum Avenue sidewalk adjacent to Projected Development Site B includes the existing development on Lot 32, as described above. Views east along Laburnum Avenue include the rear façades of two-story houses along Union Street, many of which are partially obscured by overgrown shrubbery growing along the fencing separating Lot 32 from the properties. Additionally, views along the avenue include the nearby commercial and residential



View northeast from Kissena Boulevard of Block 5200, Lot 39
in the Project Area

7



View southwest from the intersection of Kissena Boulevard and Holly Avenue
of commercial buildings

8

Existing Conditions Photographs—
Project Area and Study Area
Figure H-5



View north along Kissena Boulevard near Mulberry Avenue **9**



View north along Union Street from Laburnum Avenue with parking on both sides of the street **10**

properties. As described above, views on Holly and Laburnum Avenues within the project area also are partially obscured by large, mature street trees.

Potential Development Sites

Views of the potential development sites from the adjacent Kissena Boulevard sidewalk include the existing development on these sites, as well as limited, partial views to the development site and projected development sites. Also visible from the adjacent sidewalk are the commercial structures along Kissena Boulevard and the Hindu Center Temple located west across Kissena Boulevard, as well as the Selfhelp Community Services buildings to the north and the large multifamily residential building directly to the south at the intersection of Kissena Boulevard and Holly Avenue.

Other Sites

Pedestrian views of Lot 39 include the Holly House and its ground-floor offices with its exterior landscaping. The building has street frontage along Holly Avenue and Kissena Boulevard (see Photo 7 of **Figure H-5**). The rear parking lot and entrance to an underground parking garage is visible from the sidewalk adjacent of the property. Pedestrian views from the sidewalk adjacent along Kissena Boulevard include partial views of the development site and projected and potential development sites as well as the other commercial services along the street.

Lot 151 has street frontage along Kissena Boulevard and Union Street. Pedestrian views from adjacent sidewalks along Kissena Boulevard, which are located in project area, include the five-story residential building, the mature trees and plantings, and the inner courtyard. The rear parking lot is not visible from the sidewalk. Views also include the potential development sites located just south of Lot 151.

STUDY AREA

The study area around the project area has an irregular urban grid street pattern which creates long, rectangular blocks as well as some larger blocks, such as the one bound by Holly Avenue to the south, Union Street to the east, Kissena Boulevard to the west, and 45th Avenue to the north. The blocks west of Kissena Boulevard are generally oriented perpendicular to the blocks east of the boulevard. The study area is roughly bounded by Robinson Street to the east, 45th Avenue to the north, Colden Street to the west, and Mulberry Avenue to the south (see **Figure H-1**). The topography of the study area is flat.

URBAN DESIGN

Streets

The primary north–south thoroughfare and widest street in the study area is Kissena Boulevard, with 45th, Holly, and Laburnum Avenues as the primary east–west thoroughfares. Laburnum Avenue, Kissena Boulevard, and Holly and 45th Avenues, on the east side of Kissena Boulevard, carry two-way traffic. On the west side of Kissena Boulevard, 45th and Holly Avenues carry one-way traffic; Holly Avenue carrying traffic north and 45th Avenue carrying traffic south. Street furniture within the area includes bus stop signs and shelters, newspaper stands, bike racks, mailboxes, parking kiosks, fire hydrants, telephone booths, LED streetlights, and trashcans.

Kissena Boulevard is a 70-foot-wide thoroughfare that has parking on both sides of the street with bus shelters. Bordering the southern edge of the project area is Laburnum Avenue, which is a 60-foot wide street. Laburnum Avenue also has parking lanes on both sides of the street. Along the

northern edge of the study area is 45th Avenue, which is a 60-foot wide street that runs east–west east of Kissena Boulevard and westbound west of Kissena Boulevard. East of Kissena Boulevard, parking is allowed on the westbound side of the street; west of Kissena Boulevard there is parking on both sides of the street. Geranium Avenue, which is located along the western edge of the study area, serves one-way traffic running east, with parking on both sides of the street.

Running through the center of the project area and study area is Holly Avenue. This road is 55-feet wide on the east side of Kissena Boulevard, and parking is allowed on the eastbound side of the street. Bordering the project area to the east, Union Street is a one-way, 50-foot-wide northbound street with parking on both sides (see Photo 10 of **Figure H-6**). Narrower streets in the area also include Mulberry, Laburnum, Kalmia, and Juniper Avenues west of Kissena Boulevard, and Robinson Street along the eastern edge of the study area. These streets are 50 feet wide serving both two-way and one-way traffic going east–west (see Photo 11 of **Figure H-7**). Mulberry Avenue comes to a dead end mid-block between Kissena Boulevard and Union Street. Each of these streets allows parking on both sides.

The streets in the study area do not generally have a lot of pedestrian traffic, except Kissena Boulevard, where local retail is located. Vehicular activity is largely located along Kissena Boulevard, with some vehicular activity along 45th, Holly, and Laburnum Avenues. There are no designated bike lanes or signed routes on the streets in the study area. Four bus routes run throughout the study area; the Q17, Q25, and Q34 run along Kissena Boulevard, while Q25 runs along Kissena Boulevard and then east along Holly Avenue. There is no subway line located in the study area.

Buildings

The study area’s built environment is varied, with buildings ranging from multifamily residences to one- and two-story attached and detached houses, as well as places of worship. The area bounded roughly by Geranium and Holly Avenues to the south, Union Street to the east, 45th Street to the north, and Kissena Boulevard to the west is generally characterized by large multifamily residences built in the mid- and late 20th century. These residential buildings tend to have large footprints, high lot coverage, and are set back from the sidewalks behind landscaping and green space. Taller buildings in this portion of the study area include the Selfhelp Community Services residences at 45-25 Kissena Boulevard, which are 12 stories (approximately 105 feet) tall, and the residential building at 137-75 Geranium Avenue, which is seven stories (approximately 62 feet) tall. This portion of the study area also includes some single-family detached houses as well as two-story rowhouses with below-grade garages built in the late 20th and early 21st centuries (see Photo 12 of **Figure H-7**). These residential buildings tend to have small footprints, low lot coverage, be built slightly above grade, and are set back from the sidewalk behind fencing or stoops. On the north side of Holly Avenue between Union and Robinson Streets is the Andrew Jackson School (P.S. 24), a red brick- and stone-clad, three-story public school with an M-shaped plan. The school has been determined eligible for listing on the State and National Registers of Historic Places (SN/R) (see Attachment G, “Historic and Cultural Resources”).

To the south of Holly and Geranium Avenues, the urban design of the study area is characterized by low-scale development. Along Kissena Boulevard, the structures are typically one- and two-story commercial structures covered with an array of brightly colored advertisements and signage. These structures predominately have small footprints with high lot coverage. The rest of the study area is residential, with a variety of building types from the 20th and early 21st centuries, such as one- and two-story detached houses; Tudor-style rowhouses and attached houses; two-story attached houses; two-story duplexes; one- and two-story detached houses with below-grade garages; and three-story mixed-used commercial and residential buildings (see **Figure H-8** and



Looking south along Kalmia Avenue from Kissena Boulevard, including views of on-street parking **11**



View southeast along Kissena Boulevard from 45th Avenue showing two-story detached homes amongst taller, multi-family residential buildings **12**



One-story structures with below grade garages along Robinson Street **13**
between Holly and Laburnum Avenues



Two-story duplexes on Union Street between Holly and Laburnum Avenues **14**

Photo 15 of **Figure H-9**). Most of the residential buildings are built on raised foundations and have stoops leading to their main entrances.

Lastly, in the study area there are a few religious institutions: the Muslim Center of New York, the Hindu Center Temple, Shri Shirdi Sai Baba Temple, and the New York Chen Buddhist Associates. These structures provide the study area with a mix of religious architectural elements, including pagoda-esque ornamentation and a minaret (tower) to call persons to prayer (see Photo 16 of **Figure H-9**). These structures have small footprints, but high lot coverage.

Natural Features and Open Space

There are no publicly accessible open spaces located within the study area. The study area's streets are often lined with a mix of mature and young trees. As noted above, some residential buildings in the study area are set back from the sidewalks behind landscaping and green space.

VIEW CORRIDORS AND VISUAL RESOURCES

As described above, views along Kissena Boulevard generally extend for long distances, but without any notable focus or visual resources within those views. Views west on Holly and Laburnum Avenues end at Kissena Boulevard, due to the change in the street pattern. Views west on Holly Avenue west of Kissena Boulevard only extend to its intersection with 137th Place. Views west on the avenues west of Kissena Boulevard end at Kissena Corridor Park. Views on the avenues, as well as Union and Robinson Streets, also are partially obscured by large, mature street trees. Views north from Kissena Boulevard, east along Holly Avenue, and north and south along Union and Robinson Streets include the Andrew Jackson School (see Photo 1 of **Figure H-2** and **Figure H-10**). There are no visual resources within the study area; the historic Andrew Jackson School, while architecturally interesting, is not highly visible except along adjacent streets.

D. FUTURE WITHOUT THE PROPOSED ACTIONS

PROJECT AREA

In the No Action condition, no new development is anticipated to take place within the project area. The development site and projected and potential development sites would remain as in existing conditions. Additionally, no changes to zoning are expected to occur under the No Action condition.

In the No Action condition, pedestrian views within the project area would remain mainly as in existing conditions. Views of the development site and projected and potential development sites from adjacent sidewalks would not change in the No Action condition. However, the new five-story addition to the Andrew Jackson School along Union Street (see discussion below) would be visible from the sidewalk on Holly Avenue adjacent to Block 5208, Lots 1 and 5. There are no visual resources in the project area, and thus none would be altered in the No Action condition.

STUDY AREA

URBAN DESIGN

As discussed in Attachment B, "Land Use, Zoning, and Public Policy," four development projects are currently anticipated to be completed by 2021 within the 400-foot study area ("No Build" developments). Three of these are proposed near the intersection of Union Street and Laburnum Avenue and include two two-story multifamily residential buildings as well as the conversion of



Two-story attached residences on Holly Avenue near Kissena Boulevard 15



The Shri Shirdi Sai Baba Temple on Robinson Street near Holly Avenue 16



View south along Union Street with the new five-story Andrew Jackson School addition under construction in the distance

17

a single-family building to a multifamily residence. These buildings will be similar in height to the majority of residential buildings within the study area, but shorter than those located between Holly and 45th Avenues and Geranium and 45th Avenues along the east and west sides of Kissena Boulevard. The fourth project within the study area is a new five-story, approximately 125,155 sf expansion to the Andrew Jackson School.

The No Build developments would not substantially alter the urban design or visual character of the study area. The three residential developments along Union Street and Laburnum Avenue will introduce buildings with similar use, size, and lot coverage as those located in the area south of Holly Avenue within the study area. The new development at the Andrew Jackson School would provide new community facility space and would be anticipated to bring additional pedestrian activity and visual interest to this portion of the study area.

VIEW CORRIDORS AND VISUAL RESOURCES

Pedestrian views of the development site and projected and potential development sites from immediately adjacent streets would remain as is in existing conditions. The new developments along Union Street and Laburnum Avenue will be visible from nearby portions of these streets; however, as the buildings will have similar lot coverage and heights, the pedestrian views on these streets would not be substantially altered. Views adjacent to the development site, east along Holly Avenue and north and south along Union and Robinson Streets will include the new five-story addition to the Andrew Jackson School. There are no visual resources in the study area, and thus none would be altered in the No Action condition.

E. FUTURE WITH THE PROPOSED ACTIONS

This section considers urban design and visual resources of the With Action condition in 2021 in comparison to the No Action condition. **Figures H-11 through H-18** provide site plans and street views depicting the With Action developments.

PROJECT AREA

URBAN DESIGN

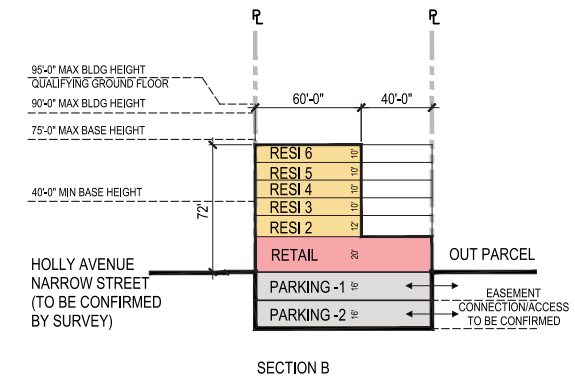
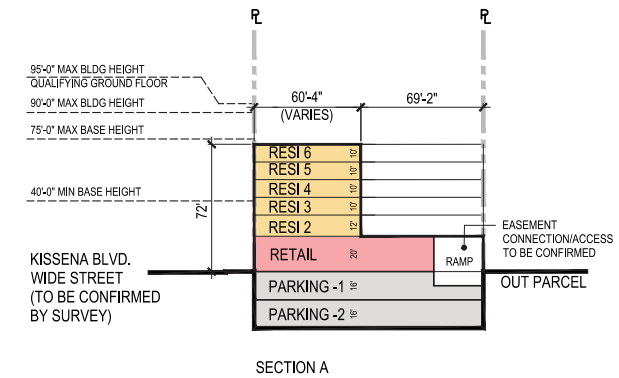
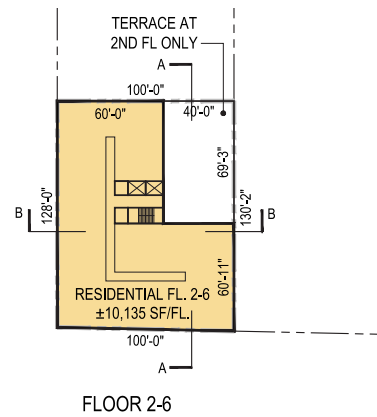
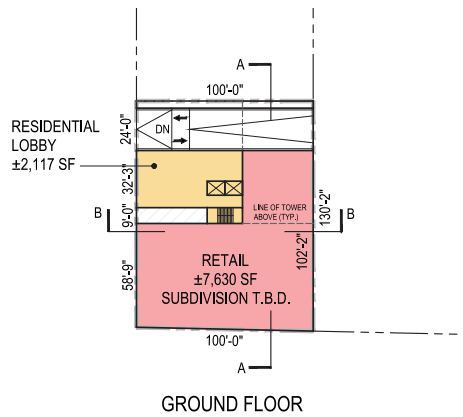
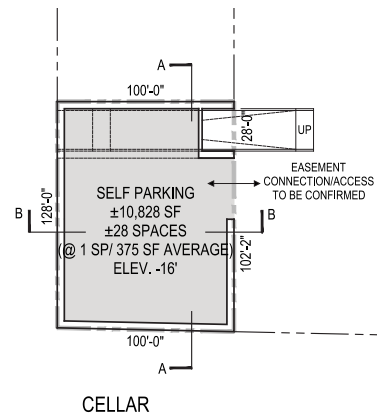
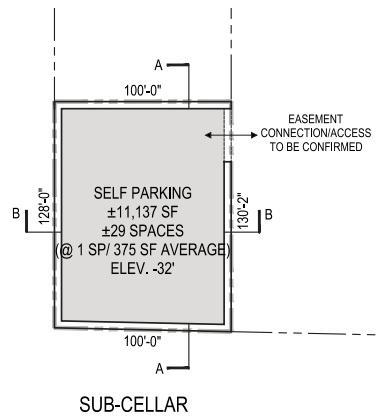
Development Site

In the With Action condition, the development site would be redeveloped with an eight-story (approximately 94 foot tall) mixed-use building, which would include approximately 244,339 gsf of residential use; approximately 57,827 gsf of ground-floor commercial (retail) use; approximately 15,675 gsf of community facility use; and approximately 333 parking spaces in a below-grade garage (see **Figure H-11**). The building would fully occupy the development site, as compared to the No Action condition; additionally, the new development would be taller than the existing structure on the site. There would be a garage entrance at the southern edge of the property, getting rid of the surface parking in the No Action condition, with another garage entrance located within an easement at Lot 5. The ground-floor retail space would cover the full extent of the lot, with separate residential and community facilities lobbies located at the northwest corner of the development. The new development would have a rear setback at the second story, which would allow for a terrace approximately 30 feet wide; this second story also would include the community facility space. The setback would create a rectangular structure along the western edge of the property that is approximately 68 feet wide, with two separate wings that run

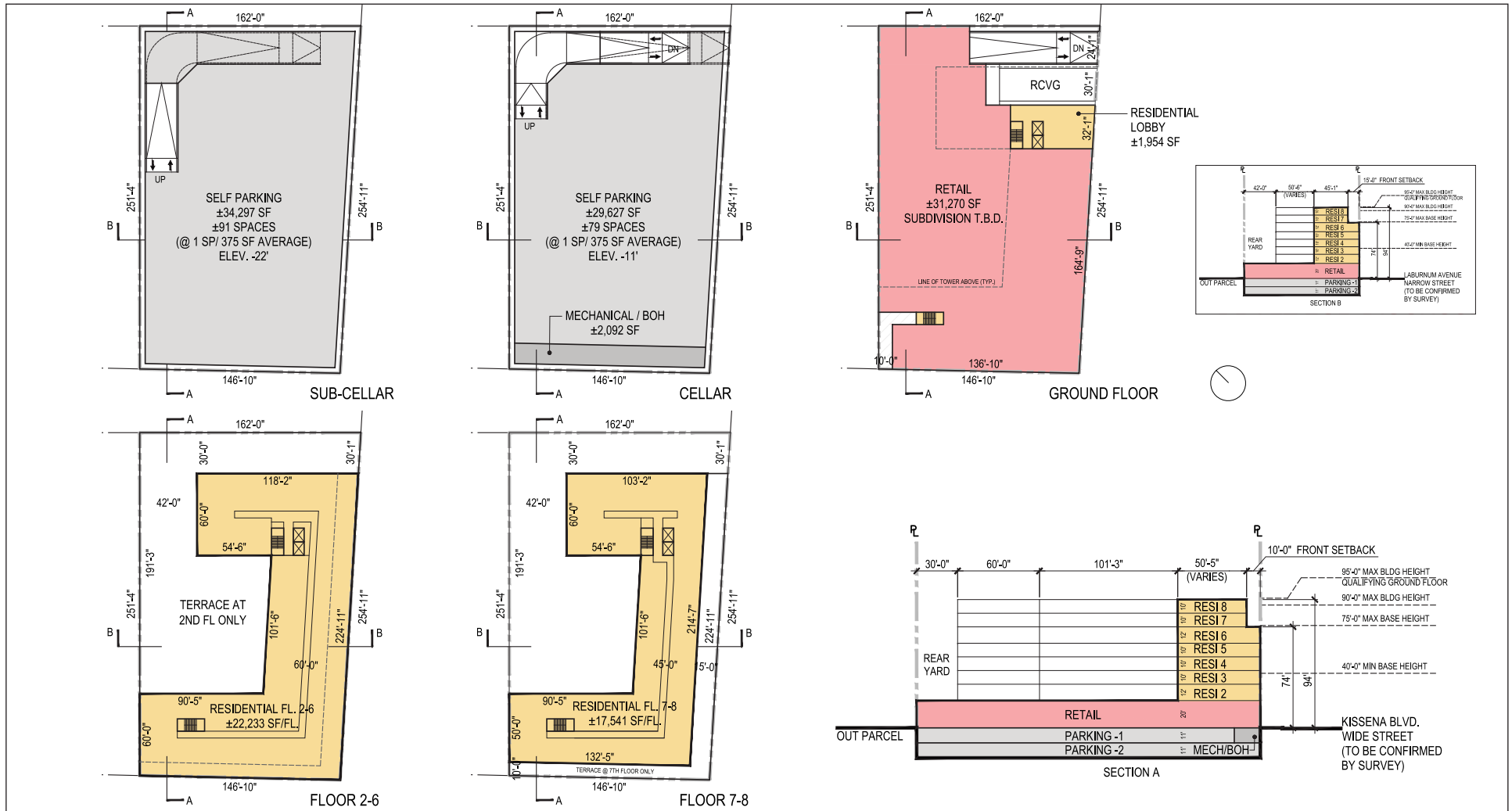


Plans and Sections for the Development Site (Lot 45)

Figure H-11



Plans and Sections for Projected Development Site A (Lots 1 and 5)
Figure H-12



Plans and Sections for Projected Development Site B (Lot 32)
Figure H-13



View north from Kissena Boulevard

Illustrative Rendering of the Development Site and
Projected Development Sites

Figure H-14



View southwest along Holly Avenue towards Kissena Boulevard



View southwest along Laburnum Avenue towards Kissena Boulevard

With Action Context Views of Development Site
and Projected Development Sites



View southwest along Kissena Boulevard near Holly Avenue



View southwest along Holly Avenue near Union Street

With Action Context Views of Development Site
and Projected Development Sites

Figure H-16



View southwest along Kissena Boulevard near Geranium Avenue



View northwest along Kissena Boulevard near Holly Avenue

With Action Context Views
of Potential Development Sites
Figure H-17

Source: S9 Architecture



View south towards the Potential Development Sites from Union Street

approximately 150 feet east towards the eastern edge of the property and are approximately 60 feet wide. From the third to the eighth story the building would be designated for residential use. A 10-foot setback along Kissena Boulevard at the seventh floor would allow for more terrace space. The structure would be clad in prefabricated gray paneling of two different textures. The Kissena Boulevard façade of the building would include large floor-to-ceiling windows, and help to create a new streetwall along the corridor as compared to the No Action condition. With the creation of this new development along Kissena Boulevard, it would bring new visual interest to the corridor and assist in increasing pedestrian traffic.

Projected Development Sites

Projected Development Site A would be redeveloped with a six-story (72-foot-tall), 82,447-gsf mixed-use building, with residential and commercial use, and a below-grade parking garage, replacing the surface parking in the No Action condition. The parking facility would have the potential to connect to the garage on the development site (see **Figure H-12**). The residence on Lot 5 would be replaced with an easement connection in the With Action condition leading to the underground parking garage located on the development site (Lot 45). The new building on Projected Development Site A would be built to the lot lines of Lot 1 unlike in the No Action condition, and extend approximately 128 feet along Holly Avenue and approximately 100 feet along Kissena Boulevard. The residential lobby to the building would be located along Holly Avenue, and the retail entrance would be located along Kissena Boulevard. Above the first floor, the building would set back from the rear lot lines, creating an L-shaped structure. There would be terrace above the first floor. The building would rise without setbacks along Kissena Boulevard and Holly Avenue. Additionally, unlike in the No Action condition, the projected development sites would help to establish a new streetwall along the corner of Holly Avenue and continue the streetwall along Kissena Boulevard established by the new development on the development site. Like the development site, the Projected Development Site A would create new visual interest and help create a consistent streetwall along Kissena Boulevard.

In the With Action condition, Projected Development Site B would be redeveloped with an eight-story (94-foot-tall), 245,547-gsf mixed-use building, with residential and retail use and a below-grade parking facility, replacing the two-story structure and surface parking from the No Action condition (see **Figure H-13**). Like the development site and Projected Development Site A, the building's ground floor would fully cover the lot, extending approximately 147 feet along Kissena Boulevard and approximately 255 feet along Laburnum Avenue, unlike in the No Action condition. A garage entrance would be located at the southeast corner of the property along Laburnum Avenue; the residential lobby also would be located along Laburnum Avenue. The rest of the ground floor would be designated for retail use. Like the development site and projected development sites, the new development would have a setback from the rear lot lines above the first floor, creating a C-shaped plan as well as a second-story terrace. There would be an approximately 10-foot setback along Kissena Boulevard and an approximately 15-foot setback along Laburnum Avenue at the seventh floor allowing for additional terrace space. As compared to the No Action condition, the new development on Projected Development Site B would create a new streetwall along Kissena Boulevard that is consistent with the new developments directly to the north and the streetwall would add new visual interest to the area and help to increase pedestrian traffic.

Potential Development Sites

In the With Action condition, it is assumed that the potential development sites would be assembled and would be redeveloped with a 58,465-gsf residential building, as compared to two

individual residential developments in the No Action condition. The potential building would have two sections, one seven stories (approximately 75 feet) tall and the other nine stories (approximately 95 feet) tall, connected at the ground floor. The nine-story section would be located on the lot line along Kissena Boulevard, with a setback at the seventh floor. The seven-story section would be located further back on the property.

Other Sites

Lots 39 and 151 on Block 5200 would remain the same as in the No Action condition.

VIEW CORRIDORS AND VISUAL RESOURCES

As described above, there are no visual resources on the development site or projected or potential development sites or visible from sidewalks immediately adjacent to these sites; therefore, the proposed actions would not affect any visual resources within the project area. Views within the project area would remain longest along Kissena Boulevard, and these views would now include the new development on the development site and projected and potential development sites. Due to their height, the proposed buildings would be prominent in views along Kissena Boulevard; however, the height of the proposed project would be consistent with the larger multifamily residential buildings in the northern portion of the study area. Views on the avenues would continue to be partially obscured by large, mature street trees.

The proposed buildings would not obstruct or eliminate views to any visual landmarks in the surrounding area. The proposed actions would not partially or totally block a view corridor or a natural or built visual resource. Therefore, the proposed actions would not be expected to significantly adversely affect the context of natural or built visual resources, or any view corridors within the project area.

Development Site

Views from sidewalks adjacent to the development site would include the new structure and garage entrance along Kissena Boulevard. The building and the ground-floor retail space would provide new visual interest along the sidewalk and increase pedestrian activity in the project area. As described above, there are no visual resources on the development site, and thus none would be altered with the proposed actions.

Projected Development Sites

Views of Projected Development Site A from adjacent sidewalks on Kissena Boulevard and Holly Avenue, and views of Projected Development Site B from adjacent sidewalks on Kissena Boulevard and Laburnum Avenue, would include the new structures on these sites. As described above, there are no visual resources on the projected development sites, and thus none would be altered with the proposed actions.

Partial views of the development site from Laburnum Avenue through the surface parking area at the rear of Projected Development Site B, as well as the partially obscured views of the rear façades of the houses on Union Street, would no longer be available in the With Action condition.

Potential Development Sites

Views along Kissena Boulevard would include the new development on the potential development sites, as well as (in the distance) the new buildings on the development site and projected development sites. The commercial structures along Kissena Boulevard, the Hindu Center Temple, the Selfhelp

Community Services buildings, and the large multifamily residential building at the intersection of Kissena Boulevard and Holly Avenue would remain visible in views along Kissena Boulevard.

STUDY AREA

URBAN DESIGN

In the With Action condition, the development site and projected and potential development sites would be redeveloped with new buildings that would be taller than most of the existing buildings in the study area. However, the northern portion of the study area does include some taller structures, including the Selfhelp Community Services residences and the residential building at 137-75 Geranium Avenue. The proposed building on the development site would be one story taller than the 137-75 Geranium Avenue residences, and four stories shorter than the Selfhelp Community Service building. Additionally, other residential developments along Kissena Boulevard between Holly and 45th Avenues range from five to eight stories, and thus the proposed project and projected and potential development site buildings would be consistent with the use, height, and massing of buildings in the study area. The anticipated buildings on the development site and projected development sites also would fully occupy their lots, and thus would have higher lot coverage than most structures in the study area.

The development site and projected and potential development sites would establish more consistent streetwalls along Kissena Boulevard, Holly Avenue, and Laburnum Avenue. The proposed actions would allow for retail space to be expanded on the ground floor of the development site and projected and potential developments and would introduce new residential uses, which is the prominent land use in the area.

The proposed setbacks from the rear lot lines will provide space between the new buildings and the existing residences along Union Street and Holly Avenue. The massing and height of the proposed buildings would remain concentrated along the commercial corridor of Kissena Boulevard and would resemble the larger residential buildings to the north along Kissena Boulevard. Overall, the development site and projected and potential developments would not adversely impact the urban design character of the study area.

VIEW CORRIDORS AND VISUAL RESOURCES

As described above, there are no visual resources within the study area; therefore, the proposed actions would not affect any visual resources within this area. Views within the study area would remain longest along Kissena Boulevard, and these views would now include the new development on the development site and projected and potential development sites. Due to their height, the proposed buildings would be prominent in views along the boulevard; however, the height of the proposed project would be consistent with the larger multifamily residential buildings in the northern portion of the study area. Views on the avenues would continue to be partially obscured by large, mature street trees.

The new buildings on the development site and projected and potential development sites would become partially visible from Union Street, and would be more visible from Holly and Laburnum Avenues compared to the No Action condition. However, mature street trees in the study area would partially obscure the new buildings along these east–west streets. Views north from Kissena Boulevard from near the development site would no longer include views of the Andrew Jackson School as compared to the No Action condition. However, views of the school would remain available along Holly Avenue, and along Union and Robinson Streets.

The proposed buildings would not obstruct or eliminate views to any visual landmarks in the surrounding area. The proposed actions would not partially or totally block a view corridor or a natural or built visual resource. Therefore, the proposed actions would not be expected to significantly adversely affect the context of natural or built visual resources, or any view corridors within the study area.

In conclusion, the new developments on the development site and projected and potential development sites would not obstruct views along any corridor or eliminate views to any visual resources in the study area. The four anticipated buildings would change the urban character of the study area by replacing low-scale commercial and residential buildings and surface parking lots with structures that are taller than most of the buildings in the study area; however, the proposed buildings would be consistent with the height of the multifamily residential buildings located in the northern portion of the study area along Kissena Boulevard. Also, the development site and projected and potential development sites would introduce land uses that are consistent with the residential, community facility, and local retail uses found in the surrounding area. With the proposed actions, more local retail use space would be allowed along Kissena Boulevard, which would contribute to a more vibrant retail corridor and result in a beneficial effect on the pedestrian experience with a consistent streetwall and a more active urban design character along Kissena Boulevard. The proposed project and projected and potential development site buildings would not adversely impact the vitality, the walkability, or visual character of the area.

Overall, the proposed actions would not result in significant adverse impacts on urban design and visual resources or the pedestrian's experience of the built environment. *

A. INTRODUCTION

This attachment presents the findings of the hazardous materials assessment and assesses potential areas of concern that could pose a hazard to workers, the community, and/or the environment as a result of the proposed actions. As described in Attachment A, “Project Description and Screening Analyses,” the proposed actions would result in the demolition of the existing single-story retail building and surface parking lot on the development site (Block 5208, Lot 45), followed by the construction of an eight-story building.

Additionally, the proposed actions could result in additional development with new residential and retail uses at two projected development sites (on Block 5208, Lots 1 and 5 and on Block 5208, Lot 32), as well as new residential uses at one potential development site (on Block 5200, Lots 49 and 50). The projected developments associated with this action would require excavation beyond the No Action condition.

The potential for hazardous material conditions was evaluated based on previous environmental investigations, including a January 2018 Phase I Environmental Site Assessment (ESA) conducted by EAI, Inc. for the development site, and a review of regulatory database listings and historical Sanborn fire insurance maps, performed in February 2018 by AKRF, Inc. for the projected and potential development sites.

The hazardous materials assessment concluded that no significant adverse impacts related to hazardous materials would be expected to occur either during or following the construction of the proposed project, or the new developments at the projected and/or potential developments sites, provided certain protocols are followed, including the placement of an (E) designation for hazardous materials on the property.

B. EXISTING CONDITIONS**TOPOGRAPHY AND SUBSURFACE CONDITIONS**

Based on U.S. Geological Survey mapping, the rezoning area is approximately 40 feet above sea level. Based on topography, groundwater is anticipated to flow in a westerly to northwesterly direction towards Flushing Creek, located approximately 1 mile away. Groundwater in this portion of Queens is not used a potable source of water.

ENVIRONMENTAL INVESTIGATIONS

PHASE I ESA — KISSENA BOULEVARD SHOPPING CENTER 46-15 TO 46-31 KISSENA BOULEVARD FLUSHING (QUEENS), QUEENS COUNTY, NEW YORK 11355 (BLOCK 5208, LOT 45), EAI, INC., JANUARY 2018

Conducted in accordance with the American Society of Testing Materials (ASTM) *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (E1527-13), the Phase I ESA included a review of available records; a site reconnaissance; interviews with a site representative; a review of prior reports; a review of historical fire insurance maps; and an evaluation of regulatory database listings for the site and neighboring properties. It identified the following Recognized Environmental Conditions (RECs), i.e., “the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property”:

- The historical/current presence of an on-site dry cleaner.
- A dry well observed during the site inspection (behind the dry cleaner), which could have been used for improper disposal.
- A former on-site greenhouse operation noted on historical Sanborn maps and in City Directory records.
- Historical City Directory records indicated that portions of the current site building may have formerly been occupied by a printing operation.
- Two dry cleaners were noted within approximately 300 feet of the site in the regulatory database.

It also identified additional non-REC environmental concerns, including the potential presence of asbestos-containing materials (ACM), lead-based paint (LBP), and/or polychlorinated biphenyls (PCBs) in building components, and the potential presence of historical fill, buried demolition debris and unknown buried tanks, and potential unknown contamination from adjoining properties.

REGULATORY DATABASE AND HISTORICAL SANBORN MAP REVIEW, AKRF, INC., FEBRUARY 2018

AKRF conducted a review of regulatory database information and historical Sanborn fire insurance maps for the projected development sites (Block 5208, Lots 1, 5, and 32) and the potential development site (Block 5200, Lots 49 and 50) to identify any potential environmental concerns associated with these sites resulting from past or current site usage or usage of nearby properties. Information was obtained from the January 2018 Phase I ESA for the development site, a review of historical fire insurance maps; and an evaluation of a compilation of state and federal databases consistent with databases and search radii of ASTM E1527-13. Pertinent findings are indicated for the projected and potential development sites below.

Projected Development Sites/Block 5208, Lots 1, 5, and 32

RECs were identified for these lots, including:

- Historical uses of Lot 32 included a private garage for the N.Y. Telephone Company (indicating potential historical automotive repair operations) in the 1980s with subsequent unspecified commercial uses.
- The regulatory database information identified an in-service 1,500-gallon No. 2 fuel oil underground storage tank (UST) with an installation date of 1976 registered for Lot 1.

- The regulatory database information and prior reports indicated an adjoining facility (Lot 45) with on-site dry cleaning operations and associated generation of chlorinated solvent wastes listed in the regulatory database.

Potential Development Sites/Block 5200, Lots 49 and 50

RECs were identified for these lots, including:

- The regulatory database information and review of historical Sanborn maps identified nearby facilities including a south-adjacent UST facility and a historical filling station on the southwest-adjacent block (listed on the NY Spills and petroleum bulk storage databases).

Additionally, it is noted that based on the age of the structures, ACM, LBP, and/or PCBs may be present within building components for both the projected and potential development sites.

C. FUTURE WITHOUT THE PROPOSED ACTIONS

Absent the proposed actions, no new development is anticipated to occur within the rezoning area. Existing buildings and uses observed in the existing condition would be expected to remain through the 2021 build year. No specific hazardous materials conditions requiring action would be anticipated.

D. FUTURE WITH THE PROPOSED ACTIONS

In the future with the proposed actions, the development site—Block 5208, Lot 45—would be redeveloped with a new mixed-use residential, commercial and community facility building; under the reasonable worst case development scenario (RWCDs), the projected development sites would be redeveloped (Block 5208, Lot 1 with a six-story mixed-use building that includes below-grade parking, ground-floor retail, and residential use and Block 5208, Lot 32 with an eight-story mixed-use development). Additionally, the potential development site (Block 5200, Lots 49 and 50) could be redeveloped with seven- and nine-story residential buildings connected at the ground floor.

The RWCDs would entail demolition of the existing structures, followed by excavation for the construction of the new building foundations. Although this could increase pathways for human exposure, impacts would be avoided by performing the following:

- An (E) Designation for hazardous materials would be placed on the proposed development site (Block 5208, Lot 45), the projected development sites (Block 5208, Lots 1 and 5 and Block 5208, Lot 32) and the potential development site (Block 5200, Lots 49 and 50) as part of the proposed actions to ensure requirements pertaining hazardous materials are addressed during future redevelopment, which would impose pre- and post-construction requirements overseen by the New York City Office of Environmental Remediation (OER).
- A Remedial Investigation (RI) would be conducted for the proposed development site that included the collection of soil, groundwater, and soil vapor samples with laboratory analysis for a full suite of analytical parameters. Prior to such testing, an RI Work Plan and Health and Safety Plan (HASP) for the investigation would be submitted to OER for review and approval.
- Based on the results of the RI, a Remedial Action Work Plan (RAWP) and associated Construction Health and Safety Plan (CHASP) would be prepared for implementation during the subsurface disturbance associated with the Proposed Project. The RAWP and CHASP would address requirements for items such as: petroleum tank removal, dust control, and contingency measures should unforeseen petroleum tanks or soil contamination

be encountered. The RAWP would also include any necessary requirements for vapor controls should the RI reveal the potential for soil vapor intrusion. The RAWP and CHASP would be subject to OER approval and, following construction, occupancy permits could only be issued once OER received documentation that the RAWP and CHASP were properly implemented.

- Applicable regulatory requirements would be followed at the development site and the projected and potential development sites with oversight from OER, e.g., properly disposing of soil; reporting to New York State Department of Environmental Conservation (NYSDEC) any signs of a petroleum spill (removing and registering encountered tanks); and following applicable DEP requirements should dewatering be required.
- Demolition would be conducted in compliance with applicable regulatory requirements, e.g., for ACM, LBP, etc.

The (E) Designation program is administered by OER. Approval of a hazardous materials remedy by OER is required prior to the granting of building permits by the Department of Buildings. The text of the (E) Designation for hazardous materials is as follows:

- **Task 1**

The applicant submits to OER, for review and approval, a Phase 1 ESA for the Project Site along with a soil, soil gas and groundwater testing protocol, including a description of methods and a site map with all sampling locations clearly and precisely represented. If site sampling is necessary, no sampling should begin until written approval of a protocol is received from OER. The number and location of sample sites should be selected to adequately characterize the site, the specific source of suspected contamination (i.e., petroleum based contamination and non-petroleum based contamination), and the remainder of the site's condition. The characterization should be complete enough to determine what remediation strategy (if any) is necessary after review of sampling data. Guidelines and criteria for selecting sampling locations and collecting samples are provided by OER upon request.

- **Task 2**

A written report with findings and a summary of the data must be submitted to OER after completion of the testing phase and laboratory analysis for review and approval. After receiving such results, a determination is made by OER if the results indicate that remediation is necessary. If OER determines that no remediation is necessary, written notice shall be given by OER. If remediation is indicated from the test results, a proposed remediation plan must be submitted to OER for review and approval. The applicant must complete such remediation as determined necessary by OER. The applicant should then provide proper documentation that the work has been satisfactorily completed. An OER-approved construction-related health and safety plan would be implemented during evacuation and construction and activities to protect workers and the community from potentially significant adverse impacts associated with contaminated soil and/or groundwater. This plan would be submitted to OER for review and approval prior to implementation. All demolition or rehabilitation would be conducted in accordance with applicable requirements for disturbance, handling and disposal of suspect lead-paint and asbestos-containing materials. In addition to the requirements for lead-based paint and asbestos, requirements (including those of NYSDEC) should petroleum tanks and/or spills be identified and for off-site disposal of soil/fill would need to be followed.

With the requirements of the (E) Designation or comparable measures, no significant adverse impacts related to hazardous materials would be expected to occur. The implementation of the preventative and remedial measures outlined in the (E) Designation would reduce or avoid the potential of significant adverse hazardous materials impacts from potential construction at the Project Site. Following such construction, there would be no potential for significant adverse impacts. *

A. INTRODUCTION

This attachment assesses the potential for the proposed actions to result in significant adverse impacts on the City's water supply and wastewater and stormwater conveyance and treatment infrastructure.

The proposed actions would facilitate the development of a new eight-story building (the "proposed project") on the development site (Block 5208, Lot 45) that would contain approximately 244,339 gross square feet (gsf) dedicated to residential uses (244 dwelling units [DUs]); approximately 57,827 gsf of ground-floor commercial (retail) use; approximately 15,675 gsf of community facility use; and two below-grade levels of parking that would provide 333 spaces accessory to the commercial and residential uses.

For the purposes of conservative analysis it is assumed that the proposed actions would also facilitate the development of two projected development sites. It is assumed that projected development site A would be redeveloped as a six-story, approximately 82,447-gsf mixed-use building, with 53 DUs (including approximately 16 affordable DUs); approximately 7,630 gsf of commercial uses; and 46 accessory parking spaces. Projected Development Site B is assumed to be redeveloped with an eight-story, approximately 245,547-gsf mixed-use building, with 148 DUs (including approximately 44 affordable DUs); approximately 31,270 gsf of commercial use; and 163 accessory parking spaces.

According to the 2014 *City Environmental Quality Review (CEQR) Technical Manual*, projects that increase density or change drainage conditions on a large site require a water and sewer infrastructure analysis. The development site and the two projected development sites are located in a combined sewer area located within the Flushing Bay Creek drainage area. The proposed project would add approximately 244,339 sf of new mixed-use space to a site that previously contained local retail stores arranged within a one-story retail structure fronted by surface parking. Additionally, the two projected development sites would add approximately 327,994 sf of new mixed-use space to Projected Development Site A that currently contains a two-story commercial retail and office building and a two-story single-family residence, as well as a two-story banquet-style restaurant which includes parking in the rear on Projected Development Site B. Therefore, following the guidelines of the *CEQR Technical Manual*, an analysis of the proposed and projected development project's potential impacts on the wastewater and stormwater conveyance and treatment system was performed. As discussed below, the proposed actions are not anticipated to not result in significant adverse impacts related to the City's water supply and wastewater and stormwater conveyance and treatment infrastructure.

B. METHODOLOGY

This analysis follows the *CEQR Technical Manual* guidelines that recommend a preliminary water analysis if a project would result in an exceptionally large demand of water (over 1 million gallons per day [gpd]), or if it is located in an area that experiences low water pressure (i.e., an area at the end of the water supply distribution system such as the Rockaway Peninsula or Coney Island).

The proposed actions would not generate an incremental water demand of 1 million gpd and are not located in an area that experiences low water pressure; therefore, an analysis of water supply is not warranted since it is expected that there would be adequate water service to meet the incremental water demand and that there would be no significant adverse impacts on the City's water supply. In a letter from the New York City Department of Environmental Protection (DEP) dated October 5, 2018, DEP confirmed that the existing water supply infrastructure would be able to meet the increase in water demand.

The *CEQR Technical Manual* indicates that a sewer analysis is warranted if a project site would involve the development on a site of 1 acre or larger where the amount of impervious surface increases and is located within a certain drainage area, such as the Bronx River or Newtown Creek. The proposed and projected projects, located within the Flushing Bay Creek, would develop more than 1 acre of land and create more impervious surface than existed. Therefore, following the guidelines of the *CEQR Technical Manual*, an analysis of the proposed actions potential impacts on the wastewater and stormwater conveyance and treatments system was performed.

Existing and future water demand and sanitary sewage generation are calculated based on use rates set by the *CEQR Technical Manual*.¹ The DEP Flow Volume Calculation Matrix is then used to calculate the overall combined sanitary sewage and stormwater runoff volume discharged to the combined sewer system for four rainfall volume scenarios with varying durations. The ability of the City's sewer infrastructure to handle the anticipated demand from the proposed actions is assessed by estimating existing sewage generation rates, and then comparing these existing rates with the future without the proposed actions (the "No Action" condition) and the future with the proposed actions (the "With Action" condition), per *CEQR Technical Manual* methodology.

C. EXISTING CONDITIONS

CONVEYANCE SYSTEM

The proposed and two projected development sites are located within a part of Queens served by a combined sewer system that collects both sanitary sewage and stormwater. In periods of dry weather, the combined sewers located in the adjacent streets convey only sanitary sewage. The development site currently contains local retail stores arranged within a one-story retail structure fronted by surface parking, while the two projected development sites contain a two-story commercial retail and office building, a two-story single-family residence, and a two-story banquet-style restaurant which includes parking in the rear. The development site (Block 5208, Lot 45) is served by a small section of combined sewer that starts at the intersection of Kalmia Avenue and Kissena Boulevard that then runs southeast along Kissena Boulevard. The combined sewer then turns right and runs southwest along Laburnum Avenue to Colden Street. Projected Development Site B has two combined sewer lines that are located east and south of the property along Laburnum Avenue and Kissena Boulevard. These two lines intercept at Laburnum Avenue and Kissena Boulevard, and run southwest along Laburnum Avenue. Projected Development Site A (Block 5208, Lots 1 and 5) is served by a combined sewer that runs southwest along Holly Avenue, which then turns southeast and runs briefly along Kissena Boulevard before running southwest along Juniper Avenue to Colden Street. This line runs northwest along Colden Street, then west along Cherry Avenue, north for a short distance along Saull Street, and then west along

¹ *CEQR Technical Manual*, March 2014, Table 13-2.

Blossom Avenue to Regulator 31 under College Point Boulevard.² From Regulator 31, flow is conveyed to an interceptor running north along College Point Boulevard and continues north along 130th Street to the Tallman Island Waste Water Treatment Plant (WWTP).

At the Tallman Island WWTP, wastewater is fully treated by physical and biological process before it is discharged into the East River. The quality of the treated wastewater (effluent) is regulated by a State Pollutant Discharge Elimination System (SPDES) permit issued by the New York State Department of Environmental Conservation (NYSDEC), which establishes limits for effluent parameters (i.e., suspended solids, fecal coliform bacteria, and other pollutants). Since the volume of flow to a WWTP affects the level of treatment a plant can provide, the maximum permitted capacity for the Tallman Island WWTP is 80 million gallons per day (mgd). The average monthly flow over the past 12 months is 55 mgd,³ which is well below the maximum permitted capacity.

During and immediately after wet weather, combined sewers can experience a much larger flow due to stormwater runoff collection. To control flooding at the Tallman Island WWTP, the regulators built into the system allow only approximately two times the amount of design dry weather flow into the interceptors. The interceptor then takes the allowable flow to the WWTP, while the excess flow is discharged to the nearest waterbody as combined sewer overflow (CSO). The development sites are located within two CSO drainage areas: in wet weather, sanitary flow, and stormwater runoff is conveyed to CSO outfall TI-010, located towards the southern tip of Flushing Creek, which flows into Flushing Bay and then into the East River.

SANITARY FLOWS

For purposes of analysis, the amount of sanitary sewage is estimated as all water demand generated by the existing development sites on Block 5208, Lots 1, 5, 32, and 45 except water used by air conditioning, which is typically not discharged to the sewer system. As shown in **Table J-1**, the amount of daily sanitary sewage generated by the existing uses on development sites within the project area is an estimated 5,803 gpd (all existing sanitary sewage generation from development site, and Projected Development Sites A and B).

² Regulators are structures that control the flow of sewage to interceptors, i.e., larger sewers that connect the combined the sewer system to the City's sewage treatment system.

³ Twelve-month period through March 2017.

Table J-1
Water Consumption and Sewage Generation

Use	Size/Population	Rate*	Consumption (gpd)
Residential			
Domestic	3 people ¹	100 gpd/person	300
Air Conditioning	1,000	0.17 gpd/sf	170
Commercial/Office			
Domestic	55,028 sf	0.10 gpd/sf	5,503
Air Conditioning	55,028 sf	0.17 gpd/sf	9,355
Community Facility²			
Domestic	—	0.24 gpd/sf	—
Air Conditioning	—	0.17 gpd/sf	—
Total Water Supply Demand			15,328
Total Sewage Generation			5,803
Notes:			
* Rates are from the <i>CEQR Technical Manual</i> Table 13-2.			
¹ Estimate based on applying the average household size for Queens Community Board 7 (3).			
² Utilizes Retail rates for calculation.			

STORMWATER FLOWS

The development sites in the project area have a combined lot area of approximately 121,654 sf (2.79 acres). The majority of the development sites are paved, with a small front yard and backyard on Lot 5 (part of Projected Development Site A). **Table J-2** summarizes the surfaces and surface areas, as well as the weighted runoff coefficient (the fraction of precipitation that becomes surface runoff for each surface type).

Table J-2
Existing Surface Coverage

Affected CSO Outfall	Surface Type	Roof	Pavement and Walkways	Other	Grass and Soft Scape	Total
TI-010	Area (percent)	40%	59%	0%	1%	100%
	Surface Area (sf)	48,348	72,119	—	1,188	121,654
	Runoff Coefficient*	1.00	0.85	—	0.20	0.90
Notes:						
* Weighted Runoff Coefficient calculations based on the DEP Flow Volume Calculation Matrix provided in the <i>CEQR Technical Manual</i> , retrieved February 2018.						
Totals may not sum due to rounding.						

D. FUTURE WITHOUT THE PROPOSED ACTIONS

Absent the proposed actions, the development site as well as Projected Developments Sites A and B will remain as is. Therefore, there will be no changes to the conveyance system, sanitary or stormwater flows on the site.

E. FUTURE WITH THE PROPOSED ACTIONS

The development site includes approximately 244,339 gsf dedicated to residential uses (243 DUs); approximately 57,827 gsf of ground-floor commercial (retail) use; and approximately 15,675 gsf of community facility use. Projected Development Site A contains approximately 82,447-gsf

mixed-use building, with 53 DUs (including approximately 16 affordable DUs); and approximately 7,630 gsf of commercial uses, while Projected Development Site B includes approximately 245,547-gsf mixed-use building, with 148 DUs (including approximately 44 affordable DUs); and approximately 31,270 gsf of commercial use. The With Action condition would produce more water consumption and generate more sewage than the existing condition and No Action condition. The results of the analysis on water and sewer infrastructure are described in the sections below.

CONVEYANCE SYSTEM

As described in the existing condition and No Action condition, for the With Action condition it is anticipated that the sewers in Holly Avenue, Kissena Boulevard, and Laburnum Avenue would be available for connection, and would convey the sanitary and stormwater flow from the development sites in the project area to the Tallman Island WWTP. Per DEP's letter dated October 5, 2018, no allowable flow from the development site as well as Projected Development Sites A and B would be allowed to be directed to the existing combined sewer in Union Street due to the fact that the downstream Regulator TI-029 does not have the capacity for additional flow.

SANITARY FLOWS

As shown in **Table J-3**, the proposed and two projected development sites are expected to generate 146,935 gpd of daily sanitary sewage with a total water demand of 241,770 gpd. The proposed and the two projected development sites would generate an incremental water demand of 226,443 gpd as compared to the No Action condition. This represents a 0.02 percent increase in demand on the New York City water supply system, which delivers approximately 1.1 billion gallons of water per day to customers; however, it is expected that there would be adequate water service to meet the proposed actions' incremental water demand, and there would be no significant adverse impacts on the City's water supply. Additionally, the incremental sanitary sewage generated by the proposed and the two projected development sites over the No Action condition would be 141,132 gpd. The incremental increase in sewage generation is approximately 0.26 percent of the average daily flow at the Tallman Island WWTP and would not result in an exceedance of the WWTP's permitted capacity of 55 mgd. In addition, in accordance with the New York City Plumbing Code (Local Law 33 of 2007), the proposed development site as well as the projected development sites would be required and plans to utilize low-flow plumbing fixtures, which would reduce sanitary flows to the plant. Therefore, the development sites would not result in a significant adverse impact to the City's sanitary sewage conveyance and treatment system.

Table J-3
Water Consumption and Sewage Generation

Use	Size/Population	Rate*	Consumption (gpd)
Residential			
Domestic	1,335 people ¹	100 gpd/person	133,500
Air Conditioning	445,452 sf	0.17 gpd/sf	75,727
Commercial/Office			
Domestic	96,727 sf	0.10 gpd/sf	9,673
Air Conditioning	96,727 sf	0.17 gpd/sf	16,444
Community Facility²			
Domestic	15,675 sf	0.24 gpd/sf	3,762
Air Conditioning	15,675 sf	0.17 gpd/sf	2,665
Total Water Supply Demand			241,770
Total Sewage Generation			146,935
Notes:			
* Rates are from the <i>CEQR Technical Manual</i> Table 13-2.			
¹ Estimate based on applying the average household size for Queens Community Board 7 (3).			
² Utilizes Retail rates for calculation.			

STORMWATER FLOWS

The amount of impervious surfaces in the No Action condition would increase in the With Action condition. The amount of roof surface would increase with the development of the development site as well as Projected Development Sites A and B. The amount of pervious surface would be removed in total, making the development sites within the project area entirely impervious (see **Table J-4**).

Table J-4
With Action Condition Surface Coverage

Affected CSO Outfall	Surface Type	Roof ¹	Pavement and Walkways	Other	Grass and Soft Scape	Total
TI-010	Area (percent)	100%	0%	0%	0%	100%
	Surface Area (sf)	121,654	—	—	—	121,654
	Runoff Coefficient*	1.00	—	—	—	1.00
Notes:						
* Weighted Runoff Coefficient calculations based on the DEP Flow Volume Calculation Matrix provided in the <i>CEQR Technical Manual</i> , retrieved February 2018.						
¹ The total square footage for roofs includes terrace space on development sites to be conservative.						
Totals may not sum due to rounding.						

Using these sanitary and stormwater flow calculations, the DEP Flow Volume Calculation Matrix was completed for the existing conditions and the Proposed Project. The calculations from the Flow Volume Calculation Matrix help to determine the change in wastewater flow volumes to the combined sewer system from existing condition to With Action condition, and include four rainfall volume scenarios with varying durations. The summary tables of the Flow Volume Calculation Matrix are included in **Table J-5**.

Table J-5

DEP Flow Volume Matrix: Existing and Build Volume Comparison

Rainfall Volume (in)	Rainfall Duration (hr)	Runoff Volume to Direct Drainage (MG)	Runoff Volume to CSS (MG)*	Sanitary Volume to CSS (MG)	Total Volume to CSS (MG)	Runoff Volume to River (MG)	Runoff Volume to CSS (MG)*	Sanitary Volume to CSS (MG)	Total Volume to CSS (MG)	Increased Total Volume to CSS (MG)*
TI-010		Existing				With Action				TI-010 Increment
		2.79 acres				2.79 acres				
0.00	3.80	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02
0.40	3.80	0.00	0.03	0.00	0.03	0.00	0.03	0.02	0.05	0.03
1.20	11.30	0.00	0.08	0.00	0.08	0.00	0.09	0.07	0.16	0.08
2.50	19.50	0.00	0.17	0.00	0.18	0.00	0.19	0.12	0.31	0.13
Notes:										
*Assumes no on-site detention or Best Management Practices (BMPs) for purposes of calculations										
CSS = Combined Sewer System; MG = Million Gallons										

As shown in **Table J-5**, the total rainfall volume flow to CSO outfall TI-010 would marginally increase. The increase in flow is attributable to the sanitary flows as well as the increase in impervious surface than previously existed.

The Flow Volume Matrix calculations do not, however, reflect the use of any sanitary and stormwater source control BMPs to reduce sanitary flow and stormwater runoff volumes to the combined sewer system. As noted above, the proposed project would incorporate low-flow plumbing fixtures to reduce sanitary flow in accordance with the New York City Plumbing Code. In addition, stormwater BMPs would be required as part of the DEP site connection approval process in order to bring the building into compliance with the required stormwater release rate. Specific BMP methods would be determined with further refinement of the building design and in consultation with DEP. Per DEP, due to the increase in sanitary flow, a hydraulic analysis of the existing sewer system may be required at the time of the site connection proposal application to determine whether the existing sewer system is capable of supporting higher density development and the related increase in wastewater flow, or whether there will be a need to upgrade the existing sewer system. In addition, there might be a need to amend the existing drainage plan based on the hydraulic analysis calculations. Sewer conveyance infrastructure adjacent to the proposed and projected development sites and the treatment capacity at the Tallman Island WWTP is anticipated to be sufficient to handle wastewater flow resulting from the development sites; therefore, it is anticipated there would be no significant adverse impacts on wastewater treatment or stormwater conveyance infrastructure. *

A. INTRODUCTION

This attachment examines the potential effects of the proposed actions on the study area transportation systems. The proposed actions would facilitate the development of a mixed-use residential, commercial, and community facility building (the “proposed project”) at 46-15 Kissena Boulevard (Block 5208, Lot 45, the “development site”) in the Flushing neighborhood of Queens, Community District 7. The existing uses on the development site include 17,300 square feet (sf) of food store use, 5,220 sf of local retail use, and 90 accessory parking spaces. Three additional lots would be redeveloped as part of the proposed actions, including Lots 1 and 5 (currently consisting of 1 residential dwelling unit (DU), 15,708 sf of restaurant space, and 13 accessory parking spaces), and Lot 3 (currently consisting of 16,800 sf of restaurant space and 63 accessory parking spaces).

B. METHODOLOGY AND ANALYTICAL FRAMEWORK

According to the *CEQR Technical Manual* procedures for transportation analysis, a two-step screening process is undertaken to determine whether a quantified analysis is necessary. The first step, the Level 1 (Trip Generation) screening, determines whether the volume of peak hour person and vehicle trips generated by a proposed action would exceed the minimum thresholds for further study. These thresholds are:

- 50 peak-hour vehicle trip ends;
- 200 peak-hour subway/rail or bus transit riders; and
- 200 peak-hour pedestrian trips.

If a proposed action results in increments that would exceed any of these thresholds, a Level 2 (Trip Assignment) screening assessment is usually performed. Under this assessment, project-generated trips that exceed Level 1 thresholds are assigned to and from the site through their respective networks (e.g., streets, buses, subway lines, sidewalks) based on expected origin-destination patterns and travel routes. This determines the volume of peak-hour vehicular traffic that would be added per intersection, the volume of riders that would be added per subway line or bus route, and the walk trips that would be added per individual pedestrian network element (e.g., crosswalk, corner reservoir area). If the Level 2 screening assessment determines that any single traffic location, transit line or station element, or pedestrian network element would experience an increase of trips beyond the above thresholds for any peak hour, then detailed traffic and/or pedestrian counts and analyses are typically warranted.

The proposed project is anticipated to be completed by 2021 and would consist of 243 DUs, 59,726 sf of commercial space (30,527 sf of destination retail, a 17,000 sf food store, and 10,000 sf of local retail), 15,675 of community facility space (7,800 sf of medical office space and 7,875 sf of recreational community facility space), and 333 accessory parking spaces. In addition to the proposed project, three additional lots within the development site block are projected

development sites that could be redeveloped as a result of the proposed actions. The resulting net increment would be an increase of 443 DUs of residential, 26,880 sf of local retail, 30,527 sf of destination retail, 7,800 sf of medical office, 7,875 sf of recreational community facility, and a decrease of 15,708 sf of restaurant use. Access to the proposed project would be provided at the existing driveway along Kissena Boulevard at Kalmia Avenue, and the proposed driveway along Holly Avenue; access to the underground parking for the proposed project would be shared with the projected development site on Lots 1 and 5. A two-phase traffic signal would be installed at the intersection of Kissena Boulevard and Kalmia Avenue to facilitate vehicle and pedestrian traffic to the proposed project entrance. **Figure K-1** shows the proposed project and projected development sites, and **Table K-1** and **Table K-2** provide a comparison of the total development under the future without the proposed actions (the “No Action” condition) and future with the proposed actions (the “With Action” condition), respectively, and show the resulting net increment of uses on the analysis sites.

Table K-1
No Action Development Program

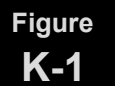
Use	Proposed Project (Lot 45)	Lot 32	Lot 1 and 5	Total
Residential	0 DU	0 DU	1 DU	1 DU
Food Store	17,300 sf	0 sf	0 sf	17,300 sf
Local Retail	5,220 sf	0 sf	0 sf	5,220 sf
Destination Retail	0 sf	0 sf	0 sf	0 sf
Restaurant	0 sf	16,800 sf	15,708 sf	32,508 sf
Medical Office	0 sf	0 sf	0 sf	0 sf
Recreational Community Facility	0 sf	0 sf	0 sf	0 sf
Accessory Parking	90 spaces	63 spaces	13 spaces	166 spaces

Table K-2
Development Increment for Analysis

Use	With Action Development Program				Net Increment Total
	Proposed Project (Lot 45)	Lot 32	Lot 1 and 5	Total	
Residential	243 DUs	148 DUs	53 DUs	444 DUs	+ 443 DUs
Food Store	17,300 sf	0 sf	0 sf	17,300 sf	0 sf
Local Retail	10,000 sf	14,470 sf	7,630 sf	32,100 sf	+ 26,880 sf
Destination Retail	30,527 sf	0 sf	0 sf	30,527 sf	+ 30,527 sf
Restaurant	0 sf	16,800 sf	0 sf	16,800 sf	- 15,708 sf
Medical Office	7,800 sf	0 sf	0 sf	7,800 sf	7,800 sf
Recreational Community Facility	7,875 sf	0 sf	0 sf	7,875 sf	7,875 sf
Accessory Parking	333 spaces	163 spaces	46 spaces	542 spaces	+ 376 spaces

LEVEL 1 SCREENING ASSESSMENT (TRIP GENERATION)

This section details the travel demand assumptions used to determine the number of trips generated by the proposed actions. The analysis below has determined that the increase in vehicle trips generated by the proposed actions would exceed the CEQR Level 1 screening threshold for vehicular traffic during the weekday AM, midday (MD), PM and the Saturday peak hours. As a result, a Level 2 screening analysis was conducted for these peak hours and is also detailed in this section. The analysis has also determined that the increase in pedestrian trips



generated by the proposed project would exceed the CEQR Level 1 during the weekday AM, MD, PM, and Saturday peak hours; therefore, a Level 2 screening analysis was conducted for these peak hours and is also detailed in this section.

The travel demand factors used to calculate the projected number of trips were obtained primarily from the *CEQR Technical Manual*, American Community Survey (ACS) journey to work data, and from other New York City environmental impact studies and assessments such as the *2013 Willets Point Development FSEIS*. **Table K-3** provides the travel demand assumptions used for the weekday AM, MD, PM, and Saturday peak hours for each land use.

Table K-3
Travel Demand Characteristics

Rates	Residential	Medical Office	Local Retail	Destination Retail	Restaurant	Community Facility
Person Trip Gen Rate (Weekday/ Saturday)	8.075/ 9.6 ¹	127/ 127 ⁴	205/ 240 ¹	78.2/ 92.5 ¹	173/ 139 ⁵	53.4/ 16.9 ⁷
	<i>per DU</i>	<i>per 1,000 SF</i>	<i>per 1,000 SF</i>	<i>per 1,000 SF</i>	<i>per 1,000 SF</i>	<i>per 1,000 SF</i>
Linked Trip Credit	0%	0%	15%	0%	0%	0%
Temporal Distribution						
Weekday AM Peak Hour	10% ¹	4% ⁴	3% ¹	3% ¹	1% ⁵	6.0% ⁷
Weekday MD Peak Hour	5% ¹	11% ⁴	19% ¹	9% ¹	14% ⁵	8.0% ⁷
Weekday PM Peak Hour	11% ¹	12% ⁴	10% ¹	9% ¹	8% ⁵	8.0% ⁷
Saturday Peak Hour	8% ¹	11% ⁴	10% ¹	11% ¹	12% ⁵	11.8% ⁷
Modal Split (Weekday/Saturday)						
Auto	42.5% ²	30% ⁴	15% ³	58% ⁶	30% ⁵	13% ³
Taxi	1.9% ²	2% ⁴	0% ³	0% ⁶	5% ⁵	0.5% ³
Bus	13.7% ²	33% ⁴	10% ³	17% ⁶	15% ⁵	5% ³
Subway (via bus)	30.0% ²	18% ⁴	5% ³	13% ⁶	15% ⁵	26% ³
Walk	11.9% ²	17% ⁴	70% ³	12% ⁶	35% ⁵	55.5% ³
Vehicle Occupancy (Weekday/Saturday)						
Auto	1.39 ²	1.50 ⁴	2.00 ³	2.05/ 2.49 ³	2.20 ⁵	1.50 ³
Taxi	1.39 ²	1.50 ⁴	2.00 ³	2.05/ 2.49 ³	2.30 ⁵	1.50 ³
Directional Split (In/Out)						
Weekday AM Peak Hour	20%/ 80% ³	89%/ 11% ⁴	50%/ 50% ³	61%/ 39% ³	94%/ 6% ⁵	94%/ 6% ³
Weekday MD Peak Hour	51%/ 49% ³	51%/ 49% ⁴	50%/ 50% ³	55%/ 45% ³	65%/ 35% ⁵	45%/ 55% ³
Weekday PM Peak Hour	65%/ 35% ³	48%/ 52% ⁴	50%/ 50% ³	47%/ 53% ³	65%/ 35% ⁵	42%/ 58% ³
Saturday Peak Hour	57%/ 43% ³	41%/ 59% ⁴	50%/ 50% ³	51%/ 49% ³	63%/ 37% ⁵	49%/ 51% ³
Truck Trip Gen (Weekday/ Saturday)	0.06/ 0.02 ¹	0.29/ 0.29 ⁴	0.35/ 0.04 ¹	0.35/ 0.04 ³	3.6/ 3.6 ⁵	0.38/ 0.0 ³
	<i>per DU</i>	<i>per 1,000 SF</i>	<i>per 1,000 SF</i>	<i>per 1,000 SF</i>	<i>per 1,000 SF</i>	<i>per 1,000 SF</i>
Truck Temporal Distribution						
Weekday AM Peak Hour	12% ¹	3% ⁴	8% ¹	8% ³	6% ⁵	6% ³
Weekday MD Peak Hour	9% ¹	11% ⁴	11% ¹	11% ³	6% ⁵	11% ³
Weekday PM Peak Hour	2% ¹	1% ⁴	2% ¹	2% ³	1% ⁵	1% ³
Saturday Peak Hour	9% ¹	0% ⁴	11% ¹	11% ³	0% ⁵	0% ³
Truck Trip Directional Split (In/out)—50%/50%						
Source:						
⁽¹⁾ <i>CEQR Technical Manual</i>						
⁽²⁾ 2012–2016 ACS journey to work data for Queens Census Tracts 797.01, 845, 859, 1201, 1203, and 1205						
⁽³⁾ <i>Willets Point Development FSEIS</i>						
⁽⁴⁾ Medical office rates are based on surveys of a medical facility conducted by the New York City Department of Transportation (DOT)						
⁽⁵⁾ <i>2016 East New York Rezoning FEIS</i>						
⁽⁶⁾ 2006–2010 ACS reverse journey to work data for Queens Census Tracts 797.01, 845, 859, 1201, 1203, and 1205						
⁽⁷⁾ Based on data provided by DOT and New York City Department of City Planning (DCP)						

RESIDENTIAL

For the residential use, trip generation rates of 8.075 daily person trips per DU for the weekday and 9.6 daily person trips per DU for the Saturday, and temporal distributions (10 percent, 5 percent, 11 percent, and 8 percent for the weekday AM, MD, PM, and Saturday peak hours, respectively) were obtained from the *CEQR Technical Manual*. The weekday AM, MD, PM, and Saturday peak hour modal splits of 42.5 percent by auto, 1.9 percent by taxi, 13.7 percent by bus, 30.0 percent by subway, and 11.9 percent by walk, and vehicle occupancies of 1.39 persons per auto or taxi during the peak hours, were obtained from the 2012–2016 ACS journey to work data for Queens census tracts 797.01, 845, 859, 1201, 1203, and 1205. Directional distributions (20 percent “in” for the weekday AM peak hour, 51 percent “in” for the weekday MD peak hour, 65 percent “in” for the weekday PM peak hour, and 57 percent “in” for the Saturday peak hour) were obtained from the *Willels Point Development FSEIS*.

For residential delivery trips, trip generation rates of 0.06 and 0.02 daily truck trips per DU for the weekday and Saturday, respectively, and temporal distributions of 12 percent, 9 percent, 2 percent, and 9 percent for the weekday AM, MD, PM, and Saturday peak hours, respectively, were obtained from the *CEQR Technical Manual*.

MEDICAL OFFICE

Travel demand assumptions used for the medical office use were based on surveys of a medical facility performed by DOT. Trip generation rates of 127 daily person trips per 1,000 sf for the weekday and Saturday, and temporal distributions of 4 percent, 11 percent, 12 percent, and 11 percent were used for the weekday AM, MD, PM, and Saturday peak hours, respectively. The modal splits used were 30 percent by auto, 2 percent by taxi, 33 percent by bus, 18 percent by subway, and 17 percent by walk with vehicle occupancies of 1.50 persons per auto or taxi during the weekday and Saturday peak hours. The directional distributions of 89 percent “in,” 51 percent “in,” 48 percent “in,” and 41 percent “in” were used for the weekday AM, MD, PM, and Saturday peak hours, respectively.

For medical office delivery trips, a trip generation rate of 0.29 daily truck trips per 1,000 sf for the weekday and a temporal distribution of 3 percent, 11 percent, 1 percent, and 0 percent for the weekday AM, MD, and PM peak hours, respectively, were obtained from the DOT survey. It is assumed that no truck trips would be generated for the Saturday peak hour.

LOCAL RETAIL

For the local retail use, trip generation rates of 205 daily person trips per 1,000 sf for the weekday and 240 daily person trips per 1,000 sf for the Saturday, and temporal distributions of 3 percent, 19 percent, 10 percent, and 10 percent for the weekday AM, MD, PM, and Saturday peak hours, respectively, were obtained from the *CEQR Technical Manual*. A linked trip credit of 15 percent was assumed. Vehicle occupancy, modal split, and directional distributions were obtained from the *Willels Point Development FSEIS*. The modal splits of 15 percent by auto, 10 percent by bus, 5 percent by subway, and 70 percent by walk, and vehicle occupancies of 2.00 persons per auto or taxi, were used for all peak hours. The temporal distributions used were 3 percent, 19 percent, 10 percent, and 10 percent for the weekday AM, MD, PM, and the Saturday peak hours, respectively. The directional distributions used were 50 percent “in,” 50 percent “in,” 50 percent “in,” and 50 percent “in” for the weekday AM, MD, PM, and Saturday peak hours, respectively.

For local retail delivery trips, trip generation rates of 0.35 and 0.04 daily truck trips per 1,000 sf for the weekday and Saturday, respectively, and a temporal distribution of 8 percent, 11 percent, 2 percent, and 11 percent for the weekday AM, MD, PM, and Saturday peak hours, respectively, were obtained from the *CEQR Technical Manual*.

DESTINATION RETAIL

For the destination retail use, trip generation rates of 78.2 daily person trips per 1,000 sf for the weekday and 92.5 daily person trips per 1,000 sf for the Saturday, and temporal distributions of 3 percent, 9 percent, 9 percent, and 11 percent for the weekday AM, MD, PM, and Saturday peak hours, respectively, were obtained from the *CEQR Technical Manual*. Assumptions used for the modal splits are based on the 2006–2010 ACS reverse journey to work DCP Planning Special Tabulation Part 3 Table A302103 for Queens census tracts 797.01, 845, 859, 1201, 1203, and 1205, and vehicle occupancies, temporal distributions, and directional distributions were obtained from the *Willets Point Development FSEIS*. The peak hour modal splits are 58 percent by auto, 17 percent by bus, 13 percent by subway, and 12 percent by walk, and a weekday vehicle occupancy of 2.05 persons per auto or taxi and Saturday vehicle occupancy of 2.49 persons per auto or taxi were assumed. Weekday and Saturday temporal distributions are (3 percent, 9 percent, 9 percent, and 11 percent for the weekday AM, MD, PM, and Saturday peak hours, respectively) and directional distributions are (61 percent “in,” 55 percent “in,” 47 percent “in,” and 51 percent “in” for the weekday AM, MD, PM, and Saturday peak hours, respectively).

For destination retail delivery trips, trip generation rates of 0.35 and 0.04 daily truck trips per 1,000 sf for the weekday and Saturday, respectively, and a temporal distribution of 8 percent, 11 percent, 2 percent, and 11 percent for the weekday AM, MD, PM, and Saturday peak hours, respectively, were obtained from the *Willets Point Development FSEIS*.

RESTAURANT

For the restaurant use, trip generation rates of 173 daily person trips per 1,000 sf for weekday, 139 daily person trips per 1,000 sf for Saturday, and the temporal distribution rates of 1 percent, 14 percent, 8 percent, and 12 percent for the weekday AM, MD, PM, and Saturday, respectively, were obtained from the *2016 East New York Rezoning FEIS*. The modal splits and directional distribution were also obtained from the *East New York Rezoning FEIS*. The weekday AM, MD, PM, and Saturday peak hour modal splits of 30 percent by auto, 5 percent by taxi, 15 percent by bus, 15 percent by subway, and 35 percent by walk, and vehicle occupancies of 2.20 persons per auto and 2.30 persons per taxi, were used. Directional distributions are 94 percent “in,” 65 percent “in,” 65 percent “in,” and 63 percent “in” during the weekday AM, MD, PM, and Saturday peak hours, respectively.

For restaurant delivery trips, trip generation rates of 3.6 daily truck trips per 1,000 sf for the weekday and Saturday peak hours, and a temporal distribution of 6 percent, 6 percent, 1 percent, and 0 percent for the weekday AM, MD, PM, and Saturday peak hours, respectively, were obtained from the *CEQR Technical Manual*.

COMMUNITY FACILITY

Trip generation rates and temporal distributions for the community facility use were based on information provided by DOT and DCP. Other travel demand assumptions for the community facility use (modal split, vehicle occupancies, and directional distributions) were obtained from the *Willets Point Development FSEIS*. The trip generation rates of 53.4 daily person trips per

1,000 sf for the weekday and 16.9 daily person trips per 1,000 sf for the Saturday were used. The modal splits of 13 percent by auto, 0.5 percent by taxi, 5 percent by bus, 26 percent by subway, and 55.5 percent by walk, and vehicle occupancies of 1.50 persons per auto or taxi was assumed during all peak hours. Temporal and directional distributions of 6 percent (94 percent “in”), 8 percent (45 percent “in”), 8 percent (42 percent “in”), and 11.8 percent (49 percent “in”) were assumed for the weekday AM, MD, PM, and Saturday peak hours, respectively.

For community facility delivery trips, trip generation rates of 0.38 daily truck trips per 1,000 sf for the weekday, and temporal distributions of 6 percent, 11 percent, and 1 percent for the weekday AM, MD, and PM peak hours, respectively, were obtained from the *Willeys Point Development FSEIS*. It is assumed that no truck trips would be generated for the Saturday peak hour.

LEVEL 1 SCREENING RESULTS

TRAFFIC

As shown in **Table K-4**, below, the incremental hourly vehicle trips generated by the proposed actions would be 159 vehicles per hour (vph) during the weekday AM peak hour, 158 vph in the weekday MD peak hour, 225 vph in weekday PM peak hour, and 212 vph in the Saturday peak hour. Since the incremental volume of vehicle trips generated by the With Action condition would exceed the 50-vehicle trip threshold during all peak hours, a Level 2 trip assignment was conducted to determine if a detailed analysis is necessary.

Table K-4
Trip Generation Summary—Vehicle Trip Increments

Mode	Weekday AM			Weekday MD			Weekday PM			Saturday		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
Proposed Project												
Auto	34	58	92	67	59	126	87	73	160	83	77	160
Taxi	4	4	8	4	4	8	5	5	10	4	4	8
Truck	1	1	2	2	2	4	0	0	0	0	0	0
Total	39	63	102	73	65	138	92	78	170	87	81	168
Lots 1 & 5												
Auto	1	12	13	-19	-5	-24	-5	0	-5	-9	-2	-11
Taxi	1	1	2	-5	-5	-10	-2	-2	-4	-3	-3	-6
Truck	-2	-2	-4	-2	-2	-4	0	0	0	0	0	0
Total	0	11	11	-26	-12	-38	-7	-2	-9	-12	-5	-17
Lot 32												
Auto	10	32	42	27	27	54	36	24	60	31	26	57
Taxi	1	1	2	2	2	4	2	2	4	2	2	4
Truck	1	1	2	0	0	0	0	0	0	0	0	0
Total	12	34	46	29	29	58	38	26	64	33	28	61
Total With Action Increment												
Auto	45	102	147	75	81	156	118	97	215	105	101	206
Taxi	6	6	12	1	1	2	5	5	10	3	3	6
Truck	0	0	0	0	0	0	0	0	0	0	0	0
Total	51	108	159	76	82	158	123	102	225	108	104	212

TRANSIT AND PEDESTRIANS

Transit and pedestrian trips generated by the proposed actions would exceed the CEQR Level 1 screening thresholds for transit and for pedestrians. The Q17, Q25, Q27, and Q34 bus lines

provide service to the proposed project. As shown in **Table K-5** below, the increase in transit trips (bus and subway via bus)¹ would be 220 person trips during the weekday AM peak hour, 230 person trips in the weekday MD peak hour, 315 person trips in the weekday PM peak hour, and 309 person trips in the Saturday peak hour. Although the number of bus trips is above the 200 trip threshold, bus trips would screen out for detailed analysis due to the number of bus options within the development site vicinity. The net increase in pedestrian trips (walk plus transit) is expected to be 380 person trips during the weekday AM peak hour, 804 person trips during the weekday MD peak hour, 682 person trips during the weekday PM peak hour, and 708 person trips during the Saturday peak hour. Since the number of peak hour transit trips and the number of peak hour pedestrian trips expected to be generated by the proposed actions would exceed the CEQR thresholds of 200 transit rider trips per hour for the weekday AM peak hour and 200 pedestrian trips per hour for all peak hours, a Level 2 trip assignment was conducted to determine if a detailed analysis is necessary.

Table K-5
Trip Generation Summary—Person Trip Increments

Mode	Weekday AM			Weekday MD			Weekday PM			Saturday		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
Proposed Project												
Bus	26	29	55	54	50	104	60	54	114	62	63	125
Subway	31	53	84	48	46	94	71	56	127	65	60	125
Walk	38	33	71	92	92	184	76	74	150	78	77	155
Total	155	204	359	317	296	613	355	312	667	366	352	718
Lots 1 & 5												
Bus	-1	7	6	-22	-6	-28	-9	-2	-11	-13	-4	-17
Subway	0	11	11	-27	-11	-38	-8	-3	-11	-13	-5	-18
Walk	6	17	23	4	43	47	3	23	26	1	23	24
Total	3	53	56	-106	3	-103	-38	9	-29	-59	0	-59
Lot 32												
Bus	7	17	24	28	28	56	25	19	44	24	22	46
Subway	9	31	40	21	21	42	32	20	52	26	22	48
Walk	29	37	66	172	171	343	98	93	191	111	109	220
Total	61	134	195	271	269	540	212	172	384	212	197	409
Total With Action Increment												
Bus	32	53	85	60	72	132	76	71	147	73	81	154
Subway	40	95	135	42	56	98	95	73	168	78	77	155
Walk	73	87	160	268	306	574	177	190	367	190	209	399
Total	219	391	610	482	568	1,050	529	493	1,022	519	549	1,068

LEVEL 2 SCREENING (TRIP ASSIGNMENT) RESULTS

The following section details the assumptions used for the Level 2 screening assessment for vehicular traffic, transit and pedestrians.

¹ The closest subway station is approximately 1 mile away from the development site. It is expected that subway trips would take a bus to access subway service.

TRAFFIC

Residential

Residential auto assignments were based on the 2006–2010 ACS Special Tabulation: Census Transportation Planning journey to work data (CTPP Part 3 Table A302103) for Queens census tracts 797.01, 845, 859, 1201, 1203, and 1205. Approximately half of the project-generated vehicle trips (50 percent) were assumed to be destined for other sections of Queens. Of the remaining trips, approximately 25 percent of vehicle trips were assigned to Long Island, 10 percent to Brooklyn and Staten Island, 10 percent to Manhattan, and 5 percent to Connecticut, the Bronx, Westchester, New Jersey, and Pennsylvania.

Approximately 25 percent of the trips were assigned to the north along Kissena Boulevard toward Downtown Flushing, and approximately 40 percent of the trips were assigned to the south along Kissena Boulevard towards the Long Island Expressway and Booth Memorial Avenue. Approximately 15 percent of the trips were assigned toward the east along Holly Avenue. The remaining 20 percent of vehicle trips were assigned toward southbound Main Street via side streets such as Elder Avenue.

Reverse trips are expected to return along the same general routes on which they departed.

Community Facility and Local Retail

The community facility and local retail uses are expected to serve the immediately surrounding area. Therefore, vehicle trips were generally assigned from local origins within a 1-mile radius of the development site based on population densities.

Medical Office/Destination Retail/Restaurant

The medical office, destination retail, and restaurant uses are expected to serve visitors from within Queens; vehicle assignments were based on population densities from the ACS 2012–2016 within a 3-mile radius catchment area, and accounted for geographical locations of the different census tracts. Approximately 40 percent of vehicle trips were assigned to arrive from Kissena Boulevard from the south; these include trips arriving from the Long Island Expressway and Booth Memorial Avenue. Approximately 30 percent of the trips were assigned from the north via Kissena Boulevard. The remaining trips were assigned from side streets to the north and east such as 45th Avenue and Holly Avenue.

Traffic volume increments for the AM, MD, PM, and Saturday peak hours are provided in **Figures K-2 through K-5**.

TRANSIT AND PEDESTRIANS

Transit and pedestrian trips were assigned through the pedestrian network based on logical and direct travel routes to and from the development site from neighborhood attractions, subway stations, and/or bus stops, to determine if the number of additional pedestrian trips generated by the proposed actions would exceed 200 peak-hour pedestrian trips at any single pedestrian element (e.g. crosswalk, sidewalk, corner reservoir area) approaching the site—the threshold for detailed pedestrian analysis.

Bus-generated pedestrian trips were assigned to nearby bus routes traveling along Kissena Boulevard (Q17, Q25, Q27, and Q34). Approximately 90 percent of the bus trips were assigned to the bus stop located at the intersection of Kissena Boulevard and Holly Avenue to the north of







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Project Generated Traffic Volume Increment
Weekday PM Peak Hour

Figure
K-4



the development site; all four aforementioned bus lines have stops at this intersection. The remaining 10 percent of bus trips were assigned to the bus stop located three blocks to the south of the development site at Kissena Boulevard and Negundo Avenue/Mulberry Avenue; service to the Q17, Q25, and Q34 bus lines are provided at this stop.

The closest subway station, the Main Street station, which services the No. 7 subway line, is 1 mile away in Downtown Flushing (an approximately 20-minute walk from the development site). It is expected that the subway trips would take a bus at the intersection of Kissena Boulevard and Holly Avenue to access this subway station.

Walk-only trips were assigned based on the surrounding land uses in the area (i.e. residential walk trips and retail trips were assigned based on surrounding residential density).

Pedestrian volume increments for the AM, MD, PM, and Saturday peak hours are provided in **Figures K-6 through K-9**.

C. TRANSPORTATION ANALYSIS

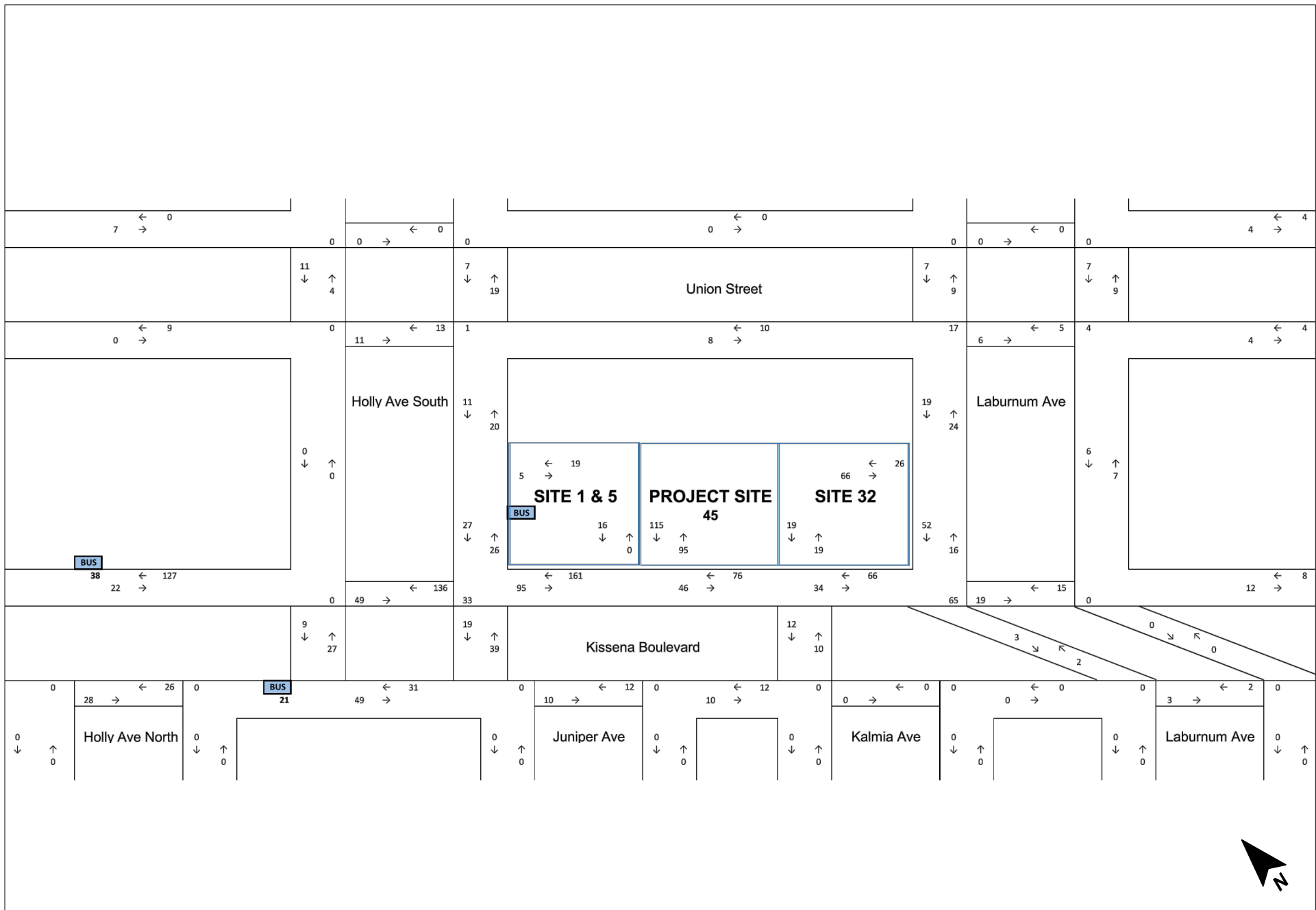
The Level 1 and Level 2 screening assessments show that detailed traffic analyses are needed. Further analysis was conducted using methodologies presented in the *2000 Highway Capacity Manual (HCM)* as detailed in the *CEQR Technical Manual*.

METHODOLOGY

TRAFFIC

Analyses of traffic conditions in urban areas are based on critical conditions at intersections and are defined in terms of levels of service (LOS). According to the *HCM*, LOS at signalized intersections are defined in terms of a vehicle's control delay at the intersection, as follows:

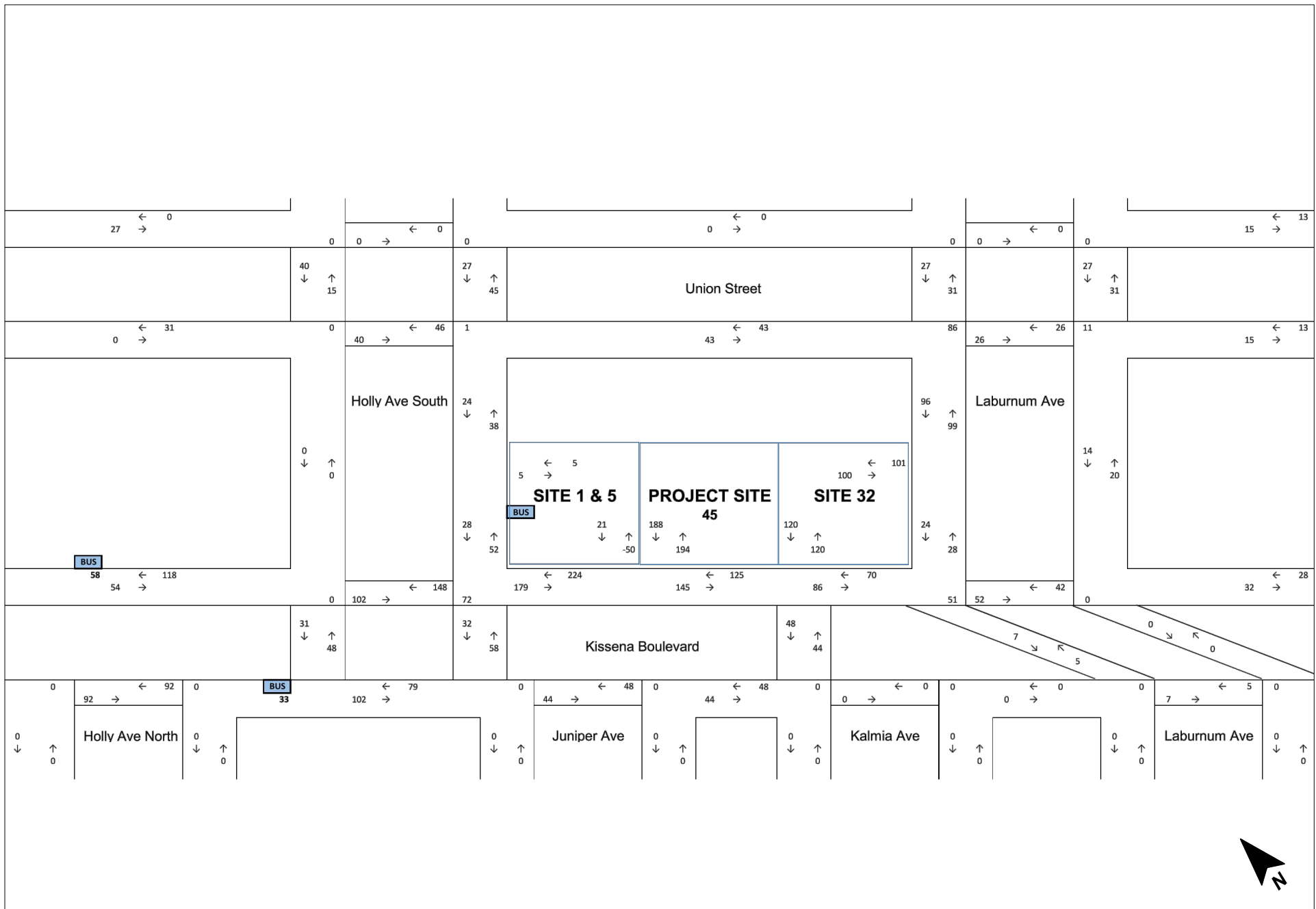
- LOS A describes operations with very low delays, i.e., 10.0 seconds or less per vehicle. This occurs when signal progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all.
- LOS B describes operations with delays in excess of 10.0 seconds up to 20.0 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. Again, most vehicles do not stop at the intersection.
- LOS C describes operations with delays in excess of 20.0 seconds up to 35.0 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. The number of vehicles stopping is noticeable at this level, although many still pass through the intersection without stopping.
- LOS D describes operations with delays in excess of 35.0 seconds up to 55.0 seconds per vehicle. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity (v/c) ratios. Many vehicles stop, and the proportion of vehicles not stopping declines.
- LOS E describes operations with delays in excess of 55.0 seconds up to 80.0 seconds per vehicle. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios.
- LOS F describes operations with delays in excess of 80.0 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with oversaturation,



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Project Generated Pedestrian Volume Increment
Weekday AM Peak Hour

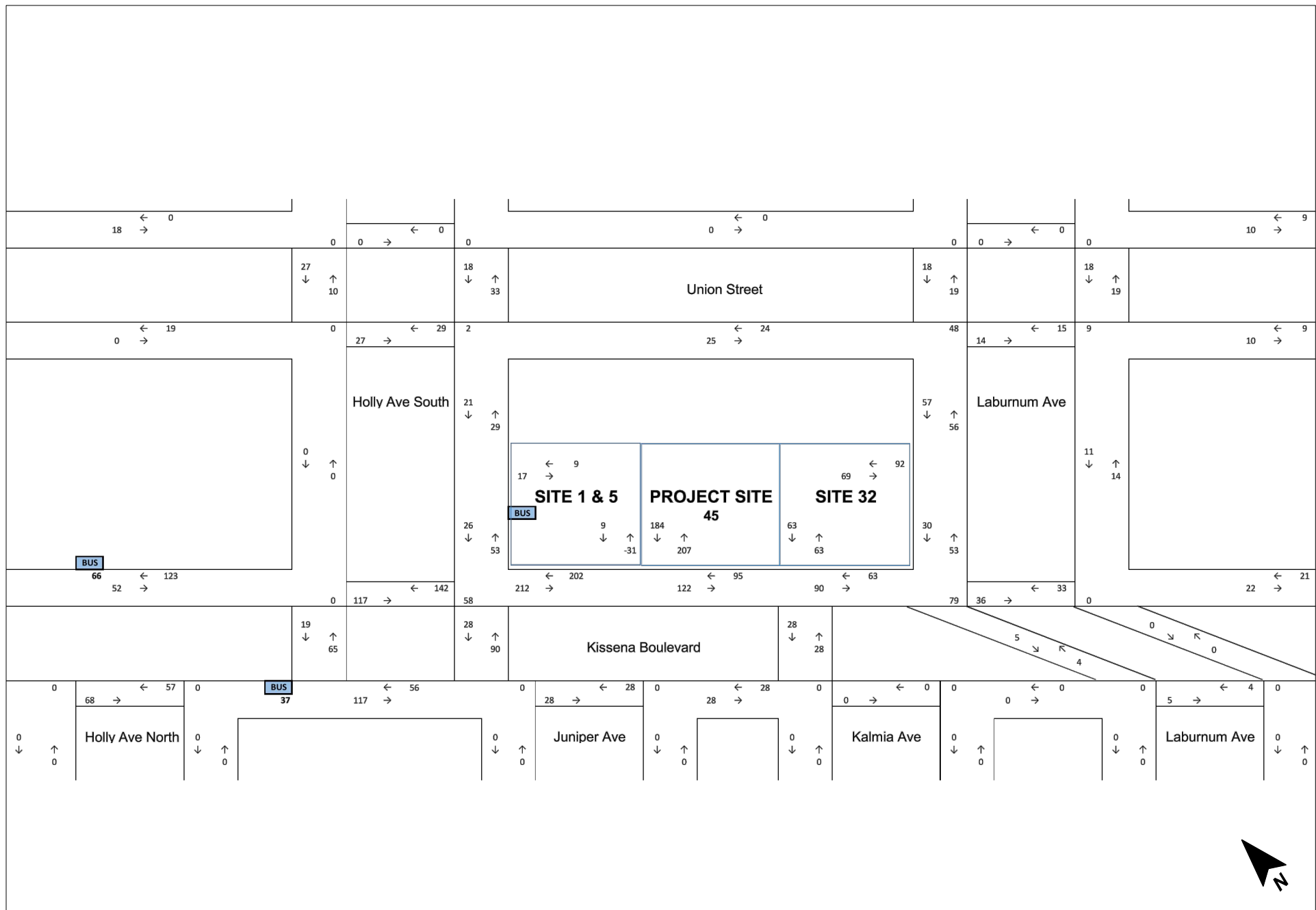
Figure
K-6

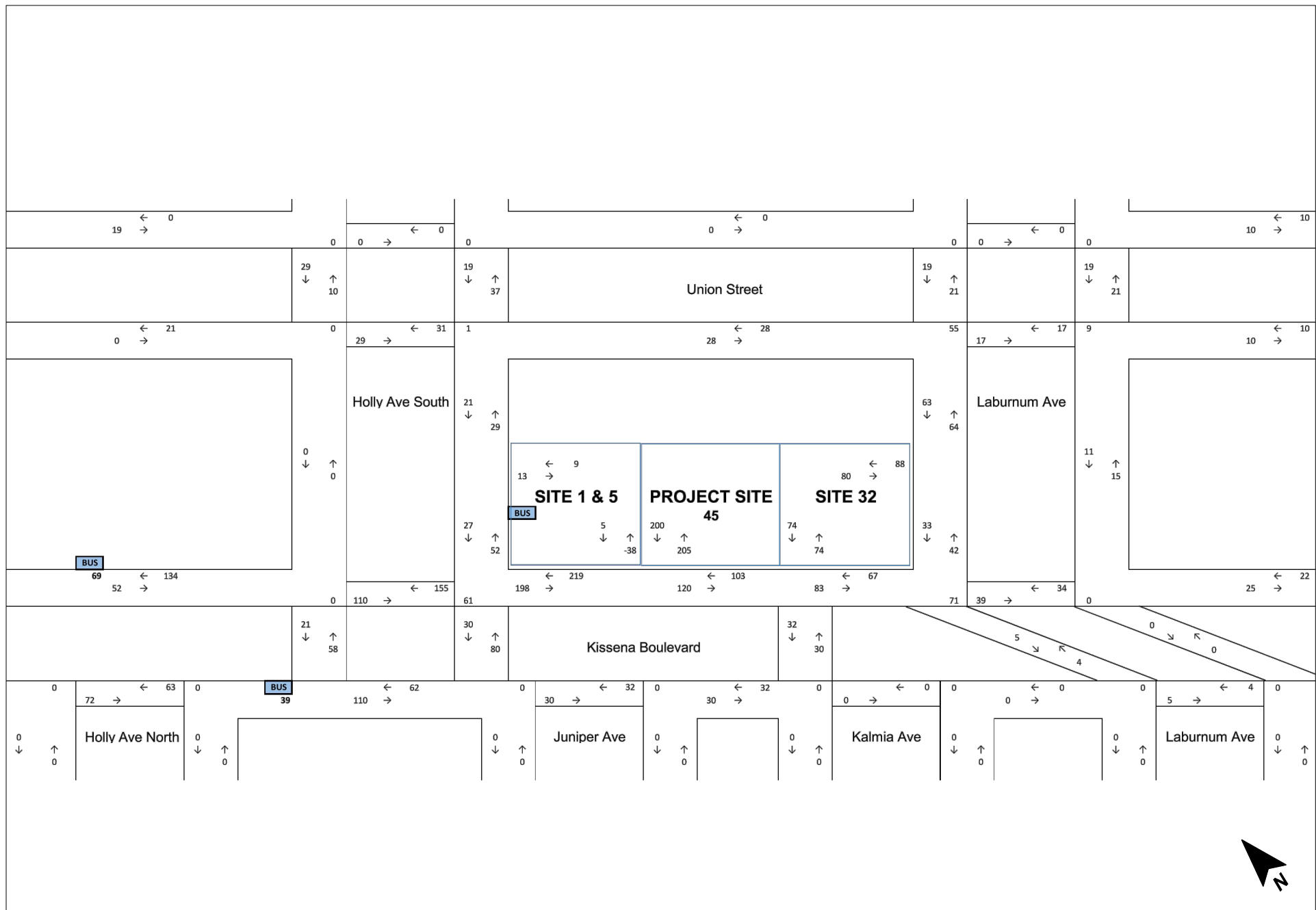


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Project Generated Pedestrian Volume Increment
Weekday Midday Peak Hour

Figure
K-7





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Project Generated Pedestrian Volume Increment
Saturday Peak Hour

Figure
K-9

i.e., when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios with cycle failures. Poor progression and long cycle lengths may also contribute to such delays. Often, vehicles do not pass through the intersection in one signal cycle.

Based on *CEQR Technical Manual* guidelines, LOS A, B, and C are considered acceptable, LOS D is generally considered marginally acceptable up to mid-LOS D (45 seconds of delay for signalized intersections) and unacceptable above mid-LOS D, and LOS E and F indicate congestion. These guidelines are applicable to individual traffic movements and overall intersection levels of service.

For unsignalized intersections, delay is defined as the total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line: LOS A describes operations with very low delay, i.e., 10.0 seconds or less per vehicle; LOS B describes operations with delays in excess of 10.0 seconds up to 15.0 seconds; LOS C has delays in excess of 15.0 seconds up to 25.0 seconds; LOS D, excess of 25.0 seconds up to 35.0 seconds per vehicle; and LOS E, excess of 35.0 seconds up to 50.0 seconds per vehicle, which is considered to be the limit of acceptable delay. LOS F describes operation with delays in excess of 50.0 seconds per vehicle, which is considered unacceptable to most drivers. This condition exists when there are insufficient gaps of suitable size in a major vehicular traffic stream to allow side street traffic to cross safely.

PEDESTRIANS

Analyses of pedestrian conditions in urban areas are based on the time and space available for pedestrians and the levels of service is defined by the average pedestrian space (SFP). The level of service criteria is presented in **Table K-6** below.

Table K-6
Level of Service Criteria for Pedestrian Elements

LOS	Sidewalks		Corner Reservoirs and Crosswalks
	Non-Platoon Flow	Platoon Flow	
A	> 60 SFP	> 530 SFP	> 60 SFP
B	> 40 and ≤ 60 SFP	> 90 and ≤ 530 SFP	> 40 and ≤ 60 SFP
C	> 24 and ≤ 40 SFP	> 40 and ≤ 90 SFP	> 24 and ≤ 40 SFP
D	> 15 and ≤ 24 SFP	> 23 and ≤ 40 SFP	> 15 and ≤ 24 SFP
E	> 8 and ≤ 15 SFP	> 11 and ≤ 23 SFP	> 8 and ≤ 15 SFP
F	≤ 8 SFP	≤ 11 SFP	≤ 8 SFP

Source: *CEQR Technical Manual*

VEHICLE AND PEDESTRIAN SAFETY

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 5 or more pedestrian/bicyclist injury crashes occurred in any consecutive 12 months of the most recent 3-year period for which data are available, or are identified by DOT as being a Vision Zero Corridor or Priority Intersection. For these locations, crash records 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 area 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 DOT.

SIGNIFICANT IMPACT CRITERIA

TRAFFIC

A quantified analysis is needed to determine if a proposed project may result in a significant traffic impact as defined by the *CEQR Technical Manual*. Traffic movements that operate at acceptable levels of service under the No Action condition (45 seconds of delay or less for signalized intersections and 30 seconds of delay or less for unsignalized intersections) that deteriorate to unacceptable levels of service under the With Action condition, and experience an increase in delay in excess of 5 seconds, would be considered a significant impact. These impacted movements would need to be mitigated to acceptable LOS D or better for the impact to be considered mitigated.

For traffic movements operating at unacceptable LOS D under the No Action condition, an increase in delay in excess of 5 seconds under the With Action condition would be considered a significant traffic impact. An increase in delay under the With Action condition in excess of 4 seconds for a traffic movement operating at LOS E, and in excess of 3 seconds for a traffic movement operating at LOS F, would be considered a significant impact. Mitigation measures identified would need to restore the significantly impacted movement to the No Action delay or better.

PEDESTRIANS

The identification of significant pedestrian impacts is dependent on the area type (central business district [CBD] or non-CBD) and is determined by the decrease of time and space available for pedestrians between the No Action and With Action conditions. The *CEQR Technical Manual* identifies significant impacts for the pedestrian sidewalk, crosswalk, and corner elements on a sliding scale detailed below. With Action pedestrian LOS that are considered acceptable (LOS C or better in non-CBD areas, and mid-LOS D or better in CBD areas) would not have a potential for significant impacts.

For sidewalks, the assessment of potential significant impacts is based on a sliding scale formula provided in the *CEQR Technical Manual*. Consideration as to whether pedestrian flow along the sidewalk is platooning or non-platooning, and whether the sidewalk being analyzed is in a CBD or non-CBD condition is necessary.

For sidewalks with non-platoon pedestrian flow, the formula used to determine the decrease in pedestrian space from the No Action to With Action condition that would trigger a significant impact is $Y \geq (X / 9.0) - 0.31$, where Y is the decrease in pedestrian space (sf/p SFP) to be considered a potential significant impact and X is the No Action pedestrian space (sf/p SFP). If the decrease in pedestrian space is greater than Y and the With Action level of service is considered to be unacceptable, the sidewalk is considered to be significantly impacted. For sidewalks with platoon pedestrian flow, the formula to determine if the decrease in pedestrian space would trigger a significant impact is $Y \geq X / (9.5 - 0.321)$. **Table K-7** provides a summary of the sliding scale guidelines provided in the *CEQR Technical Manual*.

For corners and crosswalks, the assessment of potential significant impacts is also based on a sliding scale formula provided in the *CEQR Technical Manual*. The formula used to determine the decrease in pedestrian space from the No Action to With Action condition that would trigger a significant impact is $Y \geq (X / 9.0) - 0.31$, where Y is the decrease in pedestrian space (SFP) to be

Kissena Center

considered a potential significant impact and X is the No Action pedestrian space (SFP). If the decrease in pedestrian space is greater than Y and the With Action level of service is considered to be unacceptable, the corner or crosswalk is considered to be significantly impacted. **Table K-8** provides a summary of the sliding scale guidelines provided in the *CEQR Technical Manual*.

Table K-7
Significant Impact Criteria for Sidewalks

Non-Platoon Flow				Platoon Flow			
Non-CBD Areas		CBD Areas		Non-CBD Areas		CBD Areas	
No Action Ped Space (SFP)	With Action Ped Space Reduction (SFP)	No Action Ped Space (SFP)	With Action Ped Space Reduction (SFP)	No Action Ped Space (SFP)	With Action Ped Space Reduction (SFP)	No Action Ped Space (SFP)	With Action Ped Space Reduction (SFP)
>26.6	With Action condition < 24.0	>21.5	With Action condition < 19.5	>44.3	With Action condition < 40.0	>39.2	With Action condition < 31.5
25.8 to 26.6	≥ 2.6	21.3 to 21.5	≥ 2.1	43.5 to 44.3	≥ 4.3	38.7 to 39.2	≥ 3.8
24.9 to 25.7	≥ 2.5	20.4 to 21.2	≥ 2.0	42.5 to 43.4	≥ 4.2	37.8 to 38.6	≥ 3.7
24.0 to 24.8	≥ 2.4	19.5 to 20.3	≥ 1.9	41.6 to 42.4	≥ 4.1	36.8 to 37.7	≥ 3.6
23.1 to 23.9	≥ 2.3	18.6 to 19.4	≥ 1.8	40.6 to 41.5	≥ 4.0	35.9 to 36.7	≥ 3.5
22.2 to 23.0	≥ 2.2	17.7 to 18.5	≥ 1.7	39.7 to 40.5	≥ 3.9	34.9 to 35.8	≥ 3.4
21.3 to 22.1	≥ 2.1	16.8 to 17.6	≥ 1.6	38.7 to 39.6	≥ 3.8	34.0 to 34.8	≥ 3.3
20.4 to 21.2	≥ 2.0	15.9 to 16.7	≥ 1.5	37.8 to 38.6	≥ 3.7	33.0 to 33.9	≥ 3.2
19.5 to 20.3	≥ 1.9	15.0 to 15.8	≥ 1.4	36.8 to 37.7	≥ 3.6	32.1 to 32.9	≥ 3.1
18.6 to 19.4	≥ 1.8	14.1 to 14.9	≥ 1.3	35.9 to 36.7	≥ 3.5	31.1 to 32.0	≥ 3.0
17.7 to 18.5	≥ 1.7	13.2 to 14.0	≥ 1.2	34.9 to 35.8	≥ 3.4	30.2 to 31.0	≥ 2.9
16.8 to 17.6	≥ 1.6	12.3 to 13.1	≥ 1.1	34.0 to 34.8	≥ 3.3	29.2 to 30.1	≥ 2.8
15.9 to 16.7	≥ 1.5	11.4 to 12.2	≥ 1.0	33.0 to 33.9	≥ 3.2	28.3 to 29.1	≥ 2.7
15.0 to 15.8	≥ 1.4	10.5 to 11.3	≥ 0.9	32.1 to 32.9	≥ 3.1	27.3 to 28.2	≥ 2.6
14.1 to 14.9	≥ 1.3	9.6 to 10.4	≥ 0.8	31.1 to 32.0	≥ 3.0	26.4 to 27.2	≥ 2.5
13.2 to 14.0	≥ 1.2	8.7 to 9.5	≥ 0.7	30.2 to 31.0	≥ 2.9	25.4 to 26.3	≥ 2.4
12.3 to 13.1	≥ 1.1	7.8 to 8.6	≥ 0.6	29.2 to 30.1	≥ 2.8	24.5 to 25.3	≥ 2.3
11.4 to 12.2	≥ 1.0	6.9 to 7.7	≥ 0.5	28.3 to 29.1	≥ 2.7	23.5 to 24.4	≥ 2.2
10.5 to 11.3	≥ 0.9	6.0 to 6.8	≥ 0.4	27.3 to 28.2	≥ 2.6	22.6 to 23.4	≥ 2.1
9.6 to 10.4	≥ 0.8	5.1 to 5.9	≥ 0.3	26.4 to 27.2	≥ 2.5	21.6 to 22.5	≥ 2.0
8.7 to 9.5	≥ 0.7	< 5.1	≥ 0.2	25.4 to 26.3	≥ 2.4	20.7 to 21.5	≥ 1.9
7.8 to 8.6	≥ 0.6	—	—	24.5 to 25.3	≥ 2.3	19.7 to 20.6	≥ 1.8
6.9 to 7.7	≥ 0.5	—	—	23.5 to 24.4	≥ 2.2	18.8 to 19.6	≥ 1.7
6.0 to 6.8	≥ 0.4			22.6 to 23.4	≥ 2.1	17.8 to 18.7	≥ 1.6
5.1 to 5.9	≥ 0.3			21.6 to 22.5	≥ 2.0	16.9 to 17.7	≥ 1.5
< 5.1	≥ 0.2			20.7 to 21.5	≥ 1.9	15.9 to 16.8	≥ 1.4
				19.7 to 20.6	≥ 1.8	15.0 to 15.8	≥ 1.3
				18.8 to 19.6	≥ 1.7	14.0 to 14.9	≥ 1.2
				17.8 to 18.7	≥ 1.6	13.1 to 13.9	≥ 1.1
				16.9 to 17.7	≥ 1.5	12.1 to 13.0	≥ 1.0
				15.9 to 16.8	≥ 1.4	11.2 to 12.0	≥ 0.9
				15.0 to 15.8	≥ 1.3	10.2 to 11.1	≥ 0.8
				14.0 to 14.9	≥ 1.2	9.3 to 10.1	≥ 0.7
				13.1 to 13.9	≥ 1.1	8.3 to 9.2	≥ 0.6
				12.1 to 13.0	≥ 1.0	7.4 to 8.2	≥ 0.5
				11.2 to 12.0	≥ 0.9	6.4 to 7.3	≥ 0.4
				10.2 to 11.1	≥ 0.8	< 6.4	≥ 0.3
				9.3 to 10.1	≥ 0.7		
				8.3 to 9.2	≥ 0.6		
				7.4 to 8.2	≥ 0.5		
				6.4 to 7.3	≥ 0.4		
				< 6.4	≥ 0.3		

Source: CEQR Technical Manual

Table K-8

Significant Impact Criteria for Corners and Crosswalks

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

Source: CEQR Technical Manual

ROADWAY NETWORK AND STUDY AREA

The traffic study area encompasses 12 intersections (6 signalized and 6 unsignalized) as shown in **Figure K-10** and listed below:

1. Kissena Boulevard and Elder Avenue
2. Kissena Boulevard and 45th Avenue
3. Kissena Boulevard and Holly Avenue (north) (unsignalized)
4. Kissena Boulevard and Holly Avenue (south)
5. Kissena Boulevard and Juniper Avenue (unsignalized)
6. Kissena Boulevard and Kalmia Avenue (unsignalized)
7. Kissena Boulevard and Laburnum Avenue
8. Kissena Boulevard and Booth Memorial Avenue
9. Kissena Boulevard and Negundo Avenue (unsignalized)
10. Kissena Boulevard and Oak Avenue
11. Union Street and Holly Avenue (unsignalized)
12. Union Street and Laburnum Avenue (unsignalized)



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● Traffic Analysis Locations

Figure
K-10

KISSENA BOULEVARD

Kissena Boulevard is the key north-south roadway along the central portion of Queens, extending from Parsons Boulevard and 75th Avenue from the south to Main Street and 41st Avenue to the north. Within the study area, Kissena Boulevard consists of one travel lane in each direction although in specific segments, Kissena Boulevard is wide enough to operate as two travel lanes in each direction. Parking is allowed in both directions. Multiple local bus lines operate along this roadway within the vicinity of the development site such as the Q17, Q25, Q27, and Q34.

HOLLY AVENUE

Holly Avenue extends east-west from Parsons Boulevard to Colden Street. East of Kissena Boulevard, this roadway generally consists of one travel lane with parking in each direction. West of Kissena Boulevard, Holly Avenue is a one-way eastbound roadway with parking on both sides.

LABURNUM AVENUE

Laburnum Avenue extends east-west from Pidgeon Meadow Road to Colden Street. It generally has one travel lane with parking in each direction.

EXISTING CONDITIONS

TRAFFIC

Traffic Volumes

Existing traffic counts were conducted in April 2017 for the weekday AM, MD, PM, and Saturday peak periods using manual turning movement counts and 24-hour Automatic Traffic Recorder (ATR) machine counts. Additional turning movement counts were conducted in May 2018 at the intersections of Kissena Boulevard with Elder Avenue, Negundo Avenue, and Oak Avenue, and were verified using ATR machine counts. These volumes were used along with observations of traffic conditions to determine the levels of service for the weekday peak hours of 7:45 AM to 8:45 AM, 11:30 AM to 12:30 PM, 5:30 PM to 6:30 PM, and the Saturday peak hour of 12:00 PM to 1:00 PM.

Traffic volumes along northbound Kissena Boulevard between Oak Avenue and Elder Avenue range between approximately 400 vph to 575 vph during the peak hours analyzed. Southbound Kissena Boulevard in this section carries between approximately 275 vph to 425 vph during the weekday AM peak hour, approximately 350 vph to 450 vph during the weekday MD peak hour, and approximately 425 vph to 575 vph during the weekday PM and Saturday peak hours.

Kissena Boulevard traffic volumes further south at Booth Memorial Avenue are higher. Northbound Kissena Boulevard traffic volumes range between 550 vph and 725 vph during the weekday AM peak hour, approximately 500 vph to 700 vph during the weekday MD peak hour, and approximately 550 vph and 825 vph during the weekday PM and Saturday peak hours. Southbound Kissena Boulevard traffic volumes along this section range between 475 vph and 875 vph during the weekday AM and PM peak hours, approximately 500 vph and 675 vph during the weekday MD peak hour, and approximately 525 vph and 825 vph during the Saturday peak hour.

Holly Avenue between Kissena Boulevard and Union Street carries approximately 125 vph to 175 vph in each direction during the peak hours analyzed. Traffic volumes along Holly Avenue between Colden Street and Kissena Boulevard are no higher than 50 vph during the peak hours analyzed.

Traffic volumes along Laburnum Avenue between Kissena Boulevard and Union Street range between 75 vph to 175 vph during the peak hours analyzed. West of Kissena Boulevard, eastbound Laburnum Avenue carries approximately 50 vph to 75 vph and westbound Laburnum Avenue carries approximately 25 vph during the peak hours analyzed.

Existing traffic volumes are provided in **Figures K-11 through K-14**.

Levels of Service

Tables K-9 and K-10 provide an overview of levels of service that characterize existing “overall” intersection conditions and individual traffic movements, respectively, during the weekday AM, MD, PM, and Saturday peak hours. Detailed existing conditions traffic levels of service are provided in **Table K-11**.

Table K-9
2017 Existing Traffic Levels of Service—Overall Intersections

	Weekday AM Peak Hour	Weekday MD Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour
Intersections at Overall LOS A/B/C	9	11	10	11
Intersections at Overall LOS D	3	1	2	1
Intersections at Overall LOS E	0	0	0	0
Intersections at Overall LOS F	0	0	0	0

Note: Includes six signalized and six unsignalized intersections

Table K-10
2017 Existing Traffic Levels of Service—Traffic Movements

	Weekday AM Peak Hour	Weekday MD Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour
Traffic Movements at Overall LOS A/B/C or Acceptable LOS D	35	39	36	38
Traffic Movements at Unacceptable LOS D	3	1	2	2
Traffic Movements at Overall LOS E	2	0	1	0
Traffic Movements at Overall LOS F	3	2	3	2
Number of individual traffic movements	43	42	42	42

Note:

The number of movements may vary between peak hours due to turn prohibitions, parking regulations, or the presence of de facto left turn movements.

The summary overview of existing conditions indicates that:

- During the weekday AM peak hour, none of the 12 intersections operate at overall LOS E or F. “Overall” LOS E or F means that serious congestion exists—either one specific traffic movement has severe delays, or two or more of the specific traffic movements at the intersections are at LOS E or F with significant delays (the overall intersection level of service is a weighted average of all the individual traffic movements). Five individual traffic movements out of approximately 43 such movements analyzed operate at LOS E or F (e.g., left turns from one street to another, through traffic passing through the intersections, etc.), while three movements operate at unacceptable LOS D.

TABLE K-11 - TRAFFIC LEVELS OF SERVICE
Kissena Boulevard Development
2017 EXISTING CONDITION

Intersection & Approach		Weekday AM Peak Hour				Weekday Midday Peak Hour				Weekday PM Peak Hour				Saturday Peak Hour			
		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
Signalized Intersections																	
Kissena Boulevard and Elder Avenue																	
Elder Avenue	WB	L	0.64	36.8	D	L	0.47	27.0	C	L	0.50	27.0	C	L	0.55	28.9	C
		R	0.64	38.7	D	R	0.38	25.6	C	R	0.55	28.9	C	R	0.48	28.0	C
Kissena Boulevard	NB	DefL	0.50	16.3	B	-	-	-	-	-	-	-	-	-	-	-	-
		T	0.76	23.8	C	LT	0.70	23.3	C	LT	0.73	25.1	C	LT	0.83	31.3	C
	SB	TR	0.57	16.1	B	TR	0.49	18.0	B	TR	0.78	27.9	C	TR	0.60	20.7	C
Overall Intersection	-		0.72	24.4	C	-	0.62	22.5	C	-	0.68	27.0	C	-	0.72	26.9	C
Kissena Boulevard and 45th Avenue																	
45th Avenue	WB	LTR	0.92	57.9	E	LTR	0.68	34.2	C	LTR	0.71	35.9	D	LTR	0.79	42.8	D
Kissena Boulevard	NB	L	0.24	16.6	B	L	0.28	17.7	B	L	0.27	17.6	B	L	0.13	14.6	B
		TR	0.94	50.8	D	TR	0.74	28.4	C	TR	0.84	35.3	D	TR	0.81	32.7	C
	SB	L	0.54	25.6	C	L	0.26	16.9	B	L	0.64	27.7	C	L	0.34	18.6	B
		TR	0.85	34.9	C	TR	0.82	33.3	C	TR	0.89	37.5	D	TR	0.74	27.2	C
Overall Intersection	-		0.94	44.4	D	-	0.76	30.2	C	-	0.83	34.6	C	-	0.80	31.8	C
Kissena Boulevard and Holly Avenue South																	
Holly Avenue South	WB	LR	0.45	26.4	C	LR	0.32	23.7	C	LR	0.34	23.9	C	LR	0.39	24.6	C
Kissena Boulevard	NB	TR	0.87	36.9	D	TR	0.91	40.0	D	TR	0.93	42.6	D	TR	0.86	32.9	C
	SB	L	0.74	46.5	D	L	0.36	21.5	C	L	0.59	31.7	C	L	0.41	22.8	C
		T	0.88	42.2	D	T	0.78	31.4	C	T	0.93	48.8	D	T	0.88	40.6	D
Overall Intersection	-		0.69	38.1	D	-	0.65	33.9	C	-	0.68	41.6	D	-	0.67	34.0	C
Kissena Boulevard and Laburnum Avenue																	
Laburnum Avenue	EB	LTR	0.14	18.4	B	LTR	0.13	18.3	B	LTR	0.12	18.1	B	LTR	0.16	18.6	B
	WB	LTR	0.38	22.5	C	LTR	0.28	20.6	C	LTR	0.24	19.9	B	LTR	0.49	25.4	C
Kissena Boulevard	NB	LTR	0.72	23.1	C	LTR	0.71	22.3	C	LTR	0.76	25.0	C	LTR	0.80	26.4	C
	SB	LTR	0.66	18.4	B	LTR	0.60	18.6	B	LTR	0.73	19.9	B	LTR	0.82	24.2	C
Overall Intersection	-		0.57	21.0	C	-	0.52	20.6	C	-	0.53	22.2	C	-	0.68	25.0	C
Kissena Boulevard and Oak Avenue																	
Oak Avenue	EB	LTR	0.44	26.6	C	LTR	0.21	20.5	C	LTR	0.40	29.6	C	LTR	0.34	22.5	C
	WB	LR	0.16	22.3	C	LR	0.08	19.1	B	LR	0.16	25.9	C	LR	0.16	20.1	C
Kissena Boulevard	NB	TR	0.53	15.1	B	TR	0.57	17.5	B	TR	0.47	11.2	B	TR	0.62	18.6	B
	SB	LT	0.61	16.7	B	LT	0.57	17.4	B	LT	0.54	12.1	B	LT	0.73	20.5	C
Overall Intersection	-		0.55	18.0	B	-	0.42	17.8	B	-	0.50	14.6	B	-	0.57	20.0	B
Kissena Boulevard and Booth Memorial Avenue																	
Booth Memorial Parkway	EB	L	1.05	131.7	F	L	0.49	28.8	C	L	0.98	82.9	F	L	0.77	50.1	D
		TR	0.83	40.0	D	TR	0.47	25.0	C	TR	0.89	46.0	D	TR	0.77	35.5	D
	WB	L	0.13	20.5	C	L	0.06	18.8	B	L	0.04	18.8	B	L	0.09	19.6	B
		TR	1.00	65.3	E	TR	0.68	31.3	C	TR	0.72	33.2	C	TR	0.79	37.8	D
Kissena Boulevard	NB	LTR	0.86	40.1	D	LTR	0.85	39.3	D	LTR	0.80	34.3	C	LTR	0.82	35.1	D
	SB	LTR	0.99	49.6	D	LTR	0.98	48.6	D	LTR	1.05	67.6	E	LTR	0.99	49.4	D
Overall Intersection	-		1.02	52.4	D	-	0.85	38.8	D	-	1.03	51.9	D	-	0.91	41.5	D
Unsignalized Intersections																	
Kissena Boulevard and Holly Avenue North																	
Holly Avenue North	EB	LR	-	13.7	B	LR	-	13.8	B	LR	-	14.7	B	LR	-	15.0	B
Kissena Boulevard	NB	T	-	-	-	T	-	-	-	T	-	-	-	T	-	-	-
Overall Intersection	-	-		0.7	A	-	-	0.5	A	-	-	0.3	A	-	-	0.9	A
Kissena Boulevard and Juniper Avenue																	
Juniper Avenue Driveway	WB	L	-	117.7	F	L	-	56.4	F	L	-	63.1	F	L	-	59.1	F
		TR	-	31.1	D	TR	-	23.0	C	TR	-	31.7	D	TR	-	18.2	C
Kissena Boulevard	NB	LT	-	9.0	A	LT	-	9.2	A	LT	-	10.5	B	LT	-	9.3	A
Overall Intersection	-	-		15.3	C	-	-	10.6	B	-	-	12.1	B	-	-	9.2	A

TABLE K-11 - TRAFFIC LEVELS OF SERVICE
Kissena Boulevard Development
2017 EXISTING CONDITION

INTERSECTION & APPROACH		Weekday AM Peak Hour				Weekday Midday Peak Hour				Weekday PM Peak Hour				Saturday Peak Hour			
		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
Kissena Boulevard and Kalmia Avenue																	
Kalmia Avenue	EB	LTR	-	65.8	F	LTR	-	121.7	F	LTR	-	188.7	F	LTR	-	111.7	F
Kissena Boulevard	NB	LTR	-	8.5	A	LTR	-	8.4	A	LTR	-	8.8	A	LTR	-	8.9	A
	SB	LTR	-	16.9	C	LTR	-	17.9	C	LTR	-	16.7	C	LTR	-	22.7	C
Overall Intersection		-	-	13.7	B	-	-	16.5	C	-	-	19.1	C	-	-	18.0	C
Union Street and Holly Avenue																	
Holly Avenue	EB	LT	-	9.0	A	LT	-	7.8	A	LT	-	8.3	A	LT	-	8.6	A
Union Street	NB	LTR	-	20.7	C	LTR	-	12.5	B	LTR	-	16.4	C	LTR	-	14.0	B
Overall Intersection		-	-	7.0	A	-	-	5.7	A	-	-	5.8	A	-	-	5.9	A
Union Street and Laburnum Avenue																	
Holly Avenue	EB	LT	-	7.9	A	LT	-	7.7	A	LT	-	7.6	A	LT	-	7.8	A
Union Street	NB	LTR	-	11.2	B	LTR	-	11.2	B	LTR	-	11.6	B	LTR	-	10.8	B
Overall Intersection		-	-	3.8	A	-	-	5.3	A	-	-	4.8	A	-	-	3.9	A
Kissena Boulevard and Negundo Avenue																	
Negundo Avenue	EB	LTR	-	14.8	B	LTR	-	19.5	C	LTR	-	25.7	D	LTR	-	32.8	D
	WB	LTR	-	11.5	B	LTR	-	11.3	B	LTR	-	28.4	D	LTR	-	28.1	D
Kissena Boulevard	NB	LTR	-	8.4	A	LTR	-	8.5	A	LTR	-	8.9	A	LTR	-	8.8	A
	SB	LTR	-	9.4	A	LTR	-	8.6	A	LTR	-	8.7	A	LTR	-	9.1	A
Overall Intersection		-	-	9.0	A	-	-	8.8	A	-	-	9.6	A	-	-	9.9	A

- (1) Control delay is measured in seconds per vehicle.
(2) Overall intersection V/C ratio is the critical lane groups' V/C ratio.



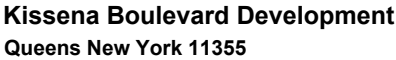


Figure K-12





Kissena Boulevard Development
Queens New York 11355

2017 Existing Traffic Volumes
Saturday Peak Hour

Figure
K-14

Kissena Center

- In the weekday MD peak hour, all 12 intersections operate at overall acceptable levels of service. Two individual movements operate at LOS E or F, while one movement operates at unacceptable LOS D.
- In the weekday PM peak hour, 11 intersections operate at overall acceptable levels of service and one intersection would operate at unacceptable LOS D. Four individual movements operate at LOS E or F, and two movements operate at unacceptable LOS D.
- In the Saturday peak hour, all 12 intersections operate at overall acceptable levels of service. Two individual movements operate at LOS E or F, and two movements operate at unacceptable LOS D.

Based on the analysis results, the majority of traffic movements would operate at acceptable levels of service. The following movements would operate at unacceptable LOS E or F during at least one peak hour:

- Kissena Boulevard and 45th Avenue westbound approach (weekday AM peak hour)
- Kissena Boulevard and Booth Memorial Avenue eastbound left turn movement (weekday AM and PM peak hours)
- Kissena Boulevard and Booth Memorial Avenue westbound through-right movement (weekday AM peak hour)
- Kissena Boulevard and Booth Memorial Avenue southbound approach (weekday PM peak hour)
- Kissena Boulevard and Juniper Avenue westbound left turn movement (weekday AM, MD, PM, and Saturday peak hours)
- Kissena Boulevard and Kalmia Avenue eastbound approach (weekday AM, MD, PM, and Saturday peak hours)

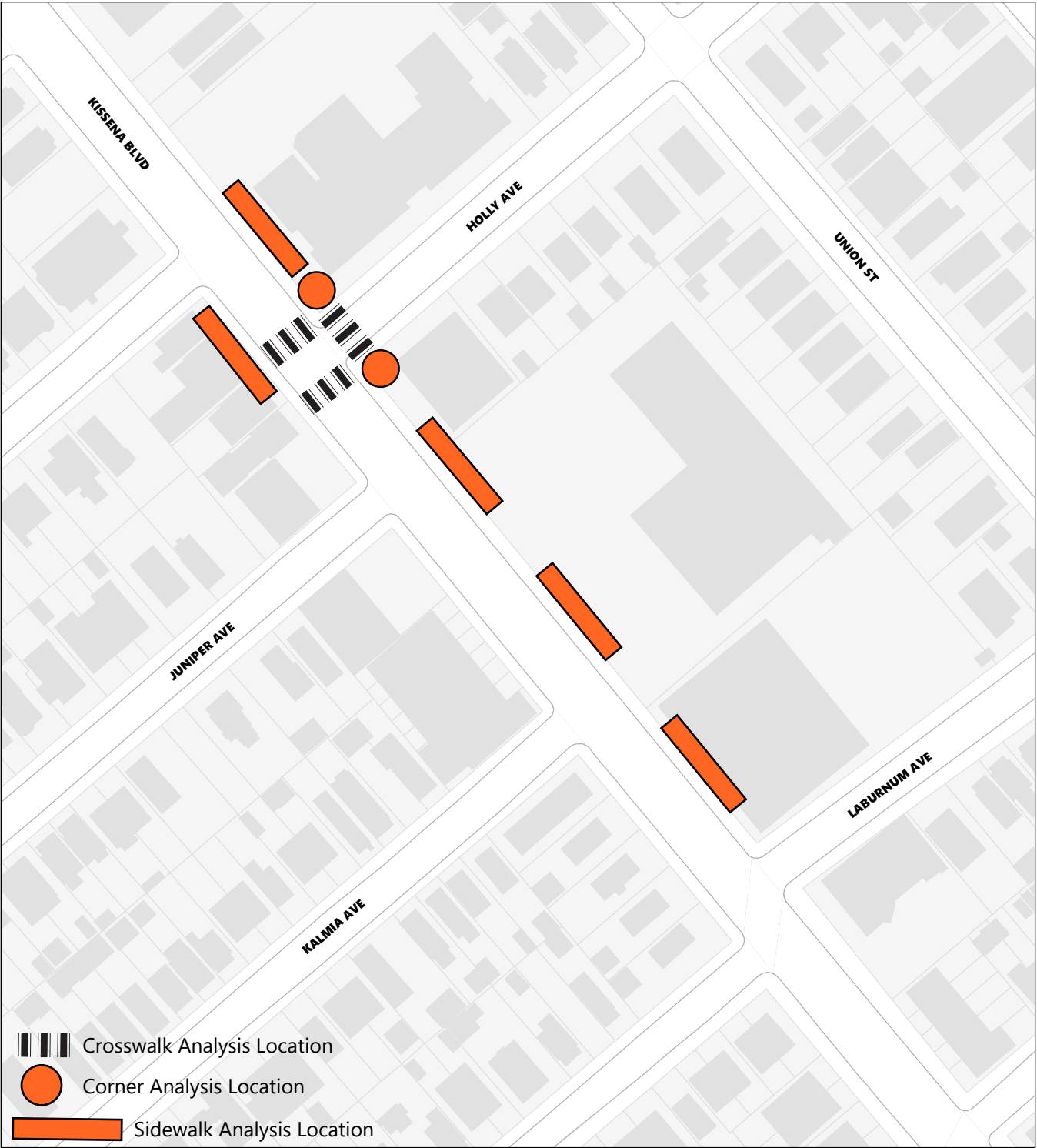
PEDESTRIAN

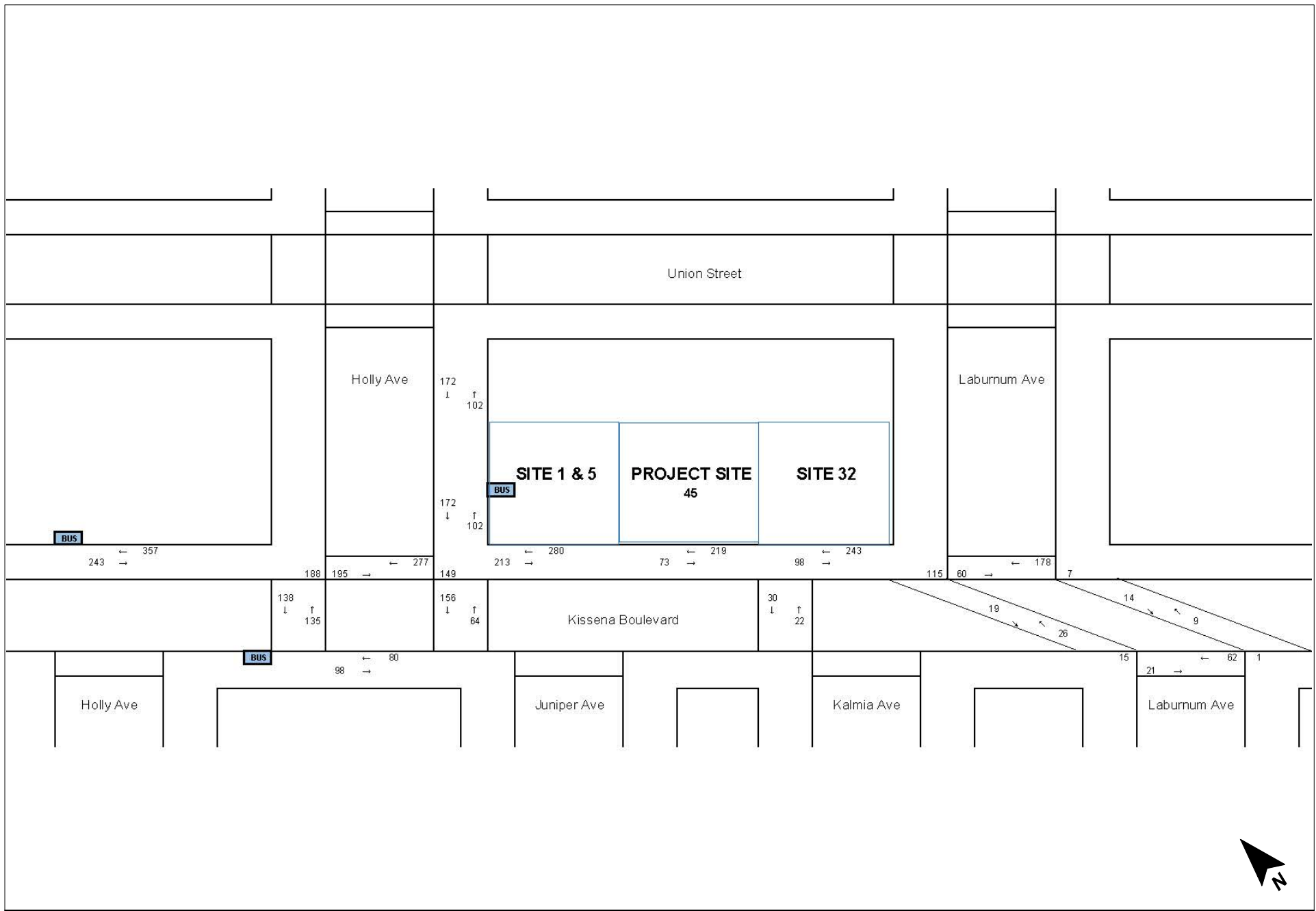
The pedestrian study area encompasses 10 pedestrian elements (5 sidewalk elements, 3 crosswalk elements, and 2 corner elements) surrounding the development site. These pedestrian elements are listed below and are shown in **Figure K-15**.

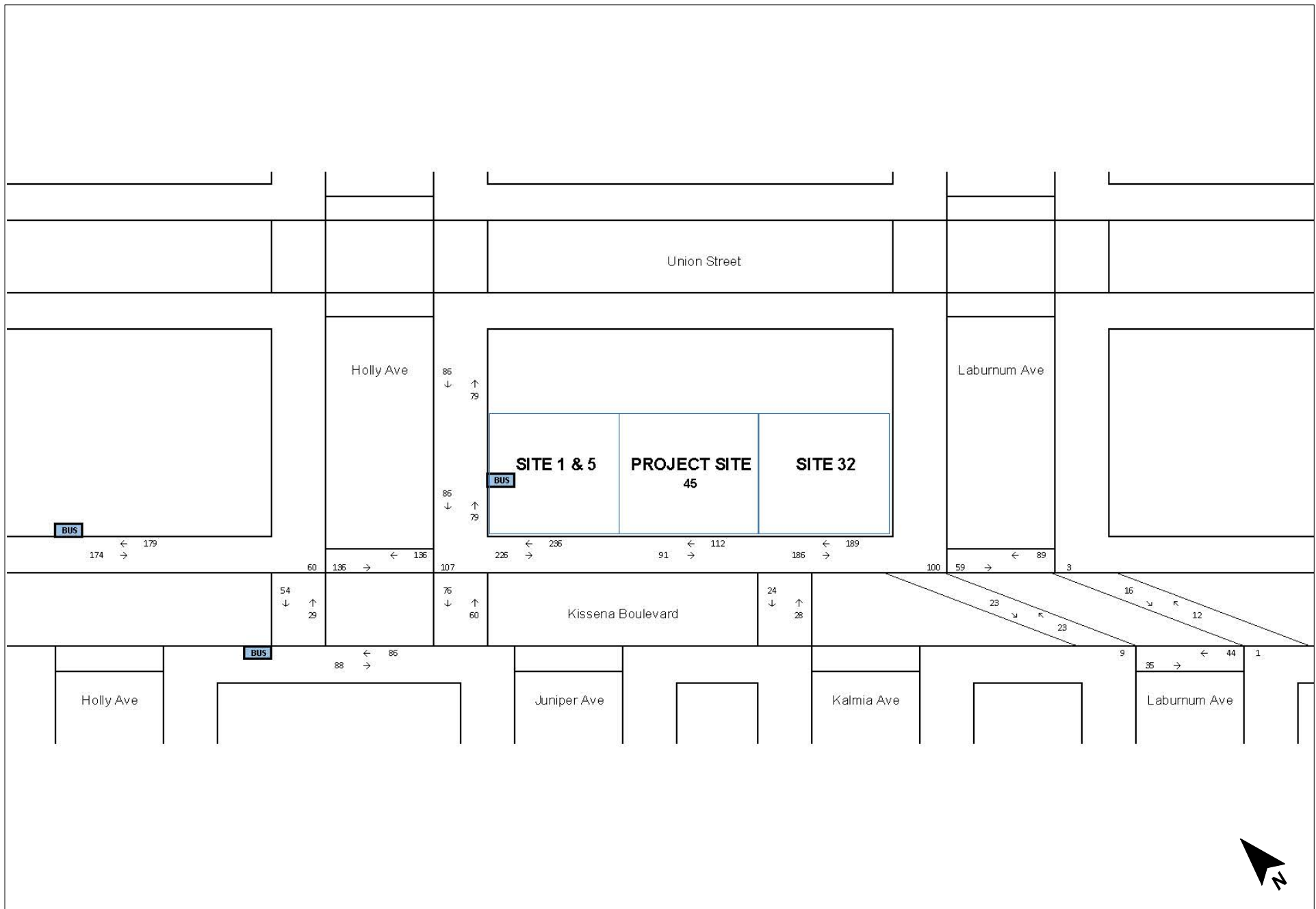
- Kissena Boulevard and Holly Avenue (south)—north, east, and south crosswalks, and northeast and southeast corners
- East and west sidewalks of Kissena Boulevard between Holly Avenue (north) and Holly Avenue (south)
- East sidewalk of Kissena Boulevard between Holly Avenue (south) and Juniper Avenue, Juniper Avenue and Kalmia Avenue, and Kalmia and Laburnum Avenue (analyzed separately)

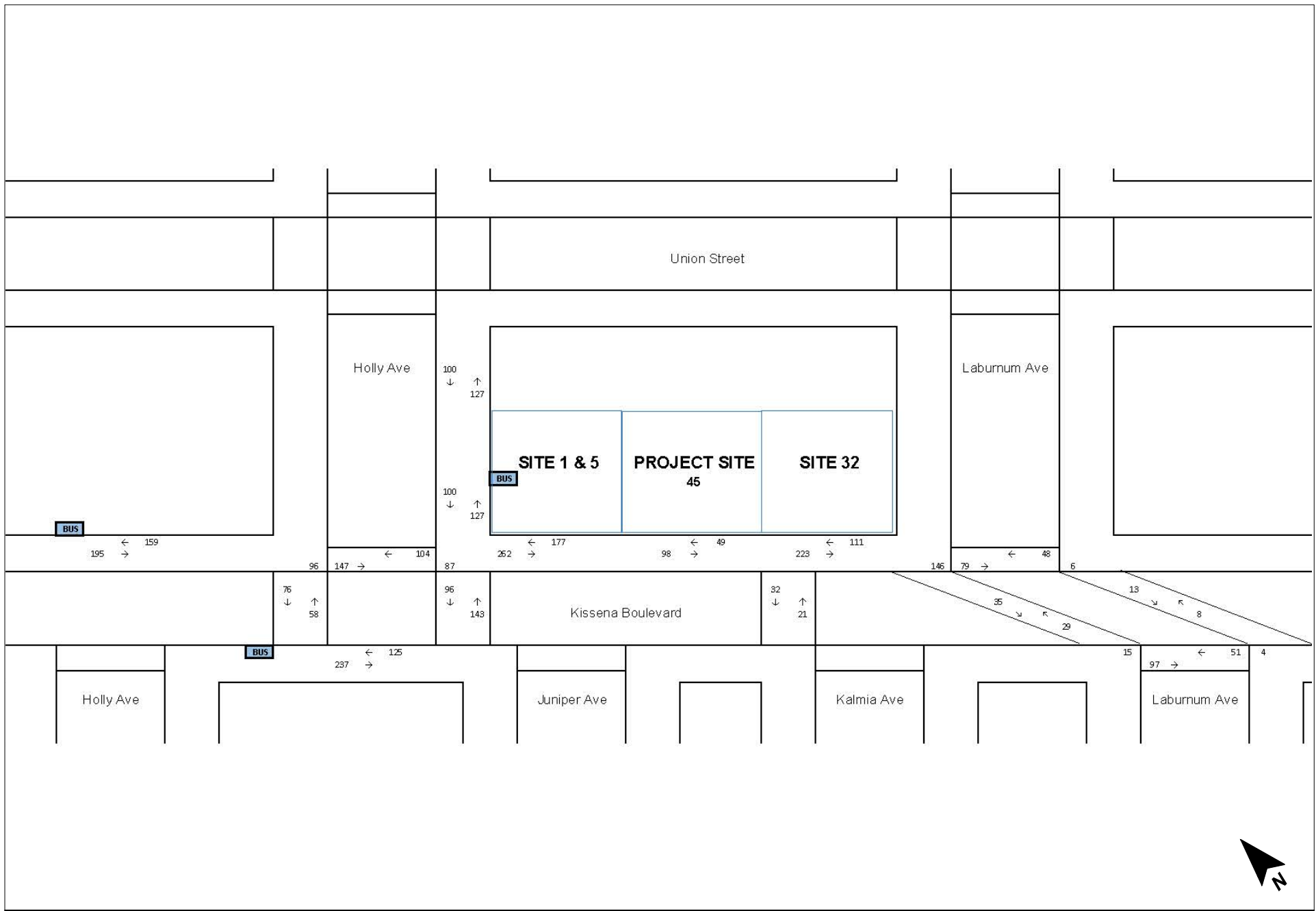
Existing pedestrian volume counts were conducted in April 2017 for the weekday AM, MD, PM, and Saturday peak hours. The weekday peak hours of 7:45 AM to 8:45 AM, 11:30 AM to 12:30 PM, 5:30 PM to 6:30 PM, and the Saturday peak hour of 12:00 PM to 1:00 PM were selected for this analysis. Existing pedestrian volumes are shown in **Figures K-16 through K-19**.

The pedestrian analysis determined that all of the pedestrian facilities analyzed operate at LOS A or LOS B during each of the peak hours analyzed. The existing peak hour volumes and levels of service for each pedestrian element analyzed are presented in **Tables K-12 through K-14** below.









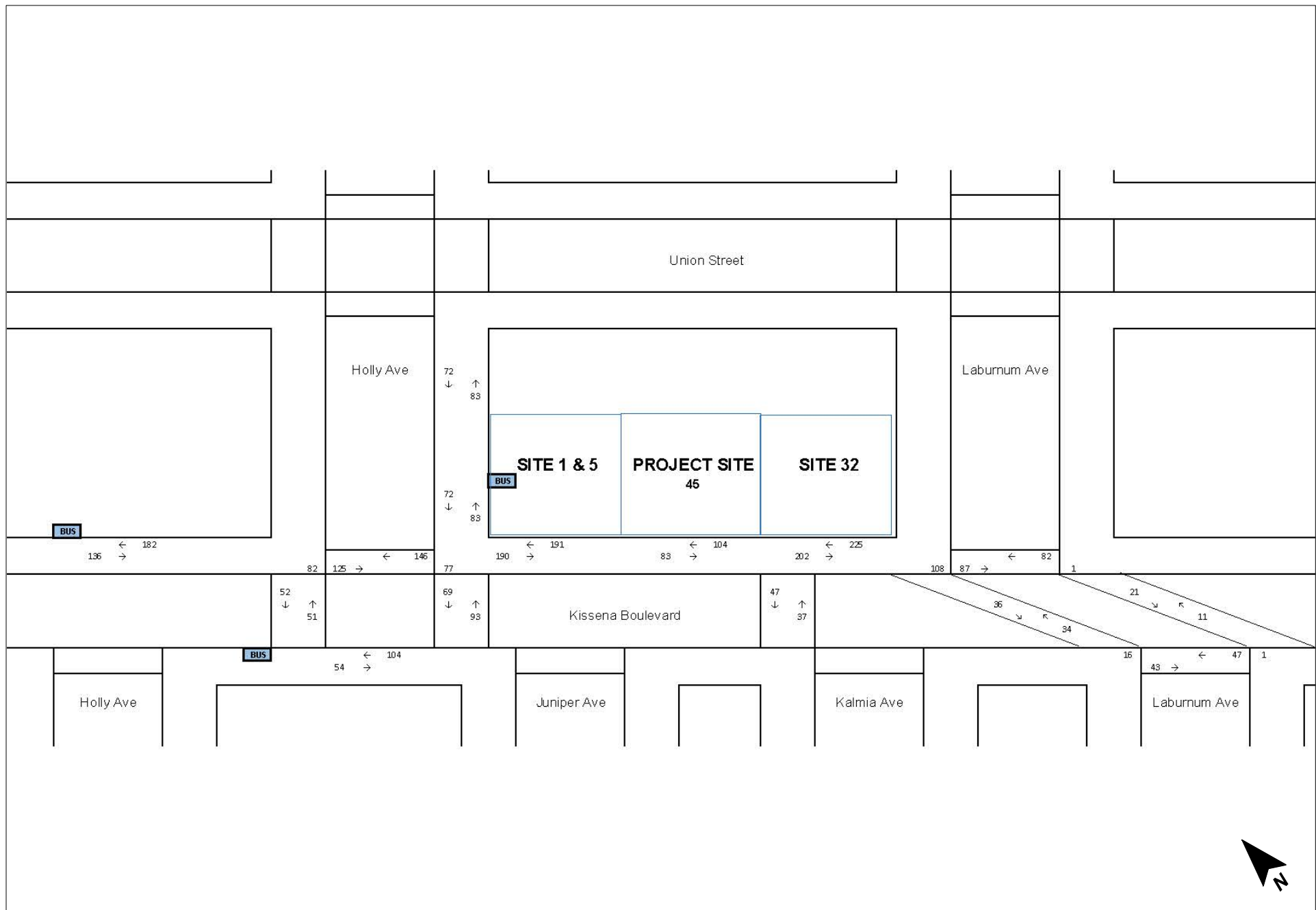


Table K-12
2017 Existing Sidewalk Levels of Service

Sidewalk	Effective Width (ft)	Peak Hour	Volume (ped/hr)	Avg Ped Space (SFP)	LOS
Kissena Boulevard between Holly Avenue (north) and Holly Avenue (south) (east side)	3.5	AM	600	55.6	B
		MD	353	94.0	A
		PM	354	85.1	A
		SAT	318	85.3	A
Kissena Boulevard between Holly Avenue (north) and Holly Avenue (south) (west side)	4.8	AM	178	270.8	A
		MD	174	259.1	A
		PM	362	117.2	A
		SAT	158	219.7	A
Kissena Boulevard between Holly Avenue (south) and Juniper Avenue (east side)	4.6	AM	493	89.0	A
		MD	462	93.9	A
		PM	439	102.3	A
		SAT	381	90.6	A
Kissena Boulevard between Juniper Avenue and Kalmia Avenue (east side)	12.0	AM	292	466.0	A
		MD	203	662.8	A
		PM	147	802.2	A
		SAT	187	622.5	A
Kissena Boulevard between Kalmia Avenue and Laburnum Avenue (east side)	9.8	AM	341	334.9	A
		MD	375	311.1	A
		PM	334	301.5	A
		SAT	427	209.9	A

Table K-13
2017 Existing Crosswalk Levels of Service

Intersection	Crosswalk	Peak Hour	Volume (ped/hr)	Avg Ped Space (SFP)	LOS
Kissena Boulevard and Holly Avenue (south)	North	AM	273	95.8	A
		MD	83	449.2	A
		PM	134	263.3	A
		SAT	103	349.9	A
Kissena Boulevard and Holly Avenue (south)	South	AM	220	109.7	A
		MD	136	238.7	A
		PM	239	151.2	A
		SAT	162	216.3	A
Kissena Boulevard and Holly Avenue (south)	East	AM	472	66.7	A
		MD	272	121.4	A
		PM	251	112.3	A
		SAT	271	102.6	A

Table K-14
2017 Existing Corner Levels of Service

Intersection	Corner	Peak Hour	Volume (ped/hr)	Avg Ped Space (SFP)	LOS
Kissena Boulevard and Holly Avenue (south)	Northeast	AM	188	86.4	A
		MD	60	232.1	A
		PM	96	175.5	A
		SAT	82	180.6	A
Kissena Boulevard and Holly Avenue (south)	Southeast	AM	149	106.5	A
		MD	107	196.9	A
		PM	87	177.5	A
		SAT	77	181.4	A

FUTURE WITHOUT THE PROPOSED ACTIONS

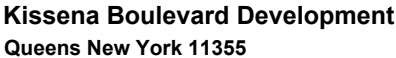
This section establishes the baseline No Action condition against which potential impacts of the project can be identified. Future year conditions were analyzed for the year 2021. No Action traffic volumes were established by applying a background growth of 1 percent per year in accordance with the *CEQR Technical Manual* guidelines for Queens projects. One background project was also included as part of the No Action condition analysis, a 68,343 sf (595 seat) expansion of P.S. 24 located at the northeast corner of Union Street and Holly Avenue. Signal timing and phasing modifications implemented by DOT in 2018 at four traffic analysis locations along Kissena Boulevard at 45th Avenue, Holly Avenue (south), Laburnum Avenue, and Booth Memorial Avenue, were incorporated into the No Action condition analysis. Also, DOT installed a 90-second traffic signal control at the intersection of Kissena Boulevard and Juniper Avenue in 2018. These improvements could potentially result in an enhancement to the levels of service for certain movements despite the increase in background volume between the existing and No Action conditions.

TRAFFIC

Traffic Volumes

The proposed expansion of P.S. 24 is expected to generate 203 vph during the weekday AM peak hour, 2 vph during the MD peak hour, 75 vph during the weekday PM peak hour, and no trips during the Saturday peak hour. Travel demand assumptions used for the proposed school expansion were primarily based on the *East New York Rezoning Proposal FEIS*; school staff modal share and vehicle occupancy were based on the 2006–2010 ACS reverse journey to work DCP Planning Special Tabulation Park 3 Table A302103 for Queens Census Tracts 797.01, 845, 859, 1201, 1203, and 1205. The growth of existing traffic volumes and the addition of the school trips to the traffic network are discussed below. The No Action traffic volumes are shown in **Figures K-20 through K-23**.

Traffic volumes along Kissena Boulevard within the study area are expected to increase by approximately 35 vph to 50 vph in the northbound direction (except for the section between Holly Avenue and 45th Street which would be expected to increase by approximately 10 vph) and by 50 vph to 75 vph in the southbound direction north of Holly Avenue and by approximately 25 vph south of Holly Avenue during the weekday AM peak hour. During the weekday PM peak hour, northbound Holly Avenue traffic volumes would increase by approximately 10 vph to 30 vph and southbound volumes are expected to increase by



2021 No-Action Traffic Volumes Weekday AM Peak Hour

Figure K-20







approximately 15 vph to 45 vph. During the weekday MD and Saturday peak hours, Kissena Boulevard traffic volumes are expected to increase by approximately 10 vph in each direction.

Traffic volumes along Holly Avenue are expected to increase by no more than 5 vph in each direction during the peak hour analyzed except for the section between Kissena Boulevard and Union Street during the weekday AM peak hour (approximately 85 vph increase) and PM peak hour (approximately 20 vph increase). Traffic volumes along Laburnum Avenue are expected to increase by no more than 5 vph in either direction.

Levels of Service

Based on the traffic increases mentioned above, the 2021 No Action traffic levels of service were determined for the 12 analysis locations. **Tables K-15 and K-16** provide an overview of the LOS that characterize 2021 No Action overall intersection conditions and individual traffic movements, respectively, during the weekday AM, MD, PM, and Saturday peak hours. Detailed traffic LOS for the No Action condition are provided in **Table K-17**.

Table K-15
2017 Existing vs. 2021 No Action Traffic Levels of Service:
Overall Intersections

	2017 Existing				2021 No Action			
	Weekday AM Peak Hour	Weekday MD Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour	Weekday AM Peak Hour	Weekday MD Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour
Intersections at Overall LOS A/B/C	9	11	10	11	9	10	10	11
Intersections at Overall LOS D	3	1	2	1	1	2	1	1
Intersections at Overall LOS E	0	0	0	0	2	0	1	0
Intersections at Overall LOS F	0	0	0	0	0	0	0	0
Note: Includes seven signalized and five unsignalized intersections in the No Action condition								

Table K-16
2017 Existing vs. 2021 No Action Traffic Levels of Service:
Traffic Movements

	2017 Existing				2021 No Action			
	Weekday AM Peak Hour	Weekday MD Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour	Weekday AM Peak Hour	Weekday MD Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour
Traffic Movements at Overall LOS A/B/C or acceptable LOS D	35	39	36	38	34	41	39	40
Traffic Movements at Unacceptable LOS D	3	1	2	2	2	0	2	0
Traffic Movements at Overall LOS E	2	0	1	0	4	1	0	2
Traffic Movements at Overall LOS F	3	2	3	2	4	1	2	1
Number of individual traffic movements	43	42	42	42	44	43	43	43

TABLE K-17 - TRAFFIC LEVELS OF SERVICE
Kissena Boulevard Development
2021 NO ACTION CONDITION

Intersection & Approach		Weekday AM Peak Hour				Weekday Midday Peak Hour				Weekday PM Peak Hour				Saturday Peak Hour			
		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
Signalized Intersections																	
Kissena Boulevard and Elder Avenue																	
Elder Avenue	WB	L	0.65	37.3	D	L	0.48	27.3	C	L	0.51	27.2	C	L	0.56	29.3	C
		R	0.73	44.1	D	R	0.39	25.8	C	R	0.58	29.7	C	R	0.49	28.3	C
Kissena Boulevard	NB	DefL	0.60	19.3	B	-	-	-	-	-	-	-	-	-	-	-	-
		T	0.90	36.6	D	LT	0.72	24.1	C	LT	0.80	28.9	C	LT	0.79	27.4	C
	SB	TR	0.61	17.2	B	TR	0.50	18.3	B	TR	0.80	29.5	C	TR	0.62	21.0	C
Overall Intersection	-	0.84	29.0	C	-	0.63	23.0	C	-	0.70	29.0	C	-	0.69	25.8	C	
Kissena Boulevard and 45th Avenue																	
45th Avenue	WB	LTR	1.11	108.7	F	LTR	0.70	35.1	D	LTR	0.89	54.0	D	LTR	0.82	44.9	D
Kissena Boulevard	NB	L	0.31	19.3	B	L	0.29	18.0	B	L	0.27	17.1	B	L	0.14	14.8	B
		TR	0.99	61.7	E	TR	0.76	29.4	C	TR	0.83	34.2	C	TR	0.83	33.9	C
	SB	L	0.60	29.9	C	L	0.27	17.2	B	L	0.63	26.7	C	L	0.36	19.0	B
		TR	1.01	63.6	E	TR	0.85	35.2	D	TR	0.84	31.0	C	TR	0.76	28.1	C
Overall Intersection	-	1.05	70.7	E	-	0.78	31.4	C	-	0.86	36.3	D	-	0.83	33.0	C	
Kissena Boulevard and Holly Avenue South																	
Holly Avenue South	WB	LR	0.56	33.2	C	LR	0.33	23.8	C	LR	0.47	32.2	C	LR	0.40	24.8	C
Kissena Boulevard	NB	TR	0.90	37.1	D	TR	0.93	43.2	D	TR	0.81	25.2	C	TR	0.88	34.7	C
	SB	L	1.02	97.3	F	L	0.38	22.1	C	L	0.52	21.3	C	L	0.41	23.1	C
		T	0.85	34.9	C	T	0.80	32.8	C	T	0.85	32.4	C	T	0.83	35.4	D
Overall Intersection	-	0.85	43.9	D	-	0.67	35.9	D	-	0.72	28.5	C	-	0.68	32.7	C	
Kissena Boulevard and Juniper Avenue																	
Juniper Avenue Driveway	WB	L	0.19	24.2	C	L	0.16	21.1	C	L	0.23	26.9	C	L	0.14	20.8	C
		TR	0.21	24.7	C	TR	0.27	22.6	C	TR	0.35	29.1	C	TR	0.20	21.6	C
Kissena Boulevard	NB	LT	0.98	52.3	D	LT	0.69	23.7	C	LT	0.76	21.8	C	LT	0.82	29.9	C
	SB	TR	0.68	16.9	B	TR	0.73	23.3	C	TR	0.73	18.2	B	TR	0.75	22.7	C
Overall Intersection	-	0.69	32.9	C	-	0.53	23.2	C	-	0.62	21.4	C	-	0.55	25.3	C	
Kissena Boulevard and Laburnum Avenue																	
Laburnum Avenue	EB	LTR	0.14	18.5	B	LTR	0.13	18.3	B	LTR	0.12	18.1	B	LTR	0.16	18.6	B
	WB	LTR	0.39	22.8	C	LTR	0.29	20.7	C	LTR	0.24	19.9	B	LTR	0.50	25.7	C
Kissena Boulevard	NB	LTR	0.78	25.8	C	LTR	0.72	22.8	C	LTR	0.78	25.9	C	LTR	0.82	27.5	C
	SB	LTR	0.69	19.1	B	LTR	0.62	19.0	B	LTR	0.78	21.3	C	LTR	0.84	25.2	C
Overall Intersection	-	0.61	22.6	C	-	0.53	21.0	C	-	0.54	23.2	C	-	0.69	25.9	C	
Kissena Boulevard and Oak Avenue																	
Oak Avenue	EB	LTR	0.45	26.8	C	LTR	0.21	20.6	C	LTR	0.41	29.8	C	LTR	0.35	22.7	C
	WB	LR	0.16	22.3	C	LR	0.08	19.1	B	LR	0.17	26.0	C	LR	0.16	20.1	C
Kissena Boulevard	NB	TR	0.59	16.2	B	TR	0.58	17.8	B	TR	0.48	11.4	B	TR	0.63	18.9	B
	SB	LT	0.65	17.5	B	LT	0.58	17.7	B	LT	0.58	12.8	B	LT	0.74	20.9	C
Overall Intersection	-	0.57	18.7	B	-	0.43	18.1	B	-	0.53	15.0	B	-	0.58	20.3	C	
Kissena Boulevard and Booth Memorial Avenue																	
Booth Memorial Parkway	EB	L	0.81	59.8	E	L	0.51	29.7	C	L	0.85	50.7	D	L	0.90	70.2	E
		TR	0.76	31.4	C	TR	0.48	25.2	C	TR	0.81	34.6	C	TR	0.78	36.5	D
	WB	L	0.11	17.3	B	L	0.06	18.9	B	L	0.03	16.1	B	L	0.10	19.7	B
		TR	0.91	43.7	D	TR	0.69	32.0	C	TR	0.65	27.1	C	TR	0.81	38.9	D
Kissena Boulevard	NB	LTR	0.90	45.8	D	LTR	0.75	31.4	C	LTR	0.81	36.7	D	LTR	0.71	29.0	C
	SB	LTR	1.16	109.6	F	LTR	1.01	56.1	E	LTR	1.22	135.6	F	LTR	1.01	56.0	E
Overall Intersection	-	1.05	65.0	E	-	0.88	39.6	D	-	1.06	70.0	E	-	0.97	44.1	D	
Unsignalized Intersections																	
Kissena Boulevard and Holly Avenue North																	
Holly Avenue North	EB	LR	-	14.9	B	LR	-	14.1	B	LR	-	15.5	C	LR	-	15.3	C
Kissena Boulevard	NB	T	-	-	-	T	-	-	-	T	-	-	-	T	-	-	-
Overall Intersection	-	-	0.8	A	-	-	0.5	A	-	-	0.3	A	-	-	0.9	A	

TABLE K-17 - TRAFFIC LEVELS OF SERVICE
Kissena Boulevard Development
2021 NO ACTION CONDITION

INTERSECTION & APPROACH		Weekday AM Peak Hour				Weekday Midday Peak Hour				Weekday PM Peak Hour				Saturday Peak Hour			
		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
Kissena Boulevard and Kalmia Avenue																	
Kalmia Avenue	EB	LTR	-	183.8	F	LTR	-	214.3	F	LTR	-	504.3	F	LTR	-	117.5	F
Kissena Boulevard	NB	LTR	-	8.6	A	LTR	-	8.5	A	LTR	-	9.1	A	LTR	-	8.8	A
	SB	LTR	-	28.0	D	LTR	-	18.7	C	LTR	-	18.5	C	LTR	-	24.1	C
Overall Intersection	-	-	-	22.0	C	-	-	17.8	C	-	-	23.3	C	-	-	19.8	C
Union Street and Holly Avenue																	
Holly Avenue	EB	LT	-	9.8	A	LT	-	7.9	A	LT	-	8.4	A	LT	-	8.6	A
Union Street	NB	LTR	-	37.2	E	LTR	-	12.6	B	LTR	-	17.8	C	LTR	-	14.2	B
Overall Intersection	-	-	-	9.9	A	-	-	5.8	A	-	-	6.0	A	-	-	5.9	A
Union Street and Laburnum Avenue																	
Laburnum Avenue	EB	LT	-	7.9	A	LT	-	7.7	A	LT	-	7.6	A	LT	-	7.8	A
Union Street	NB	LTR	-	11.3	B	LTR	-	11.3	B	LTR	-	11.7	B	LTR	-	10.8	B
Overall Intersection	-	-	-	3.8	A	-	-	5.3	A	-	-	4.8	A	-	-	3.9	A
Kissena Boulevard and Negundo Avenue																	
Negundo Avenue	EB	LTR	-	15.7	C	LTR	-	20.1	C	LTR	-	28.3	D	LTR	-	34.7	D
Kissena Boulevard	WB	LTR	-	11.9	B	LTR	-	11.5	B	LTR	-	31.1	D	LTR	-	29.3	D
	NB	LTR	-	8.5	A	LTR	-	8.5	A	LTR	-	9.0	A	LTR	-	8.8	A
	SB	LTR	-	9.7	A	LTR	-	8.7	A	LTR	-	8.8	A	LTR	-	9.2	A
Overall Intersection	-	-	-	9.2	A	-	-	8.8	A	-	-	9.7	A	-	-	9.9	A

(1) Control delay is measured in seconds per vehicle.

(2) Overall intersection V/C ratio is the critical lane groups' V/C ratio.

The summary overview of 2021 No Action condition indicates that:

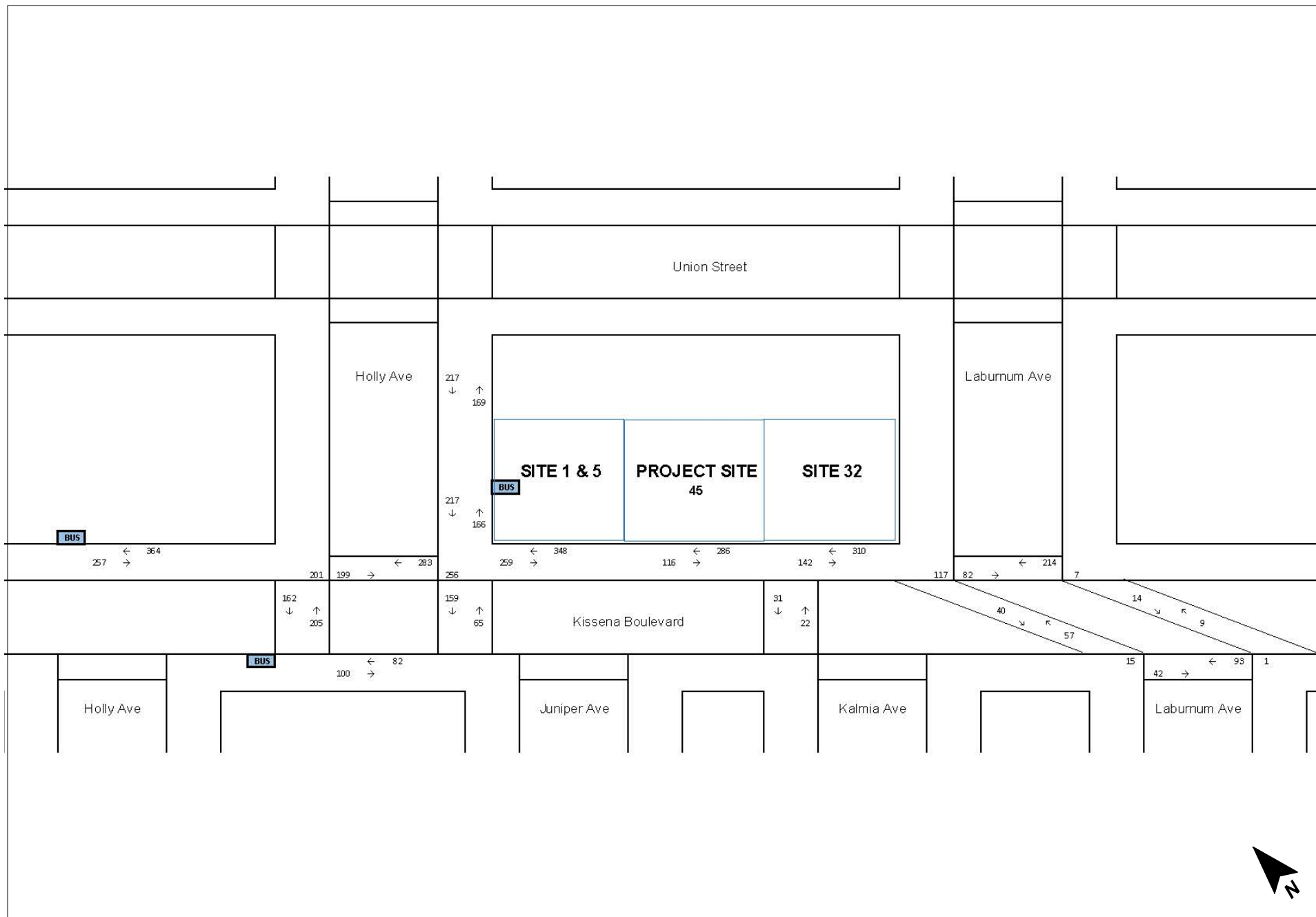
- during the weekday AM peak hour, 2 of the 12 intersections analyzed would operate at LOS E or F (compared to none in the existing conditions). There would be 8 individual traffic movements out of the approximately 44 movements analyzed that would operate at LOS E or F compared to 5 in the existing conditions, while no intersections would operate at unacceptable LOS D compared to one in the existing conditions.
- during the weekday MD peak hour, all 12 intersections operate at overall acceptable levels of service (similar to the existing conditions). Two individual traffic movements would operate at LOS E or F similar to the existing conditions, while no movements would operate at unacceptable LOS D (similar to the existing conditions).
- in the weekday PM peak hour, one intersection would operate at unacceptable LOS E or F (compared to none in the existing conditions). Two individual traffic movements would operate at LOS E or F compared to four in the existing conditions, while two movements would operate at unacceptable LOS D compared to none in the existing conditions.
- in the Saturday peak hour, three intersections would operate at unacceptable LOS E or F (compared to two in the existing conditions). Three individual movements would operate at LOS E or F compared to two in the existing conditions, while no movements would operate at unacceptable LOS D (compared to two in the existing conditions).

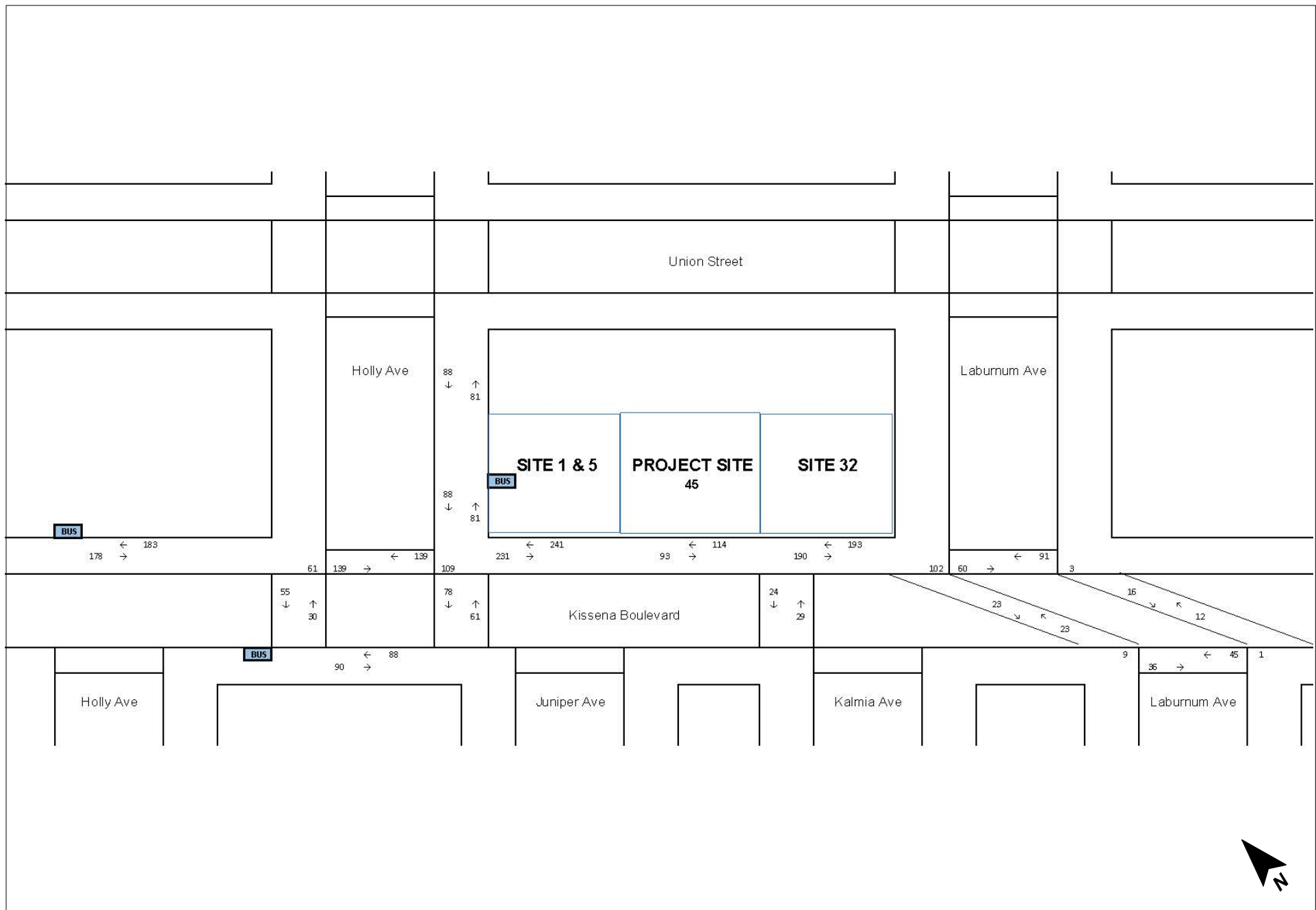
Based on the analysis results, the majority of traffic movements would continue to operate at acceptable levels of services. The following movements would operate at unacceptable LOS E or F during one or more peak hours:

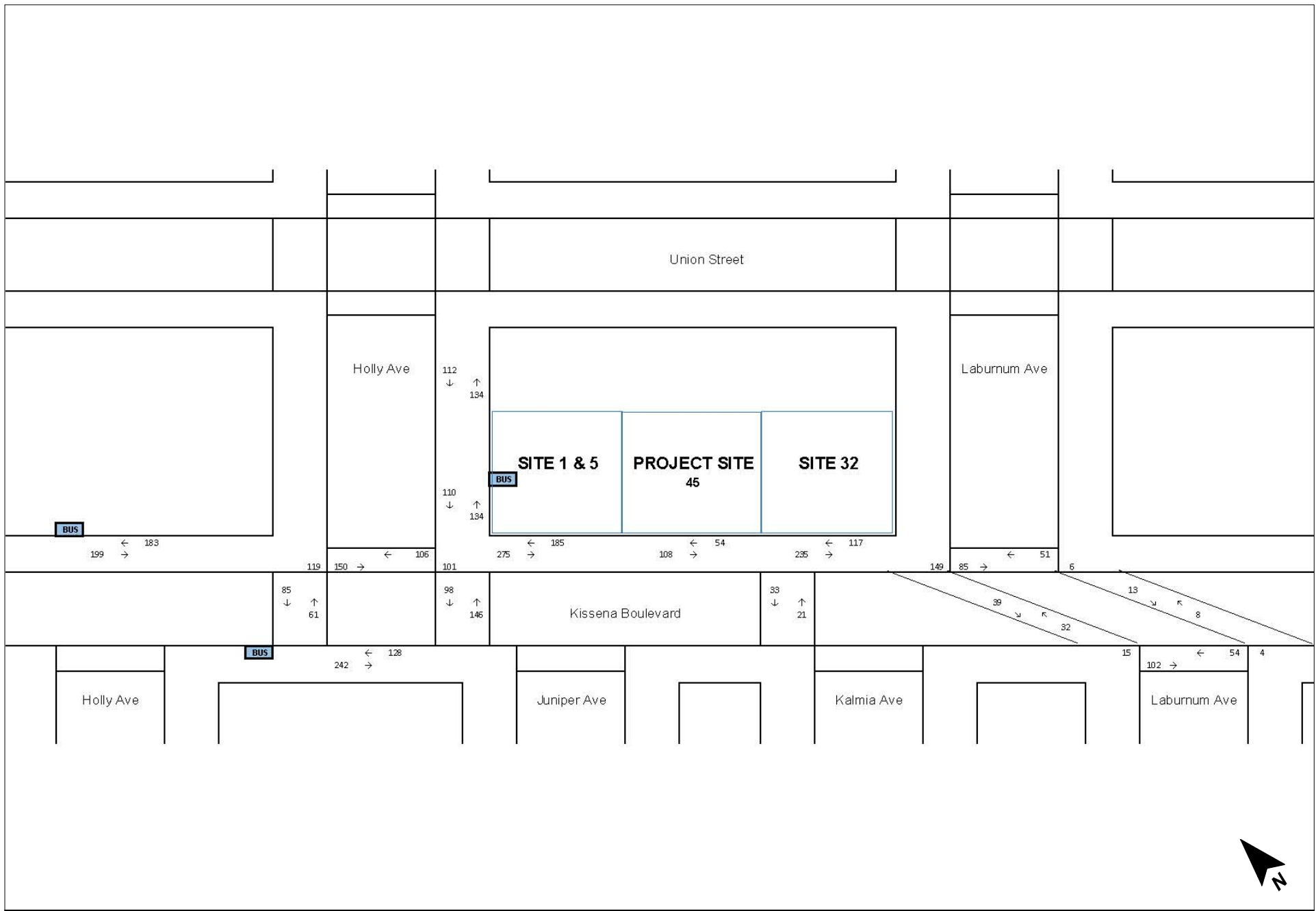
- Kissena Boulevard and 45th Avenue westbound approach (weekday AM peak hour)
- Kissena Boulevard and 45th Avenue northbound through-right movement (weekday AM peak hour)
- Kissena Boulevard and 45th Avenue southbound approach (weekday AM peak hour)
- Kissena Boulevard and Holly Avenue (south) southbound left turn movement (weekday AM peak hour)
- Kissena Boulevard and Booth Memorial Avenue eastbound left turn (weekday AM and Saturday peak hours)
- Kissena Boulevard and Booth Memorial Avenue southbound approach (weekday AM, MD, PM, and Saturday peak hours)
- Kissena Boulevard and Kalmia Avenue eastbound approach (weekday AM, MD, PM, and Saturday peak hours)
- Union Street and Holly Avenue northbound approach (weekday AM peak hour)

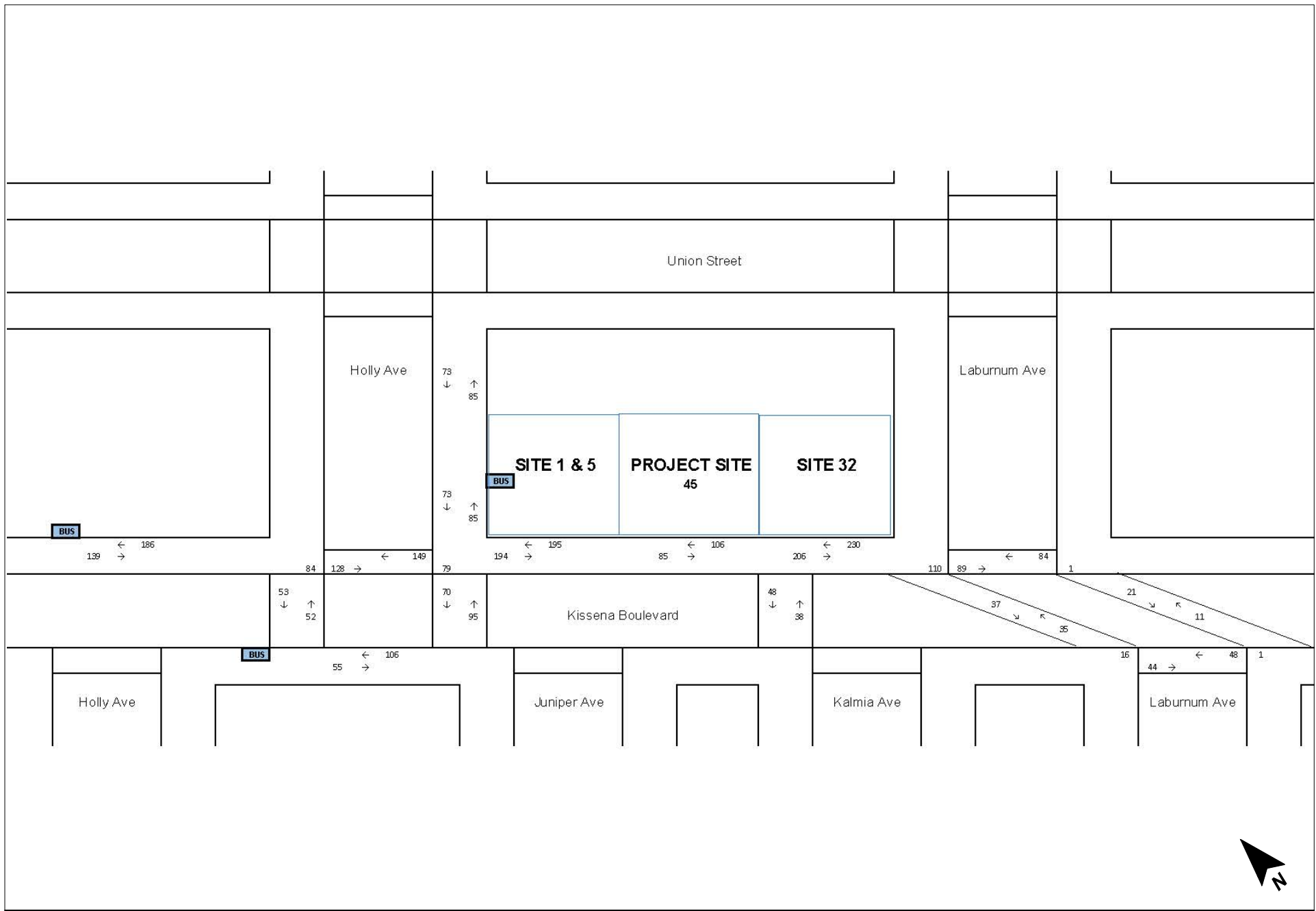
PEDESTRIANS

Existing pedestrian volumes were grown by 1 percent per year in accordance with the *CEQR Technical Manual* and incorporated pedestrian trips from the P.S. 24 school expansion to develop the 2021 No Action pedestrian volumes, which are shown in **Figures K-24 through K-27**. The pedestrian conditions would continue to operate at LOS A and LOS B for the pedestrian elements analyzed during each peak hour. The No Action peak hour volumes and levels of service for each pedestrian element analyzed are presented in **Tables K-18 through K-20** below.









Kissena Boulevard Development
Queens New York 11355

2021 No-Action Pedestrian Volumes
Saturday Peak Hour

Figure
K-27

Table K-18
2021 No Action Sidewalk Levels of Service

Sidewalk	Effective Width (ft)	Peak Hour	Volume (ped/hr)	Avg Ped Space (SFP)	LOS
Kissena Boulevard between Holly Avenue (north) and Holly Avenue (south) (east side)	3.5	AM	621	53.7	B
		MD	361	91.9	A
		PM	382	78.8	A
		SAT	325	83.4	A
Kissena Boulevard between Holly Avenue (north) and Holly Avenue (south) (west side)	4.8	AM	182	264.8	A
		MD	178	253.3	A
		PM	370	114.7	A
		SAT	161	215.6	A
Kissena Boulevard between Holly Avenue (south) and Juniper Avenue (east side)	4.6	AM	607	72.2	A
		MD	472	91.9	A
		PM	460	97.6	A
		SAT	389	88.7	A
Kissena Boulevard between Juniper Avenue and Kalmia Avenue (east side)	12.0	AM	402	338.4	A
		MD	207	650.0	A
		PM	162	728.0	A
		SAT	191	609.5	A
Kissena Boulevard between Kalmia Avenue and Laburnum Avenue (east side)	9.8	AM	452	252.6	A
		MD	383	304.6	A
		PM	352	286.1	A
		SAT	436	205.5	A

Table K-19
2021 No Action Crosswalk Levels of Service

Intersection	Crosswalk	Peak Hour	Volume (ped/hr)	Avg Ped Space (SFP)	LOS
Kissena Boulevard and Holly Avenue (south)	North	AM	367	58.6	B
		MD	85	424.4	A
		PM	146	179.7	A
		SAT	105	331.7	A
Kissena Boulevard and Holly Avenue (south)	South	AM	224	89.7	A
		MD	139	225.7	A
		PM	244	109.9	A
		SAT	165	205.2	A
Kissena Boulevard and Holly Avenue (south)	East	AM	482	68.0	A
		MD	278	118.4	A
		PM	256	132.5	A
		SAT	277	100.0	A

Table K-20
2021 No Action Corner Levels of Service

Intersection	Corner	Peak Hour	Volume (ped/hr)	Avg Ped Space (SFP)	LOS
Kissena Boulevard and Holly Avenue (south)	Northeast	AM	201	73.9	A
		MD	61	226.9	A
		PM	119	161.5	A
		SAT	84	176.5	A
Kissena Boulevard and Holly Avenue (south)	Southeast	AM	256	93.2	A
		MD	109	192.5	A
		PM	101	170.6	A
		SAT	79	177.2p	A

FUTURE WITH THE PROPOSED ACTIONS

TRAFFIC

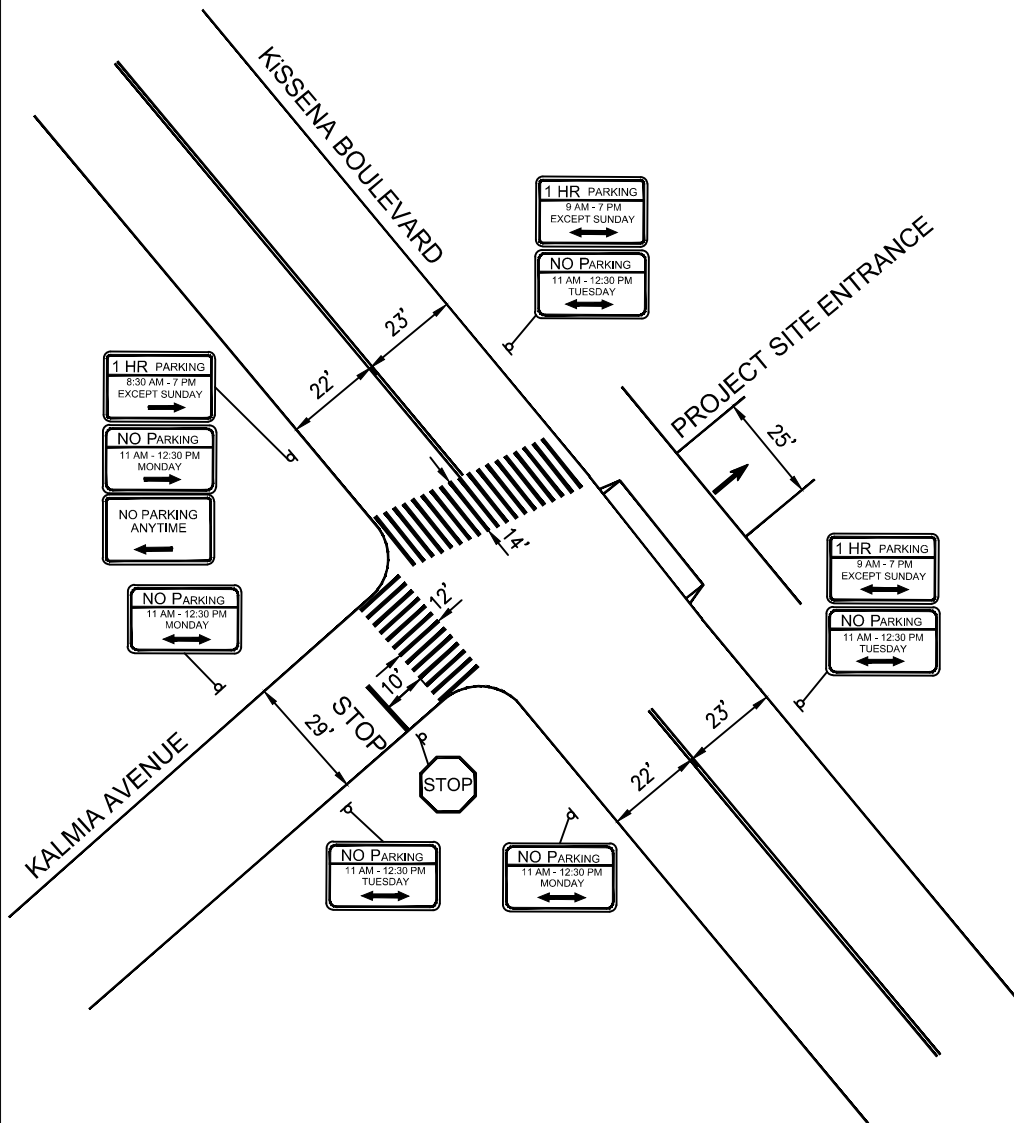
The proposed project and projected development sites would expand the existing shopping center, resulting in a net increase of 443 DUs, 57,407 sf of destination and local retail space, 7,800 sf of medical office, 7,875 sf of recreational community facility, and 376 additional parking spaces. The net expansion would generate 159 total vehicle trips (51 “ins” and 108 “outs”) during the weekday AM peak hour, 158 total vehicle trips (76 “ins” and 82 “outs”) during the weekday MD peak hour, 225 total vehicle trips (123 “ins” and 102 “outs”) during the weekday PM peak hour, and 212 total vehicle trips (108 “ins” and 104 “outs”) during the Saturday peak hour. These project-generated trips were added to No Action peak hour volumes to develop the With Action condition traffic volumes.

Traffic Volume Increments

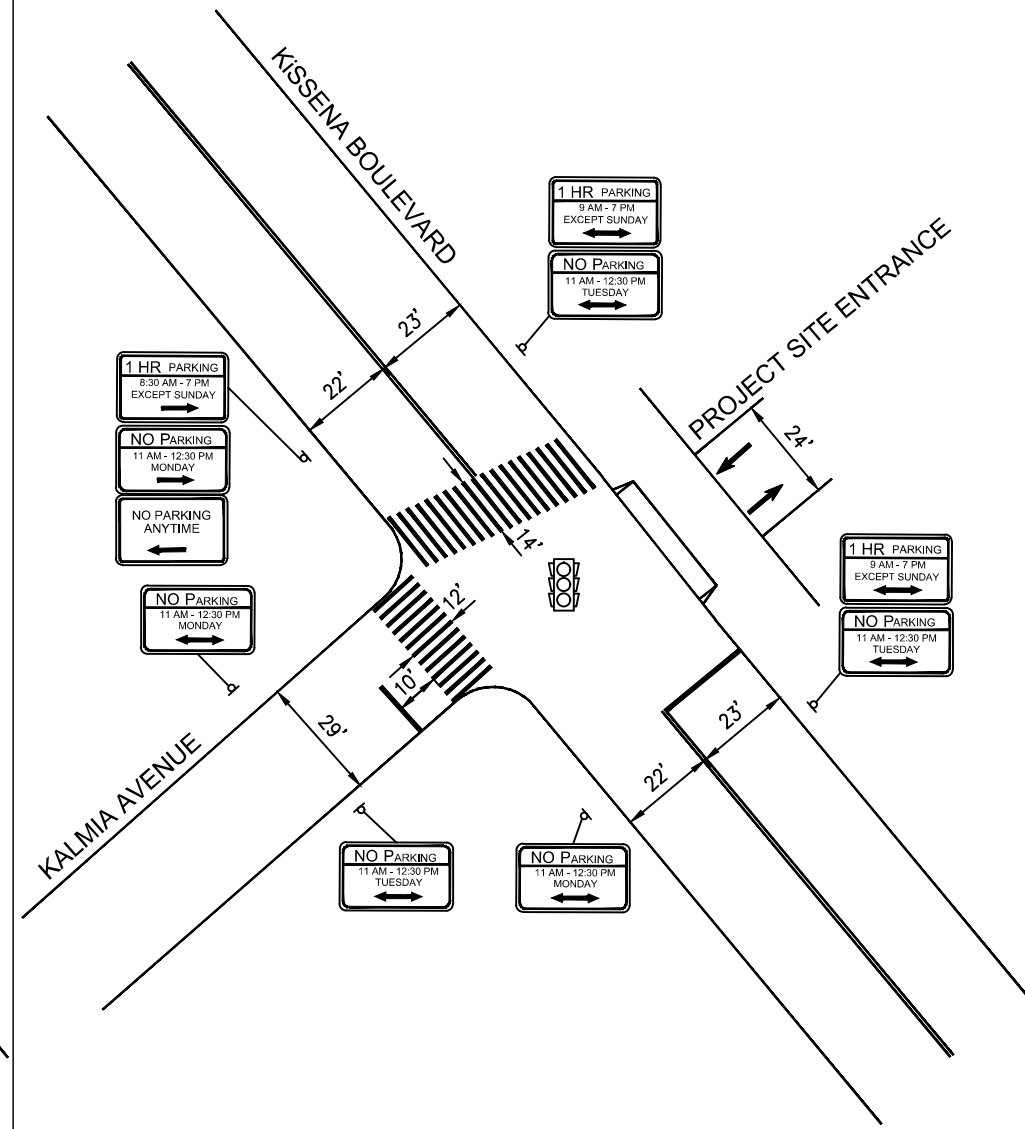
Project-generated trips were assigned to the development site and projected development sites primarily along Kissena Boulevard, Laburnum Avenue, and Holly Avenue. Access to the proposed project and the development on Lots 1 and 5 are shared, and would be provided along Kissena Boulevard at Kalmia Avenue, and along Holly Avenue east of Kissena Boulevard. A two-phase traffic signal with a 90-second cycle would be installed at the entrance along Kissena Boulevard at Kalmia Avenue to facilitate vehicle and pedestrian traffic to the proposed project entrance; **Figure K-28** shows the existing and proposed layout of the proposed project entrance. Access to the Lot 32 development would be provided along Laburnum Avenue east of Kissena Boulevard.

Traffic volumes along northbound Kissena Boulevard would be expected to increase by approximately 15 vph to 50 vph during the weekday AM, PM, and Saturday peak hours; traffic volumes increases would be lower during the weekday MD peak hour ranging from 5 vph to 25 vph. Along southbound Kissena Boulevard, traffic volumes would be expected to increase by approximately 20 vph to 50 vph during the weekday AM, PM, and Saturday peak hours. Similar to the northbound direction, the weekday MD traffic volume along southbound Kissena Boulevard would be lower—an approximately 20 vph to 35 vph increase.

Traffic volumes along Holly Avenue between Kissena Boulevard and Union Street would be expected to increase by no more than 20 vph in each direction during the peak hours analyzed. Eastbound Holly Avenue traffic volumes would be expected to decrease by approximately 15 vph during the weekday MD peak hour in the eastbound direction west of the Holly Avenue driveway. This is due to the changes in the traffic patterns resulting from the decrease in restaurant space as



Existing Condition



With-Action Condition



part of the proposed actions. Along Laburnum Avenue between Kissena Boulevard and Union Street, traffic volumes are expected to increase by 5 vph to 35 vph in each direction during each of the peak hours with heavier volumes west of the Laburnum Avenue driveway.

With Action traffic volumes are provided in **Figures K-29 through K-32**.

Levels of Service

The With Action traffic levels of service were determined for the 12 analysis locations. **Tables K-21 and K-22** provide an overview of the levels of service that characterize 2021 With Action “overall” intersection conditions and individual traffic movements during the weekday AM, MD PM, and Saturday peak hours, respectively. Detailed traffic level of service comparisons for No Action and With Action conditions are provided in **Tables K-23 through K-26**.

Table K-21
2021 No Action vs. 2021 With Action Traffic Levels of Service:
Overall Intersections

	2021 No Action				2021 With Action			
	Weekday AM Peak Hour	Weekday MD Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour	Weekday AM Peak Hour	Weekday MD Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour
Intersections at Overall LOS A/B/C	9	10	10	11	8	9	8	7
Intersections at Overall LOS D	1	2	1	1	1	3	3	5
Intersections at Overall LOS E	2	0	1	0	2	0	0	0
Intersections at Overall LOS F	0	0	0	0	1	0	1	0
Note: Includes eight signalized and four unsignalized intersections in the With Action condition.								

Table K-22
2021 No Action vs. 2021 With Action Traffic Levels of Service:
Traffic Movements

	2021 No Action				2021 With Action			
	Weekday AM Peak Hour	Weekday MD Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour	Weekday AM Peak Hour	Weekday MD Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour
Traffic Movements at Overall LOS A/B/C or acceptable LOS D	34	41	39	40	31	40	36	36
Traffic Movements at Unacceptable LOS D	2	0	2	0	4	1	2	1
Traffic Movements at Overall LOS E	4	1	0	2	4	1	3	4
Traffic Movements at Overall LOS F	4	1	2	1	4	0	1	1
Number of significantly impacted movements	-	-	-	-	7	2	3	4
Number of individual traffic movements	44	43	43	43	43	42	42	42

TABLE K-23
Kissena Boulevard Development
NO ACTION VS WITH ACTION TRAFFIC LEVELS OF SERVICE COMPARISON - WEEKDAY AM PEAK HOUR

INTERSECTION & APPROACH	2021 No Action				2021 With Action			
	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
SIGNALIZED INTERSECTIONS								
Kissena Boulevard and Elder Avenue								
Elder Avenue	WB L	0.65	37.3	D	L	0.65	37.3	D
	R	0.73	44.1	D	R	0.77	47.6	D
Kissena Boulevard	NB DefL	0.60	19.3	B	DefL	0.65	21.4	C
	T	0.90	36.6	D	T	0.93	41.1	D
	SB TR	0.61	17.2	B	TR	0.62	17.4	B
Overall Intersection	-	0.84	29.0	C	-	0.88	31.0	C
Kissena Boulevard and 45th Avenue								
45th Avenue	WB LTR	1.11	108.7	F	LTR	1.11	109.5	F
Kissena Boulevard	NB L	0.31	19.3	B	L	0.39	21.9	C
	TR	0.99	61.7	E	TR	1.04	76.0	E
	SB L	0.60	29.9	C	L	0.64	33.3	C
	TR	1.01	63.6	E	TR	1.05	76.3	E
Overall Intersection	-	1.05	70.7	E	-	1.08	79.2	E
Kissena Boulevard and Holly Avenue South								
Holly Avenue South	WB LR	0.56	33.2	C	LR	0.63	36.5	D
Kissena Boulevard	NB TR	0.90	37.1	D	TR	0.97	48.4	D
	SB L	1.02	97.3	F	L	1.13	133.3	F
	T	0.85	34.9	C	T	0.88	38.0	D
Overall Intersection	-	0.85	43.9	D	-	0.95	54.4	D
Kissena Boulevard and Juniper Avenue								
Juniper Avenue Driveway	WB L	0.19	24.2	C	L	-	-	-
	TR	0.21	24.7	C	TR	-	-	-
Kissena Boulevard	NB LT	0.98	52.3	D	LT	1.25	148.4	F
	SB TR	0.68	16.9	B	TR	0.70	17.2	B
Overall Intersection	-	0.69	32.9	C	-	0.79	87.7	F
Kissena Boulevard and Laburnum Avenue								
Laburnum Avenue	EB LTR	0.14	18.5	B	LTR	0.14	18.5	B
	WB LTR	0.39	22.8	C	LTR	0.51	25.6	C
Kissena Boulevard	NB LTR	0.78	25.8	C	LTR	0.82	27.8	C
	SB LTR	0.69	19.1	B	LTR	0.76	20.9	C
Overall Intersection	-	0.61	22.6	C	-	0.68	24.5	C
Kissena Boulevard and Oak Avenue								
Oak Avenue	EB LTR	0.45	26.8	C	LTR	0.45	26.8	C
	WB LR	0.16	22.3	C	LR	0.16	22.3	C
Kissena Boulevard	NB TR	0.59	16.2	B	TR	0.61	16.8	B
	SB LT	0.65	17.5	B	LT	0.73	20.1	C
Overall Intersection	-	0.57	18.7	B	-	0.62	19.9	B
Kissena Boulevard and Booth Memorial Avenue								
Booth Memorial Parkway	EB L	0.81	59.8	E	L	0.86	69.7	E
	TR	0.76	31.4	C	TR	0.76	31.4	C
	WB L	0.11	17.3	B	L	0.11	17.3	B
	TR	0.91	43.7	D	TR	0.92	45.3	D
Kissena Boulevard	NB LTR	0.90	45.8	D	LTR	0.92	49.3	D
	SB LTR	1.16	109.6	F	LTR	1.24	142.9	F
Overall Intersection	-	1.05	65.0	E	-	1.11	79.0	E
UNSIGNALIZED INTERSECTIONS								
Kissena Boulevard and Holly Avenue North								
Holly Avenue North	EB LR	-	14.9	B	LR	-	15.5	C
Kissena Boulevard	NB -	-	-	-	-	-	-	-
Overall Intersection	-	-	0.8	A	-	-	0.8	A

- (1) Control delay is measured in seconds per vehicle.
(2) Overall intersection V/C ratio is the critical lane groups' V/C ratio.
(3) Movement delay and overall delay cannot be calculated; exceeds the HCS software threshold.
Denotes a significantly impacted movement.

TABLE K-23
Kissena Boulevard Development
NO ACTION VS WITH ACTION TRAFFIC LEVELS OF SERVICE COMPARISON - WEEKDAY AM PEAK HOUR

INTERSECTION & APPROACH	2021 No Action				2021 With Action			
	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
Kissena Boulevard and Kalmia Avenue								
Kalmia Avenue	EB LTR	-	183.8	F	LTR	0.10	20.7	C
	WB -	-	-	-	LTR	0.49	27.2	C
Kissena Boulevard	NB LTR	-	8.6	A	LTR	0.93	33.1	C
	SB LTR	-	28.0	D	LTR	0.89	32.2	C
Overall Intersection	-	-	22.0	C	-	0.76	31.7	C
Union Street and Holly Avenue								
Holly Avenue	EB LT	-	9.8	A	LT	-	9.8	A
Union Street	NB LTR	-	37.2	E	LTR	-	39.8	E
Overall Intersection	-	-	9.9	A	-	-	10.5	B
Union Street and Laburnum Avenue								
Union Street	WB TR	-	7.9	A	LT	-	7.9	A
	NB LTR	-	11.3	B	LTR	-	11.5	B
Overall Intersection	-	-	3.8	A	-	-	3.8	A
Kissena Boulevard and Negundo Avenue								
Negundo Avenue	EB LTR	-	15.7	C	LTR	-	17.4	C
	WB LTR	-	11.9	B	LTR	-	12.2	B
Kissena Boulevard	NB LTR	-	8.5	A	LTR	-	8.7	A
	SB LTR	-	9.7	A	LTR	-	9.8	A
Overall Intersection	-	-	9.2	A	-	-	9.4	A


- (1) Control delay is measured in seconds per vehicle.
(2) Overall intersection V/C ratio is the critical lane groups' V/C ratio.
(3) Movement delay and overall delay cannot be calculated; exceeds the HCS software threshold.
 Denotes a significantly impacted movement.

TABLE K-24
Kissena Boulevard Development
NO ACTION VS WITH ACTION TRAFFIC LEVELS OF SERVICE COMPARISON - WEEKDAY MIDDAY PEAK HOUR

INTERSECTION & APPROACH	2021 No Action				2021 With Action			
	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
SIGNALIZED INTERSECTIONS								
Kissena Boulevard and Elder Avenue								
Elder Avenue	WB L	0.48	27.3	C	L	0.48	27.3	C
	R	0.39	25.8	C	R	0.43	26.7	C
Kissena Boulevard	NB -	-	-	-	-	-	-	-
	T	0.72	24.1	C	LT	0.77	26.5	C
	SB TR	0.50	18.3	B	TR	0.52	18.5	B
Overall Intersection	-	0.63	23.0	C	-	0.65	24.1	C
Kissena Boulevard and 45th Avenue								
45th Avenue	WB LTR	0.70	35.1	D	LTR	0.70	35.3	D
Kissena Boulevard	NB L	0.29	18.0	B	L	0.35	19.6	B
	TR	0.76	29.4	C	TR	0.80	31.6	C
	SB L	0.27	17.2	B	L	0.28	17.6	B
	TR	0.85	35.2	D	TR	0.91	42.7	D
Overall Intersection	-	0.78	31.4	C	-	0.81	35.1	D
Kissena Boulevard and Holly Avenue South								
Holly Avenue South	WB LR	0.33	23.8	C	LR	0.36	24.6	C
Kissena Boulevard	NB TR	0.93	43.2	D	TR	0.97	50.9	D
	SB L	0.38	22.1	C	L	0.43	25.3	C
	T	0.80	32.8	C	T	0.86	38.5	D
Overall Intersection	-	0.67	35.9	D	-	0.70	41.7	D
Kissena Boulevard and Juniper Avenue								
Juniper Avenue Driveway	WB L	0.16	21.1	C	L	-	-	-
	TR	0.27	22.6	C	TR	-	-	-
Kissena Boulevard	NB LT	0.69	23.7	C	LT	0.89	35.9	D
	SB TR	0.73	23.3	C	TR	0.76	24.6	C
Overall Intersection	-	0.53	23.2	C	-	0.51	30.4	C
Kissena Boulevard and Laburnum Avenue								
Laburnum Avenue	EB LTR	0.13	18.3	B	LTR	0.13	18.3	B
	WB LTR	0.29	20.7	C	LTR	0.35	21.9	C
Kissena Boulevard	NB LTR	0.72	22.8	C	LTR	0.76	24.5	C
	SB LTR	0.62	19.0	B	LTR	0.70	21.3	C
Overall Intersection	-	0.53	21.0	C	-	0.58	22.7	C
Kissena Boulevard and Oak Avenue								
Oak Avenue	EB LTR	0.21	20.6	C	LTR	0.21	20.6	C
	WB LR	0.08	19.1	B	LR	0.08	19.1	B
Kissena Boulevard	NB TR	0.58	17.8	B	TR	0.61	18.6	B
	SB LT	0.58	17.7	B	LT	0.63	18.9	B
Overall Intersection	-	0.43	18.1	B	-	0.46	18.9	B
Kissena Boulevard and Booth Memorial Avenue								
Booth Memorial Parkway	EB L	0.51	29.7	C	L	0.56	32.2	C
	TR	0.48	25.2	C	TR	0.48	25.2	C
	WB L	0.06	18.9	B	L	0.06	18.9	B
	TR	0.69	32.0	C	TR	0.71	32.9	C
Kissena Boulevard	NB LTR	0.75	31.4	C	LTR	0.77	32.3	C
	SB LTR	1.01	56.1	E	LTR	1.06	73.6	E
Overall Intersection	-	0.88	39.6	D	-	0.92	46.8	D
UNSIGNALIZED INTERSECTIONS								
Kissena Boulevard and Holly Avenue North								
Holly Avenue North	EB LR	-	14.1	B	LR	-	14.9	B
Kissena Boulevard	NB -	-	-	-	-	-	-	-
Overall Intersection	-	-	0.5	A	-	-	0.5	A

- (1) Control delay is measured in seconds per vehicle.
(2) Overall intersection V/C ratio is the critical lane groups' V/C ratio.
(3) Movement delay and overall delay cannot be calculated; exceeds the HCS software threshold.
Denotes a significantly impacted movement.

TABLE K-24
Kissena Boulevard Development
NO ACTION VS WITH ACTION TRAFFIC LEVELS OF SERVICE COMPARISON - WEEKDAY MIDDAY PEAK HOUR

INTERSECTION & APPROACH	2021 No Action				2021 With Action			
	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
Kissena Boulevard and Kalmia Avenue								
Kalmia Avenue	EB LTR	-	214.3	F	LTR	0.12	20.9	C
	WB LTR	-	-	-	LTR	0.68	33.8	C
Kissena Boulevard	NB LTR	-	8.5	A	LTR	0.69	18.7	B
	SB LTR	-	18.7	C	LTR	0.78	22.7	C
Overall Intersection	-	-	17.8	C	-	0.74	23.3	C
Union Street and Holly Avenue								
Holly Avenue	EB LT	-	7.9	A	LT	-	7.9	A
Union Street	NB LTR	-	12.6	B	LTR	-	12.7	B
Overall Intersection	-	-	5.8	A	-	-	5.8	A
Union Street and Laburnum Avenue								
Union Street	WB TR	-	7.7	A	LT	-	7.8	A
	NB LTR	-	11.3	B	LTR	-	11.6	B
Overall Intersection	-	-	5.3	A	-	-	5.3	A
Kissena Boulevard and Negundo Avenue								
Negundo Avenue	EB LTR	-	20.1	C	LTR	-	22.1	C
	WB LTR	-	11.5	B	LTR	-	11.7	B
Kissena Boulevard	NB LTR	-	8.5	A	LTR	-	8.6	A
	SB LTR	-	8.7	A	LTR	-	8.8	A
Overall Intersection	-	-	8.8	A	-	-	8.9	A


- (1) Control delay is measured in seconds per vehicle.
(2) Overall intersection V/C ratio is the critical lane groups' V/C ratio.
(3) Movement delay and overall delay cannot be calculated; exceeds the HCS software threshold.
 Denotes a significantly impacted movement.

TABLE K-25
Kissena Boulevard Development
NO ACTION VS WITH ACTION TRAFFIC LEVELS OF SERVICE COMPARISON - WEEKDAY PM PEAK HOUR

INTERSECTION & APPROACH	2021 No Action				2021 With Action			
	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
SIGNALIZED INTERSECTIONS								
Kissena Boulevard and Elder Avenue								
Elder Avenue	WB L	0.51	27.2	C	L	0.51	27.2	C
	R	0.58	29.7	C	R	0.66	32.7	C
Kissena Boulevard	NB -	-	-	-	-	-	-	-
	T	0.80	28.9	C	LT	0.87	35.1	D
	SB TR	0.80	29.5	C	TR	0.82	30.8	C
Overall Intersection	-	0.70	29.0	C	-	0.79	31.9	C
Kissena Boulevard and 45th Avenue								
45th Avenue	WB LTR	0.89	54.0	D	LTR	0.89	54.0	D
Kissena Boulevard	NB L	0.27	17.1	B	L	0.34	19.4	B
	TR	0.83	34.2	C	TR	0.88	39.4	D
	SB L	0.63	26.7	C	L	0.68	29.6	C
	TR	0.84	31.0	C	TR	0.99	54.5	D
Overall Intersection	-	0.86	36.3	D	-	0.95	45.9	D
Kissena Boulevard and Holly Avenue South								
Holly Avenue South	WB LR	0.47	32.2	C	LR	0.56	35.9	D
Kissena Boulevard	NB TR	0.81	25.2	C	TR	0.96	43.4	D
	SB L	0.52	21.3	C	L	0.72	37.0	D
	T	0.85	32.4	C	T	0.92	40.7	D
Overall Intersection	-	0.7151	28.5	C	-	0.83	40.9	D
Kissena Boulevard and Juniper Avenue								
Juniper Avenue Driveway	WB L	0.23	26.9	C	L	-	-	-
	TR	0.35	29.1	C	TR	-	-	-
Kissena Boulevard	NB LT	0.76	21.8	C	LT	0.98	45.0	D
		0.73	18.2	B	TR	0.77	19.6	B
Overall Intersection	-	0.62	21.4	C	-	0.65	32.5	C
Kissena Boulevard and Laburnum Avenue								
Laburnum Avenue	EB LTR	0.12	18.1	B	LTR	0.12	18.1	B
	WB LTR	0.24	19.9	B	LTR	0.31	21.1	C
Kissena Boulevard	NB LTR	0.78	25.9	C	LTR	0.87	32.0	C
	SB LTR	0.78	21.3	C	LTR	0.90	27.6	C
Overall Intersection	-	0.54	23.2	C	-	0.64	28.6	C
Kissena Boulevard and Oak Avenue								
Oak Avenue	EB LTR	0.41	29.8	C	LTR	0.41	29.8	C
	WB LR	0.17	26.0	C	LR	0.17	26.0	C
Kissena Boulevard	NB TR	0.48	11.4	B	TR	0.54	12.3	B
	SB LT	0.58	12.8	B	LT	0.64	14.1	B
Overall Intersection	-	0.53	15.0	B	-	0.57	15.7	B
Kissena Boulevard and Booth Memorial Avenue								
Booth Memorial Parkway	EB L	0.85	50.7	D	L	0.92	64.5	E
	TR	0.81	34.6	C	TR	0.81	34.6	C
	WB L	0.03	16.1	B	L	0.03	16.1	B
	TR	0.65	27.1	C	TR	0.69	28.6	C
Kissena Boulevard	NB LTR	0.81	36.7	D	LTR	0.85	39.5	D
	SB LTR	1.22	135.6	F	LTR	1.31	171.1	F
Overall Intersection	-	1.06	70.0	E	-	1.15	84.8	F
UNSIGNALIZED INTERSECTIONS								
Kissena Boulevard and Holly Avenue North								
Holly Avenue North	EB LR	-	15.5	C	LR	-	16.7	C
Kissena Boulevard	NB -	-	-	-	-	-	-	-
Overall Intersection	-	-	0.3	A	-	-	0.3	A

- (1) Control delay is measured in seconds per vehicle.
(2) Overall intersection V/C ratio is the critical lane groups' V/C ratio.
(3) Movement delay and overall delay cannot be calculated; exceeds the HCS software threshold.
Denotes a significantly impacted movement.

TABLE K-25
Kissena Boulevard Development
NO ACTION VS WITH ACTION TRAFFIC LEVELS OF SERVICE COMPARISON - WEEKDAY PM PEAK HOUR

INTERSECTION & APPROACH	2021 No Action				2021 With Action			
	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
Kissena Boulevard and Kalmia Avenue								
Kalmia Avenue	EB LTR	-	504.3	F	LTR	0.14	21.1	C
	WB LTR	-	-	-	LTR	0.68	33.4	C
Kissena Boulevard	NB LTR	-	9.1	A	LTR	0.81	22.7	C
	SB LTR	-	18.5	C	LTR	1.01	45.0	D
Overall Intersection	-	-	23.3	C	-	0.88	35.9	D
Union Street and Holly Avenue								
Holly Avenue	EB LT	-	8.4	A	LT	-	8.5	A
Union Street	NB LTR	-	17.8	C	LTR	-	18.2	C
Overall Intersection	-	-	6.0	A	-	-	6.1	A
Union Street and Laburnum Avenue								
Union Street	WB TR	-	7.6	A	LT	-	7.6	A
	NB LTR	-	11.7	B	LTR	-	12.0	B
Overall Intersection	-	-	4.8	A	-	-	4.7	A
Kissena Boulevard and Negundo Avenue								
Negundo Avenue	EB LTR	-	28.3	D	LTR	-	35.4	E
	WB LTR	-	31.1	D	LTR	-	38.0	E
Kissena Boulevard	NB LTR	-	9.0	A	LTR	-	9.3	A
	SB LTR	-	8.8	A	LTR	-	9.0	A
Overall Intersection	-	-	9.7	A	-	-	10.2	B


- (1) Control delay is measured in seconds per vehicle.
(2) Overall intersection V/C ratio is the critical lane groups' V/C ratio.
(3) Movement delay and overall delay cannot be calculated; exceeds the HCS software threshold.
 Denotes a significantly impacted movement.


TABLE K-26
Kissena Boulevard Development
NO ACTION VS WITH ACTION TRAFFIC LEVELS OF SERVICE COMPARISON - SATURDAY PEAK HOUR

INTERSECTION & APPROACH	2021 No Action				2021 With Action			
	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
SIGNALIZED INTERSECTIONS								
Kissena Boulevard and Elder Avenue								
Elder Avenue	WB L	0.56	29.3	C	L	0.56	29.3	C
	R	0.49	28.3	C	R	0.57	30.7	C
Kissena Boulevard	NB -	-	-	-	-	-	-	-
	T	0.79	27.4	C	LT	0.86	33.3	C
	SB TR	0.62	21.0	C	TR	0.63	21.4	C
Overall Intersection	-	0.69	25.8	C	-	0.74	28.4	C
Kissena Boulevard and 45th Avenue								
45th Avenue	WB LTR	0.82	44.9	D	LTR	0.82	44.9	D
Kissena Boulevard	NB L	0.14	14.8	B	L	0.19	15.7	B
	TR	0.83	33.9	C	TR	0.88	39.1	D
	L	0.36	19.0	B	L	0.39	20.1	C
	TR	0.76	28.1	C	TR	0.84	33.4	C
Overall Intersection	-	0.83	33.0	C	-	0.85	36.5	D
Kissena Boulevard and Holly Avenue South								
Holly Avenue South	WB LR	0.40	24.8	C	LR	0.45	26.1	C
Kissena Boulevard	NB TR	0.88	34.7	C	TR	0.96	47.1	D
	SB L	0.41	23.1	C	L	0.54	30.9	C
	T	0.83	35.4	D	T	0.89	42.4	D
Overall Intersection	-	0.68	32.7	C	-	0.74	40.9	D
Kissena Boulevard and Juniper Avenue								
Juniper Avenue Driveway	WB L	0.14	20.8	C	L	-	-	-
	TR	0.20	21.6	C	TR	-	-	-
Kissena Boulevard	NB LT	0.82	29.9	C	LT	1.03	63.7	E
	SB TR	0.75	22.7	C	TR	0.79	24.1	C
Overall Intersection	-	0.55	25.3	C	-	0.59	43.8	D
Kissena Boulevard and Laburnum Avenue								
Laburnum Avenue	EB LTR	0.16	18.6	B	LTR	0.16	18.7	B
	WB LTR	0.50	25.7	C	LTR	0.59	28.5	C
Kissena Boulevard	NB LTR	0.82	27.5	C	LTR	0.89	33.2	C
	SB LTR	0.84	25.2	C	LTR	0.98	41.7	D
Overall Intersection	-	0.69	25.9	C	-	0.81	35.3	D
Kissena Boulevard and Oak Avenue								
Oak Avenue	EB LTR	0.35	22.7	C	LTR	0.35	22.7	C
	WB LR	0.16	20.1	C	LR	0.16	20.1	C
Kissena Boulevard	NB TR	0.63	18.9	B	TR	0.68	20.5	C
	SB LT	0.74	20.9	C	LT	0.81	24.0	C
Overall Intersection	-	0.58	20.3	C	-	0.62	22.3	C
Kissena Boulevard and Booth Memorial Avenue								
Booth Memorial Parkway	EB L	0.90	70.2	E	L	0.99	93.5	F
	TR	0.78	36.5	D	TR	0.78	36.5	D
	WB L	0.10	19.7	B	L	0.10	19.7	B
	TR	0.81	38.9	D	TR	0.85	42.4	D
Kissena Boulevard	NB LTR	0.71	29.0	C	LTR	0.74	30.1	C
	SB LTR	1.01	56.0	E	LTR	1.09	78.3	E
Overall Intersection	-	0.97	44.1	D	-	1.06	54.7	D
UNSIGNALIZED INTERSECTIONS								
Kissena Boulevard and Holly Avenue North								
Holly Avenue North	EB LR	-	15.3	C	LR	-	16.4	C
Kissena Boulevard	NB -	-	-	-	-	-	-	-
Overall Intersection	-	-	0.9	A	-	-	0.9	A

- (1) Control delay is measured in seconds per vehicle.
(2) Overall intersection V/C ratio is the critical lane groups' V/C ratio.
(3) Movement delay and overall delay cannot be calculated; exceeds the HCS software threshold.
Denotes a significantly impacted movement.

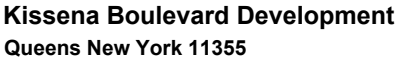
TABLE K-26
Kissena Boulevard Development
NO ACTION VS WITH ACTION TRAFFIC LEVELS OF SERVICE COMPARISON - SATURDAY PEAK HOUR

INTERSECTION & APPROACH	2021 No Action				2021 With Action			
	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
Kissena Boulevard and Kalmia Avenue								
Kalmia Avenue	EB LTR	-	117.5	F	LTR	0.11	20.7	C
	WB -	-	-	-	LTR	0.56	29.3	C
Kissena Boulevard	NB LTR	-	8.8	A	LTR	0.83	23.2	C
	SB LTR	-	24.1	C	LTR	0.87	28.5	C
Overall Intersection	-	-	19.8	C	-	0.75	26.0	C
Union Street and Holly Avenue								
Holly Avenue	EB LT	-	8.6	A	LT	-	8.7	A
Union Street	NB LTR	-	14.2	B	LTR	-	14.6	B
Overall Intersection	-	-	5.9	A	-	-	6.1	A
Union Street and Laburnum Avenue								
Union Street	WB LT	-	7.8	A	LT	-	7.9	A
	NB LTR	-	10.8	B	LTR	-	11.1	B
Overall Intersection	-	-	3.9	A	-	-	4.0	A
Kissena Boulevard and Negundo Avenue								
Negundo Avenue	EB LTR	-	34.7	D	LTR	-	45.2	E
	WB LTR	-	29.3	D	LTR	-	36.5	E
Kissena Boulevard	NB LTR	-	8.8	A	LTR	-	9.0	A
	SB LTR	-	9.2	A	LTR	-	9.4	A
Overall Intersection	-	-	9.9	A	-	-	10.4	B

- (1) Control delay is measured in seconds per vehicle.
(2) Overall intersection V/C ratio is the critical lane groups' V/C ratio.
(3) Movement delay and overall delay cannot be calculated; exceeds the HCS software threshold.
 Denotes a significantly impacted movement.







**Figure
K-31**



The summary overview of With Action conditions indicates that:

- during the weekday AM peak hour, 3 of the 12 intersections analyzed would operate at overall LOS E or F (similar to the No Action condition). There would be 8 individual traffic movements out of the approximately 43 movements analyzed that would operate at LOS E or F (similar to the No Action condition), while 4 movements would operate at unacceptable LOS D (compared to 2 in the No Action condition).
- during the weekday MD peak hour, no intersections analyzed would operate at overall LOS E or F (similar to the No Action conditions). One of the individual traffic movements would operate at LOS E or F compared to two during the No Action condition, and one movement would operate at unacceptable LOS D (compared to none in the No Action condition).
- in the weekday PM peak hour, one intersection analyzed would operate at overall unacceptable LOS E or F similar to the No Action condition. Four individual traffic movements would operate at LOS E or F compared to two in the No Action condition, while two movements would operate at unacceptable LOS D (similar to the No Action condition).
- in the Saturday peak hour, none of the intersections analyzed would operate at overall unacceptable LOS E or F similar to the No Action condition. Five individual traffic movements would operate at LOS E or F compared to three in the No Action condition, and one movement would operate at unacceptable LOS D compared to none in the No Action condition.

Based on the analysis results, the majority of traffic movements would continue to operate at acceptable levels of services. With the proposed improvements in place, the proposed project would not result in significant traffic impacts. Of the 12 intersections analyzed, the proposed actions would result in significant adverse traffic impacts at the intersections of Kissena Boulevard and 45th Avenue during the weekday AM and PM peak hours, Kissena Boulevard and Holly Avenue (south) during the weekday AM, MD, and Saturday peak hours, Kissena Boulevard and Juniper Avenue during the weekday AM and Saturday peak hours, and Kissena Boulevard and Booth Memorial Avenue during the weekday AM, MD, PM, and Saturday peak hours.

The following traffic movements were significantly impacted for the following peak hours:

- Kissena Boulevard and 45th Avenue northbound through-right movement (weekday AM peak hour)
- Kissena Boulevard and 45th Avenue southbound through-right movement (weekday AM and PM peak hours)
- Kissena Boulevard and Holly Avenue (south) northbound approach (weekday AM, MD, and Saturday peak hours)
- Kissena Boulevard and Holly Avenue (south) southbound left turn movement (weekday AM peak hour)
- Kissena Boulevard and Juniper Avenue northbound approach (weekday AM and Saturday peak hours)
- Kissena Boulevard and Booth Memorial Avenue eastbound left turn (weekday AM, PM, and Saturday peak hours)
- Kissena Boulevard and Booth Memorial Avenue southbound approach (weekday AM, MD, PM, and Saturday peak hours)

Mitigation Measures

The following traffic improvements would fully mitigate the impacted intersections identified above.

- Kissena Boulevard and 45th Avenue
 - Install a “No Standing 7 AM to 7 PM Monday through Friday” regulation along the north curb of the westbound approach for 100 feet.
 - Modify the signal timing during the weekday AM and PM peak periods. During the weekday AM and PM peak periods, shift 2 seconds of green time from the westbound phase to the northbound/southbound phase; the lead pedestrian interval phase would remain the same. There would be no changes during the weekday MD and Saturday peak periods.
- Kissena Boulevard and Holly Avenue (south):
 - Modify the signal timing during the weekday AM, MD, and Saturday peak periods. During the weekday AM peak period, shift 3 second of green time from the westbound phase to the northbound/southbound phase; the lead pedestrian interval phase would remain the same. During the weekday MD and Saturday peak periods, shift 1 second of green time from the westbound phase to the northbound/southbound phase; the lead pedestrian interval phase would remain the same. There would be no changes during the weekday PM period.
- Kissena Boulevard and Juniper Avenue:
 - Modify the signal timing during the weekday AM and Saturday peak periods. During the weekday AM peak period, shift 4 seconds of green time from the westbound phase to the northbound/southbound phase with the lead pedestrian interval phase remaining the same. During the Saturday peak period, shift 2 seconds of green time from the westbound phase to the northbound/southbound phase with the lead pedestrian interval phase remaining the same.
- Kissena Boulevard and Booth Memorial Avenue:
 - Install the “No Standing 7 AM to 7 PM Except Sunday” regulations along the westbound approach for 175 feet to provide an additional travel lane.
 - Restripe the westbound approach from one 10-foot-wide left-turn lane and one 20-foot-wide through-right lane with parking to one 10-foot-wide left-turn lane, 10-foot-wide through lane, and one 10-foot-wide parking lane which serves as a right-turn lane during specific periods.
 - Modify the signal timing during the weekday AM, MD, PM, and Saturday peak periods—shift 2 second of green time from the eastbound/westbound phase to the southbound lead phase; the northbound/southbound phase remains the same.

These mitigation measures would provide sufficient capacity to accommodate project-generated trips without creating significant adverse traffic impacts.

Detailed traffic level of service comparisons for No Action, With Action, and With Action with Mitigation conditions are provided in **Tables K-27 through K-30**. With the proposed improvements, there would be no further deterioration of level of service and no significant impacts.

PEDESTRIANS

The project-generated increase in pedestrian volumes shown in **Figures K-6 through K-9** were incorporated into the 2021 No Action pedestrian volume to develop the 2021 With Action pedestrian volumes. One additional pedestrian element at the intersection of Kissena Boulevard

TABLE K-27
KISSENA BOULEVARD DEVELOPMENT

NO ACTION VS WITH ACTION W/ IMPROVEMENTS TRAFFIC LEVELS OF SERVICE COMPARISON - WEEKDAY AM PEAK HOUR														
INTERSECTION & APPROACH	2021 No Action				2021 With Action				2021 With Action w/ Improvements				Transportation Improvements	
	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS		
SIGNALIZED INTERSECTIONS														
Kissena Boulevard and Elder Avenue Elder Avenue Kissena Boulevard	WB	L	0.65	37.3	D	L	0.65	37.3	D	L	0.65	37.3	D	- No improvements needed.
	R	0.73	44.1	D	R	0.77	47.6	D	R	0.77	47.6	D		
	NB	DefL	0.60	19.3	B	DefL	0.65	21.4	C	DefL	0.65	21.4	C	
	T	0.90	36.6	D	T	0.93	41.1	D	T	0.93	41.1	D		
	SB	TR	0.61	17.2	B	TR	0.62	17.4	B	TR	0.62	17.4	B	
Overall Intersection	-	0.84	29.0	C	-	0.88	31.0	C	-	0.88	31.0	C		
Kissena Boulevard and 45th Avenue 45th Avenue Kissena Boulevard	WB	LTR	1.11	108.7	F	LTR	1.11	109.5	F	LTR	1.11	110.5	F	- Install "No Standing 7 AM - 7 PM Mon-Fri" regulation along the north curb of the WB approach for 100 feet. - Modify signal timing, Shift 2 sec of green time from EB/WB phase to NB/SB phase. [NB/SB green time shifts from 41 sec to 43 sec; WB green time shifts from 32 sec to 30 sec; LPI phase time remains the same].
	NB	L	0.31	19.3	B	L	0.39	21.9	C	L	0.35	19.1	B	
	TR	0.99	61.7	E	TR	1.04	76.0	E	TR	0.99	60.7	E		
	SB	L	0.60	29.9	C	L	0.64	33.3	C	L	0.58	27.2	C	
	TR	1.01	63.6	E	TR	1.05	76.3	E	TR	1.00	60.6	E		
Overall Intersection	-	1.05	70.7	E	-	1.08	79.2	E	-	1.05	69.2	E		
Kissena Boulevard and Holly Avenue South Holly Avenue South Kissena Boulevard	WB	LR	0.56	33.2	C	LR	0.63	36.5	D	LR	0.72	44.6	D	- Modify signal timing, Shift 3 sec of green time from WB phase to NB/SB phase. [NB/SB green time shifts from 46 sec to 49 sec; WB green time shifts from 27 sec to 24 sec; LPI phase time remains the same].
	NB	TR	0.90	37.1	D	TR	0.97	48.4	D	TR	0.91	35.4	D	
	SB	L	1.02	97.3	F	L	1.13	133.3	F	L	1.02	92.6	F	
	T	0.85	34.9	C	T	0.88	38.0	D	T	0.82	29.9	C		
	Overall Intersection	-	0.85	43.9	D	-	0.95	54.4	D	-	0.91	42.5	D	
Kissena Boulevard and Juniper Avenue Juniper Avenue Driveway Kissena Boulevard	WB	L	0.19	24.2	C	L	-	-	-	-	-	-	-	- WB approach closed as part of proposed project - Modify signal timing, Shift 4 sec of green time from WB phase to NB/SB phase. [NB/SB green time shifts from 46 sec to 50 sec; WB green time shifts from 27 sec to 23 sec; LPI phase time remains the same].
	TR	0.21	24.7	C	TR	-	-	-	-	-	-	-	-	
	NB	LT	0.98	52.3	D	LT	1.25	148.4	F	LT	1.02	57.0	D	
	SB	TR	0.68	16.9	B	TR	0.7	17.2	B	TR	0.64	14.2	B	
	Overall Intersection	-	0.69	32.9	C	-	0.79	87.7	F	-	0.70	37.2	C	
Kissena Boulevard and Laburnum Avenue Laburnum Avenue Kissena Boulevard	EB	LTR	0.14	18.5	B	LTR	0.14	18.5	B	LTR	0.14	18.5	B	- No improvements needed.
	WB	LTR	0.39	22.8	C	LTR	0.51	25.6	C	LTR	0.51	25.6	C	
	NB	LTR	0.78	25.8	C	LTR	0.82	27.8	C	LTR	0.82	27.8	C	
	SB	LTR	0.69	19.1	B	LTR	0.76	20.9	C	LTR	0.76	20.9	C	
	Overall Intersection	-	0.61	22.6	C	-	0.68	24.5	C	-	0.68	24.5	C	
Kissena Boulevard and Oak Avenue Oak Avenue Kissena Boulevard	EB	LTR	0.45	26.8	C	LTR	0.45	26.8	C	LTR	0.45	26.8	C	- No improvements needed.
	WB	LR	0.16	22.3	C	LR	0.16	22.3	C	LR	0.16	22.3	C	
	NB	TR	0.59	16.2	B	TR	0.61	16.8	B	TR	0.61	16.8	B	
	SB	LT	0.65	17.5	B	LT	0.73	20.1	C	LT	0.73	20.1	C	
	Overall Intersection	-	0.57	18.7	B	-	0.62	19.9	B	-	0.62	19.9	B	
Kissena Boulevard and Booth Memorial Avenue Booth Memorial Parkway Kissena Boulevard	EB	L	0.81	59.8	E	L	0.86	69.7	E	L	0.55	29.9	C	- Install "No Standing 7 AM to 7 PM Ex. Sunday" regulation along the north curb of the WB approach for 175 feet. - Restripe the WB approach from one 10-foot left-turn lane and one 20-foot through/right-turn lane with parking to one 10-foot left-turn lane, one 10-foot through lane, and one 10-foot parking lane which serves as a right turn during specific periods. - Modify signal timing, Shift 2 sec of green time from EB/WB phase to SB-lead phase. [SB-lead green time shifts from 8 sec to 10 sec; EB/WB green time shifts from 37 sec to 35 sec.]
	TR	0.76	31.4	C	TR	0.76	31.4	C	TR	0.80	35.7	D		
	WB	L	0.11	17.3	B	L	0.11	17.3	B	L	0.12	18.9	B	
	TR	0.91	43.7	D	TR	0.92	45.3	D	T	0.67	28.4	C		
	NB	LTR	0.90	45.8	D	-	-	-	-	R	0.38	22.1	C	
SB	LTR	1.16	109.6	F	LTR	0.92	49.3	D	LTR	0.92	49.3	D		
Overall Intersection	-	1.05	65.0	E	-	1.11	79.0	E	-	1.02	61.5	E		
UNSIGNALIZED INTERSECTIONS														
Kissena Boulevard and Holly Avenue North Holly Avenue North Kissena Boulevard	EB	LR	-	14.9	B	LR	-	15.5	C	LR	-	15.5	C	- No improvements needed.
	NB	-	-	-	-	-	-	-	-	-	-	-		
	Overall Intersection	-	-	0.8	A	-	-	0.8	A	-	-	0.8	A	
Kissena Boulevard and Kalmia Avenue Kalmia Avenue Kissena Boulevard	EB	LTR	-	183.8	F	Signalized				LTR	0.10	20.7	C	- With Action Improvement: Install a two-phase traffic signal with a 90 second cycle to facilitate vehicle and pedestrian traffic to the proposed project driveway.
	WB	-	-	-	-	LTR	0.49	27.2	C	LTR	0.49	27.2	C	
	NB	LTR	-	8.6	A	LTR	0.93	33.1	C	LTR	0.93	33.1	C	
	SB	LTR	-	28.0	D	LTR	0.89	32.2	C	LTR	0.89	32.2	C	
	Overall Intersection	-	-	22.0	C	-	0.76	31.7	C	-	0.76	31.7	C	
Union Street and Holly Avenue Holly Avenue Union Street	EB	LT	-	9.8	A	LT	-	9.8	A	LT	-	9.8	A	- No improvements needed.
	NB	LTR	-	37.2	E	LTR	-	39.8	E	LTR	-	39.8	E	
	Overall Intersection	-	-	9.9	A	-	-	10.5	B	-	-	10.5	B	
Union Street and Laburnum Avenue Holly Avenue Union Street	WB	TR	-	7.9	A	LT	-	7.9	A	LT	-	7.9	A	- No improvements needed.
	NB	LTR	-	11.3	B	LTR	-	11.5	B	LTR	-	11.5	B	
	Overall Intersection	-	-	3.8	A	-	-	3.8	A	-	-	3.8	A	
Kissena Boulevard and Negundo Avenue Negundo Avenue Kissena Boulevard	EB	LTR	-	15.7	C	LTR	-	17.4	C	LTR	-	17.4	C	- No improvements needed.
	WB	LTR	-	11.9	B	LTR	-	12.2	B	LTR	-	12.2	B	
	NB	LTR	-	8.5	A	LTR	-	8.7	A	LTR	-	8.7	A	
	SB	LTR	-	9.7	A	LTR	-	9.8	A	LTR	-	9.8	A	
	Overall Intersection	-	-	9.2	A	-	-	9.4	A	-	-	9.4	A	

- Control delay is measured in seconds per vehicle.
- Overall intersection V/C ratio is the critical lane groups' V/C ratio.
- Movement delay and overall delay cannot be calculated; exceeds the HCS software threshold.

Highlighting denotes a significantly impacted movement.

TABLE K-28
KISSENA BOULEVARD DEVELOPMENT
NO ACTION VS WITH ACTION W/ IMPROVEMENTS TRAFFIC LEVELS OF SERVICE COMPARISON - WEEKDAY MIDDAY PEAK HOUR

		2021 No Action				2021 With Action				2021 With Action w/ Improvements				Transportation Improvements		
INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS			
SIGNALIZED INTERSECTIONS																
Kissena Boulevard and Elder Avenue		WB	L	0.48	27.3	C	L	0.48	27.3	C	L	0.48	27.3	C	- No improvements needed.	
Elder Avenue		R	0.39	25.8	C	R	0.43	26.7	C	R	0.43	26.7	C			
Kissena Boulevard		NB	-	-	-	-	-	-	-	-	-	-	-			
		SB	LT	0.72	24.1	C	LT	0.77	26.5	C	LT	0.77	26.5	C		
		TR	0.50	18.3	B	TR	0.52	18.5	B	TR	0.52	18.5	B			
Overall Intersection		-	0.63	23.0	C	-	0.65	24.1	C	-	0.65	24.1	C			
Kissena Boulevard and 45th Avenue		WB	LTR	0.70	35.1	D	LTR	0.70	35.3	D	LTR	0.70	35.3	D	- Install "No Standing 7 AM - 7 PM Mon-Fri" regulation along the north curb of the WB approach for 100 feet. [Measures needed for the weekday AM and PM peak hours]	
45th Avenue		NB	L	0.29	18.0	B	L	0.35	19.6	B	L	0.35	19.6	B		
Kissena Boulevard		TR	0.76	29.4	C	TR	0.80	31.6	C	TR	0.80	31.6	C			
		SB	L	0.27	17.2	B	L	0.28	17.6	B	L	0.28	17.6	B		
		TR	0.85	35.2	D	TR	0.91	42.7	D	TR	0.91	42.7	D			
Overall Intersection		-	0.78	31.4	C	-	0.81	35.1	D	-	0.81	35.1	D			
Kissena Boulevard and Holly Avenue South		WB	LR	0.33	23.8	C	LR	0.36	24.6	C	LR	0.37	25.6	C	- Modify signal timing. Shift 1 sec of green time from WB phase to NB/SB phase. [NB/SB green time shifts from 42 sec to 43 sec; WB green time shifts from 31 sec to 30 sec; LPI phase time remains the same].	
Holly Avenue South		NB	TR	0.93	43.2	D	TR	0.97	50.9	D	TR	0.94	45.2	D		
Kissena Boulevard		SB	L	0.38	22.1	C	L	0.43	25.3	C	L	0.42	23.6	C		
		T	0.80	32.8	C	T	0.86	38.5	D	T	0.84	35.5	D			
Overall Intersection		-	0.67	35.9	D	-	0.70	41.7	D	-	0.70	38.0	D			
Kissena Boulevard and Juniper Avenue		WB	L	0.16	21.1	C	L	-	-	-	-	-	-	-	- WB approach closed as part of proposed project - No improvements needed.	
Juniper Avenue Driveway		TR	0.27	22.6	C	TR	-	-	-	-	-	-	-			
Kissena Boulevard		NB	LT	0.69	23.7	C	LT	0.89	35.9	D	LT	0.89	35.9	D		
		SB	TR	0.73	23.3	C	TR	0.76	24.6	C	TR	0.76	24.6	C		
Overall Intersection		-	0.53	23.2	C	-	0.51	30.4	C	-	0.51	30.4	C			
Kissena Boulevard and Laburnum Avenue		EB	LTR	0.13	18.3	B	LTR	0.13	18.3	B	LTR	0.13	18.3	B	- No improvements needed.	
Laburnum Avenue		WB	LTR	0.29	20.7	C	LTR	0.35	21.9	C	LTR	0.35	21.9	C		
Kissena Boulevard		NB	LTR	0.72	22.8	C	LTR	0.76	24.5	C	LTR	0.76	24.5	C		
		SB	LTR	0.62	19.0	B	LTR	0.70	21.3	C	LTR	0.70	21.3	C		
Overall Intersection		-	0.53	21.0	C	-	0.58	22.7	C	-	0.58	22.7	C			
Kissena Boulevard and Oak Avenue		EB	LTR	0.21	20.6	C	LTR	0.21	20.6	C	LTR	0.21	20.6	C	- No improvements needed.	
Oak Avenue		WB	LR	0.08	19.1	B	LR	0.08	19.1	B	LR	0.08	19.1	B		
Kissena Boulevard		NB	TR	0.58	17.8	B	TR	0.61	18.6	B	TR	0.61	18.6	B		
		SB	LT	0.58	17.7	B	LT	0.63	18.9	B	LT	0.63	18.9	B		
Overall Intersection		-	0.43	18.1	B	-	0.46	18.9	B	-	0.46	18.9	B			
Kissena Boulevard and Booth Memorial Avenue		EB	L	0.51	29.7	C	L	0.56	32.2	C	L	0.38	25.5	C	- Install "No Standing 7 AM to 7 PM Ex. Sunday" regulation along the north curb of the WB approach for 175 feet. - Restripe the WB approach from one 10-foot left-turn lane and one 20-foot through/right-turn lane with parking to one 10-foot left-turn lane, one 10-foot through lane, and one 10-foot parking lane which serves as a right turn during specific periods. - Modify signal timing. Shift 2 sec of green time from EB/WB phase to SB-lead phase. [SB-lead green time shifts from 8 sec to 10 sec; EB/WB green time shifts from 33 sec to 31 sec.]	
Booth Memorial Parkway		TR	0.48	25.2	C	TR	0.48	25.2	C	TR	0.51	27.4	C			
		WB	L	0.06	18.9	B	L	0.06	18.9	B	L	0.07	20.3	B		
		TR	0.69	32.0	C	TR	0.71	32.9	C	T	0.30	22.9	C			
		-	-	-	-	-	-	-	-	R	0.48	27.2	C			
Kissena Boulevard		NB	LTR	0.75	31.4	C	LTR	0.77	32.3	C	LTR	0.77	32.3	C		
		SB	LTR	1.01	56.1	E	LTR	1.06	73.6	E	LTR	1.00	53.2	D		
Overall Intersection		-	0.88	39.6	D	-	0.92	46.8	D	-	0.81	37.8	D			
UNSIGNALIZED INTERSECTIONS																
Kissena Boulevard and Holly Avenue North		EB	LR	-	14.1	B	LR	-	14.9	B	LR	-	14.9	B	- No improvements needed.	
Holly Avenue North		NB	-	-	-	-	-	-	-	-	-	-	-			
Kissena Boulevard		Overall Intersection	-	-	0.5	A	-	-	0.5	A	-	-	0.5	A		
Kissena Boulevard and Kalmia Avenue		EB	LTR	-	214.3	F	Signalized				Signalized				- With Action Improvement: Install a two-phase traffic signal with a 90 second cycle to facilitate vehicle and pedestrian traffic to the proposed project driveway.	
Kalmia Avenue		WB	LTR	-	-	-	LTR	0.12	20.9	C	LTR	0.12	20.9	C		
Kissena Boulevard		NB	LTR	-	8.5	A	LTR	0.68	33.8	C	LTR	0.68	33.8	C		
		SB	LTR	-	18.7	C	LTR	0.69	18.7	B	LTR	0.69	18.7	B		
Overall Intersection		-	-	17.8	C	-	0.74	23.3	C	-	0.74	23.3	C			
Union Street and Holly Avenue		EB	LT	-	7.9	A	LT	-	7.9	A	LT	-	7.9	A	- No improvements needed.	
Holly Avenue		NB	LTR	-	12.6	B	LTR	-	12.7	B	LTR	-	12.7	B		
Union Street		Overall Intersection	-	-	5.8	A	-	-	5.8	A	-	-	5.8	A		
Union Street and Laburnum Avenue		WB	TR	-	7.7	A	LT	-	7.8	A	LT	-	7.8	A	- No improvements needed.	
Holly Avenue		NB	LTR	-	11.3	B	LTR	-	11.6	B	LTR	-	11.6	B		
Union Street		Overall Intersection	-	-	5.3	A	-	-	5.3	A	-	-	5.3	A		
Kissena Boulevard and Negundo Avenue		EB	LTR	-	20.1	C	LTR	-	22.1	C	LTR	-	22.1	C	- No improvements needed.	
Negundo Avenue		WB	LTR	-	11.5	B	LTR	-	11.7	B	LTR	-	11.7	B		
Kissena Boulevard		NB	LTR	-	8.5	A	LTR	-	8.6	A	LTR	-	8.6	A		
		SB	LTR	-	8.7	A	LTR	-	8.8	A	LTR	-	8.8	A		
Overall Intersection		-	-	8.8	A	-	-	8.9	A	-	-	8.9	A			

(1) Control delay is measured in seconds per vehicle.

(2) Overall intersection V/C ratio is the critical lane groups' V/C ratio.

(3) Movement delay and overall delay cannot be calculated; exceeds the HCS software threshold.

Highlighting denotes a significantly impacted movement.

TABLE K-29
KISSENA BOULEVARD DEVELOPMENT

NO ACTION VS WITH ACTION W/ IMPROVEMENTS TRAFFIC LEVELS OF SERVICE COMPARISON - WEEKDAY PM PEAK HOUR															
INTERSECTION & APPROACH	2021 No Action				2021 With Action				2021 With Action w/ Improvements				Transportation Improvements		
	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS			
SIGNALIZED INTERSECTIONS															
Kissena Boulevard and Elder Avenue	WB	L	0.51	27.2	C	L	0.51	27.2	C	L	0.51	27.2	C	- No improvements needed.	
Elder Avenue		R	0.58	29.7	C	R	0.66	32.7	C	R	0.66	32.7	C		
Kissena Boulevard		NB	-	-	-	-	-	-	-	-	-	-	-		
	SB	LT	0.80	28.9	C	LT	0.87	35.1	D	LT	0.87	35.1	D		
		TR	0.80	29.5	C	TR	0.82	30.8	C	TR	0.82	30.8	C		
Overall Intersection	-	0.70	29.0	C	-	0.79	31.9	C	-	0.79	31.9	C			
Kissena Boulevard and 45th Avenue	WB	LTR	0.89	54.0	D	LTR	0.89	54.0	D	LTR	0.89	55.1	E	- Install "No Standing 7 AM - 7 PM Mon-Fri" regulation along the north curb of the WB approach for 100 feet. - Modify signal timing. Shift 2 sec of green time from EB/WB phase to NB/SB phase. [NB/SB green time shifts from 43 sec to 45 sec; WB green time shifts from 30 sec to 28 sec; LPI phase time remains the same].	
45th Avenue		L	0.27	17.1	B	L	0.34	19.4	B	L	0.31	17.0	B		
Kissena Boulevard		TR	0.83	34.2	C	TR	0.88	39.4	D	TR	0.84	33.4	C		
		SB	L	0.63	26.7	C	L	0.68	29.6	C	L	0.62	24.7		C
	TR	TR	0.84	31.0	C	TR	0.99	54.5	D	TR	0.95	43.0	D		
Overall Intersection		-	0.86	36.3	D	-	0.95	45.9	D	-	0.92	39.9	D		
Kissena Boulevard and Holly Avenue South	WB	LR	0.47	32.2	C	LR	0.56	35.9	D	LR	0.56	35.9	D	- No improvements needed.	
Holly Avenue South		TR	0.81	25.2	C	TR	0.96	43.4	D	TR	0.96	43.4	D		
Kissena Boulevard		SB	L	0.52	21.3	C	L	0.72	37.0	D	L	0.72	37.0		D
		T	0.85	32.4	C	T	0.92	40.7	D	T	0.92	40.7	D		
Overall Intersection	-	0.72	28.5	C	-	0.83	40.9	D	-	0.83	40.9	D			
Kissena Boulevard and Juniper Avenue	WB	L	0.23	26.9	C	L	-	-	-	-	-	-	-	- WB approach closed as part of proposed project - No improvements needed.	
Juniper Avenue Driveway		TR	0.35	29.1	C	TR	-	-	-	-	-	-	-		
Kissena Boulevard		LT	0.76	21.8	C	LT	0.98	45.0	D	LT	0.98	45.0	D		
		TR	0.73	18.2	B	TR	0.77	19.6	B	TR	0.77	19.6	B		
Overall Intersection	-	0.62	21.4	C	-	0.65	32.5	C	-	0.65	32.5	C			
Kissena Boulevard and Laburnum Avenue	EB	LTR	0.12	18.1	B	LTR	0.12	18.1	B	LTR	0.12	18.1	B	- No improvements needed.	
Laburnum Avenue		WB	LTR	0.24	19.9	B	LTR	0.31	21.1	C	LTR	0.31	21.1		C
Kissena Boulevard		NB	LTR	0.78	25.9	C	LTR	0.87	32.0	C	LTR	0.87	32.0		C
		SB	LTR	0.78	21.3	C	LTR	0.90	27.6	C	LTR	0.90	27.6		C
Overall Intersection	-	0.54	23.2	C	-	0.64	28.6	C	-	0.64	28.6	C			
Kissena Boulevard and Oak Avenue	EB	LTR	0.41	29.8	C	LTR	0.41	29.8	C	LTR	0.41	29.8	C	- No improvements needed.	
Oak Avenue		WB	LR	0.17	26.0	C	LR	0.17	26.0	C	LR	0.17	26.0		C
Kissena Boulevard		NB	TR	0.48	11.4	B	TR	0.54	12.3	B	TR	0.54	12.3		B
		SB	LT	0.58	12.8	B	LT	0.64	14.1	B	LT	0.64	14.1		B
Overall Intersection	-	0.53	15.0	B	-	0.57	15.7	B	-	0.57	15.7	B			
Kissena Boulevard and Booth Memorial Avenue	EB	L	0.85	50.7	D	L	0.92	64.5	E	L	0.64	30.7	C	- Install "No Standing 7 AM to 7 PM Ex. Sunday" regulation along the north curb of the WB approach for 175 feet. - Restripe the WB approach from one 10-foot left-turn lane and one 20-foot through/right-turn lane with parking to one 10-foot left-turn lane, one 10-foot through lane, and one 10-foot parking lane which serves as a right turn during specific periods. - Modify signal timing. Shift 2 sec of green time from EB/WB phase to SB-lead phase. [SB-lead green time shifts from 8 sec to 10 sec; EB/WB green time shifts from 37 sec to 35 sec.]	
Booth Memorial Parkway		TR	0.81	34.6	C	TR	0.81	34.6	C	TR	0.86	40.4	D		
		WB	L	0.03	16.1	B	L	0.03	16.1	B	L	0.04	17.5		B
		TR	0.65	27.1	C	TR	0.69	28.6	C	T	0.33	20.6	B		
	NB	LTR	0.81	36.7	D	-	-	-	-	R	0.42	22.9	C		
Kissena Boulevard		SB	LTR	1.22	135.6	F	LTR	0.85	39.5	D	LTR	0.85	39.5	D	
						LTR	1.31	171.1	F	LTR	1.22	133.1	F		
Overall Intersection	-	1.06	70.0	E	-	1.15	84.8	F	-	1.08	68.7	E			
UNSIGNALIZED INTERSECTIONS															
Kissena Boulevard and Holly Avenue North	EB	LR	-	15.5	C	LR	-	16.7	C	LR	-	16.7	C	- No improvements needed.	
Holly Avenue North		NB	-	-	-	-	-	-	-	-	-	-	-		
Kissena Boulevard	-	-	-	-	-	-	-	-	-	-	-	-			
Overall Intersection	-	-	0.3	A	-	-	0.3	A	-	-	0.3	A			
Kissena Boulevard and Kalmia Avenue	EB	LTR	-	504.3	F	LTR	0.14	21.1	C	LTR	0.14	21.1	C	- With Action Improvement: Install a two-phase traffic signal with a 90 second cycle to facilitate vehicle and pedestrian traffic to the proposed project driveway.	
Kalmia Avenue		WB	LTR	-	-	-	LTR	0.68	33.4	C	LTR	0.68	33.4		C
Kissena Boulevard		NB	LTR	-	9.1	A	LTR	0.81	22.7	C	LTR	0.81	22.7		C
		SB	LTR	-	18.5	C	LTR	1.01	45.0	D	LTR	1.01	45.0		D
Overall Intersection	-	-	23.3	C	-	0.88	35.9	D	-	0.88	35.9	D			
Union Street and Holly Avenue	EB	LT	-	8.4	A	LT	-	8.5	A	LT	-	8.5	A	- No improvements needed.	
Holly Avenue		NB	LTR	-	17.8	C	LTR	-	18.2	C	LTR	-	18.2		C
Union Street	-	-	-	-	-	-	-	-	-	-	-	-			
Overall Intersection	-	-	6.0	A	-	-	6.1	A	-	-	6.1	A			
Union Street and Laburnum Avenue	WB	TR	-	7.6	A	LT	-	7.6	A	LT	-	7.6	A	- No improvements needed.	
Holly Avenue		NB	LTR	-	11.7	B	LTR	-	12.0	B	LTR	-	12.0		B
Union Street	-	-	-	-	-	-	-	-	-	-	-	-			
Overall Intersection	-	-	4.8	A	-	-	4.7	A	-	-	4.7	A			
Kissena Boulevard and Negundo Avenue	EB	LTR	-	28.3	D	LTR	-	35.4	E	LTR	-	35.4	E	- EB/WB Negundo Avenue carries less than 90 passenger car equivalents, therefore no significant impacts were identified for these approaches.	
Negundo Avenue		WB	LTR	-	31.1	D	LTR	-	38.0	E	LTR	-	38.0		E
Kissena Boulevard		NB	LTR	-	9.0	A	LTR	-	9.3	A	LTR	-	9.3		A
		SB	LTR	-	8.8	A	LTR	-	9.0	A	LTR	-	9.0		A
Overall Intersection	-	-	9.7	A	-	-	10.2	B	-	-	10.2	B			

(1) Control delay is measured in seconds per vehicle.

(2) Overall intersection V/C ratio is the critical lane groups' V/C ratio.

(3) Movement delay and overall delay cannot be calculated; exceeds the HCS software threshold.

Highlighting denotes a significantly impacted movement.

TABLE K-30
KISSENA BOULEVARD DEVELOPMENT

NO ACTION VS WITH ACTION W/ IMPROVEMENTS TRAFFIC LEVELS OF SERVICE COMPARISON - SATURDAY PEAK HOUR

		2021 No Action				2021 With Action				2021 With Action w/ Improvements				Transportation Improvements			
		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS				
INTERSECTION & APPROACH																	
SIGNALIZED INTERSECTIONS																	
Kissena Boulevard and Elder Avenue Elder Avenue		WB	L	0.56	29.3	C	L	0.56	29.3	C	L	0.56	29.3	C	- No improvements needed.		
			R	0.49	28.3	C		R	0.57	30.7		C	R	0.57		30.7	C
		Kissena Boulevard		NB	-	-	-	-	-	-	-	-	-	-			
					SB	LT	0.79		27.4	C		LT	0.86	33.3		C	LT
			TR	0.62	21.0	C		TR	0.63	21.4	C		TR	0.63	21.4	C	
Overall Intersection		-	0.69	25.8	C	-	0.74	28.4	C	-	0.74	28.4	C				
Kissena Boulevard and 45th Avenue 45th Avenue Kissena Boulevard		WB	LTR	0.82	44.9	D	LTR	0.82	44.9	D	LTR	0.82	44.9	D	- No improvements needed.		
			NB	L	0.14	14.8		B	L	0.19		15.7	B	L		0.19	15.7
		Kissena Boulevard		TR	0.83	33.9	C	TR	0.88	39.1	D	TR	0.88	39.1		D	
					SB	L	0.36		19.0	B	L		0.39	20.1		C	L
			TR	0.76	28.1	C		TR	0.84	33.4	C		TR	0.84	33.4	C	
Overall Intersection		-	0.83	33.0	C	-	0.85	36.5	D	-	0.85	36.5	D				
Kissena Boulevard and Holly Avenue South Holly Avenue South Kissena Boulevard		WB	LR	0.40	24.8	C	LR	0.45	26.1	C	LR	0.47	27.3	C	- Modify signal timing. Shift 1 sec of green time from WB phase to NB/SB phase. [WB green shifts from 31 sec to 29 sec; NB/SB green shifts from 42 sec to 43 sec; WB green time shifts from 31 sec to 30 sec; LPI phase time remains the same].		
			NB	TR	0.88	34.7		C	TR	0.96		47.1	D	T		0.94	42.0
		Kissena Boulevard		SB	L	0.41	23.1	C	L	0.54	30.9	C	L	0.52		28.3	C
					T	0.83	35.4	D		T	0.89	42.4		D		T	0.87
Overall Intersection		-	0.68	32.7	C	-	0.74	40.9	D	-	0.75	37.6	D				
Kissena Boulevard and Juniper Avenue Juniper Avenue Driveway		WB	L	0.14	20.8	C	L	-	-	-	-	-	-	-	- WB approach closed as part of proposed project - Modify Signal Timing. Shift 2 seconds of green time from WB phase to NB/SB phase. [WB green shifts from 31 sec to 29 sec; NB/SB green shifts from 42 sec to 44 sec; LPI phase time remains the same].		
			TR	0.20	21.6	C		TR	-	-		-	-	-		-	-
		Kissena Boulevard		NB	LT	0.82	29.9	C	LT	1.03	63.7	E	LT	0.94		40.5	D
					SB	TR	0.75	22.7		C	TR	0.79		24.1		C	TR
Overall Intersection		-	0.55	25.3	C	-	0.59	43.8	D	-	0.57	30.4	C				
Kissena Boulevard and Laburnum Avenue Laburnum Avenue		EB	LTR	0.16	18.6	B	LTR	0.16	18.7	B	LTR	0.16	18.7	B	- No improvements needed.		
			WB	LTR	0.50	25.7		C	LTR	0.59		28.5	C	LTR		0.59	28.5
		Kissena Boulevard		NB	LTR	0.82	27.5	C	LTR	0.89	33.2	C	LTR	0.89		33.2	C
					SB	LTR	0.84	25.2		C	LTR	0.98		41.7		D	LTR
Overall Intersection		-	0.69	25.9	C	-	0.81	35.3	D	-	0.81	35.3	D				
Kissena Boulevard and Oak Avenue Oak Avenue		EB	LTR	0.35	22.7	C	LTR	0.35	22.7	C	LTR	0.35	22.7	C	- No improvements needed.		
			WB	LR	0.16	20.1		C	LR	0.16		20.1	C	LR		0.16	20.1
		Kissena Boulevard		NB	TR	0.63	18.9	B	TR	0.68	20.5	C	TR	0.68		20.5	C
					SB	LT	0.74	20.9		C	LT	0.81		24.0		C	LT
Overall Intersection		-	0.58	20.3	C	-	0.62	22.3	C	-	0.62	22.3	C				
Kissena Boulevard and Booth Memorial Avenue Booth Memorial Parkway		EB	L	0.90	70.2	E	L	0.99	93.5	F	L	0.62	34.1	C	- Install "No Standing 7 AM to 7 PM Ex. Sunday" regulation along the north curb of the WB approach for 175 feet. - Restripe the WB approach from one 10-foot left-turn lane and one 20-foot through/right-turn lane with parking to one 10-foot left-turn lane, one 10-foot through lane, and one 10-foot parking lane which serves as a right turn during specific periods. - Modify signal timing. Shift 2 sec of green time from EB/WB phase to SB-lead phase. [SB-lead green time shifts from 8 sec to 10 sec; EB/WB green time shifts from 33 sec to 31 sec.]		
			TR	0.78	36.5	D		TR	0.78	36.5		D	TR	0.84		42.5	D
		Kissena Boulevard		WB	L	0.10	19.7	B	L	0.10	19.7	B	L	0.11		21.4	C
					TR	0.81	38.9	D		TR	0.85	42.4		D		T	0.39
			-	-	-		-	-	-		T	0.54	29.0	C			
			NB	LTR	0.71	29.0	C		LTR	0.74	30.1	C		LTR	0.74	30.1	C
			SB	LTR	1.01	56.0	E		LTR	1.09	78.3	E		LTR	1.01	54.3	D
Overall Intersection		-	0.97	44.1	D	-	1.06	54.7	D	-	0.95	40.3	D				
UNSIGNALIZED INTERSECTIONS																	
Kissena Boulevard and Holly Avenue North Holly Avenue North Kissena Boulevard		EB	LR	-	15.3	C	LR	-	16.4	C	LR	-	16.4	C	- No improvements needed.		
			NB	-	-	-		-	-	-		-	-	-		-	
		Overall Intersection		-	-	0.9	A	-	-	0.9	A	-	-	0.9		A	
Kissena Boulevard and Kalmia Avenue Kalmia Avenue		EB	LTR	-	117.5	F	Signalized				Signalized				- With Action Improvement: Install a two-phase traffic signal with a 90 second cycle to facilitate vehicle and pedestrian traffic to the proposed project driveway.		
			WB	-	-	-	LTR	0.11	20.7	C	LTR	0.11	20.7	C			
		Kissena Boulevard		NB	LTR	-	8.8	A	LTR	0.56	29.3	C	LTR	0.56		29.3	C
					SB	LTR	-	24.1		C	LTR	0.83		23.2		C	LTR
			LTR	-	24.1	C		LTR	0.87	28.5	C		LTR	0.87	28.5	C	
Overall Intersection		-	-	19.8	C	-	0.75	26.0	C	-	0.75	26.0	C				
Union Street and Holly Avenue Holly Avenue Union Street		EB	LT	-	8.6	A	LT	-	8.7	A	LT	-	8.7	A	- No improvements needed.		
			NB	LTR	-	14.2		B	LTR	-		14.6	B	LTR		-	14.6
		Overall Intersection		-	-	5.9	A	-	-	6.1	A	-	-	6.1		A	
Union Street and Laburnum Avenue Holly Avenue Union Street		WB	LT	-	7.8	A	LT	-	7.9	A	LT	-	7.9	A	- No improvements needed.		
			NB	LTR	-	10.8		B	LTR	-		11.1	B	LTR		-	11.1
		Overall Intersection		-	-	3.9	A	-	-	4.0	A	-	-	4.0		A	
Kissena Boulevard and Negundo Avenue Negundo Avenue		EB	LTR	-	34.7	D	LTR	-	45.2	E	LTR	-	45.2	E	- EB/WB Negundo Avenue carries less than 90 passenger car equivalents, therefore no significant impacts were identified for these approaches.		
			WB	LTR	-	29.3		D	LTR	-		36.5	E	LTR		-	36.5
		Kissena Boulevard		NB	LTR	-	8.8	A	LTR	-	9.0	A	LTR	-		9.0	A
					SB	LTR	-	9.2		A	LTR	-		9.4		A	LTR
Overall Intersection		-	-	9.9	A	-	-	10.4	B	-	-	10.4	B				

(1) Control delay is measured in seconds per vehicle.

(2) Overall intersection V/C ratio is the critical lane groups' V/C ratio.

(3) Movement delay and overall delay cannot be calculated; exceeds the HCS software threshold.

Highlighting denotes a significantly impacted movement.

and Kalmia Avenue, which would be controlled by a traffic signal in the With Action condition, was included as part of the analysis to assess pedestrian levels of service at the project's entrance. The 2021 With Action pedestrian volumes are shown in **Figures K-33 through K-36**. The With Action peak-hour volumes and levels of service for each pedestrian element analyzed are presented in **Tables K-31 through K-33**. All pedestrian elements would continue to operate at acceptable LOS A and B with the proposed project.

Table K-31
2021 With Action Sidewalk Levels of Service

Sidewalk	Effective Width (ft)	Peak Hour	Volume (ped/hr)	Avg Ped Space (SFP)	LOS
Kissena Boulevard between Holly Avenue (north) and Holly Avenue (south) (east side)	3.5	AM	771	43.1	B
		MD	531	62.2	A
		PM	557	53.8	B
		SAT	510	52.9	B
Kissena Boulevard between Holly Avenue (north) and Holly Avenue (south) (west side)	4.8	AM	261	184.6	A
		MD	358	125.8	A
		PM	542	78.1	A
		SAT	333	104.1	A
Kissena Boulevard between Holly Avenue (south) and Juniper Avenue (east side)	4.6	AM	863	50.5	B
		MD	875	49.2	B
		PM	873	51.1	B
		SAT	806	42.4	B
Kissena Boulevard between Juniper Avenue and Kalmia Avenue (east side)	12.0	AM	523	260.1	A
		MD	478	281.4	A
		PM	379	311.1	A
		SAT	414	281.1	A
Kissena Boulevard between Kalmia Avenue and Laburnum Avenue (0 east side)	9.8	AM	552	206.8	A
		MD	538	216.8	A
		PM	507	198.5	A
		SAT	586	152.8	A

Table K-32
2021 With Action Crosswalk Levels of Service

Intersection	Crosswalk	Peak Hour	Volume (ped/hr)	Avg Ped Space (SFP)	LOS
Kissena Boulevard and Holly Avenue (south)	North	AM	402	52.7	B
		MD	163	219.7	A
		PM	230	110.7	A
		SAT	184	187.5	A
Kissena Boulevard and Holly Avenue (south)	South	AM	282	72.8	A
		MD	228	138.8	A
		PM	361	72.7	A
		SAT	276	122.1	A
Kissena Boulevard and Holly Avenue (south)	East	AM	667	47.7	B
		MD	527	60.9	A
		PM	515	62.3	A
		SAT	540	49.2	B
Kissena Boulevard Kalmia Avenue	North	AM	76	404.3	A
		MD	145	186.0	A
		PM	110	220.1	A
		SAT	148	189.2	A

Table K-33
2021 With Action Corner Levels of Service

Intersection	Corner	Peak Hour	Volume (ped/hr)	Avg Ped Space (SFP)	LOS
Kissena Boulevard and Holly Avenue (south)	Northeast	AM	201	61.3	A
		MD	61	124.6	A
		PM	119	94.7	A
		SAT	84	100.9	A
Kissena Boulevard and Holly Avenue (south)	Southeast	AM	289	71.3	A
		MD	181	105.0	A
		PM	159	94.3	A
		SAT	139	93.3	A

Effects of Traffic Improvements on Pedestrian Operations

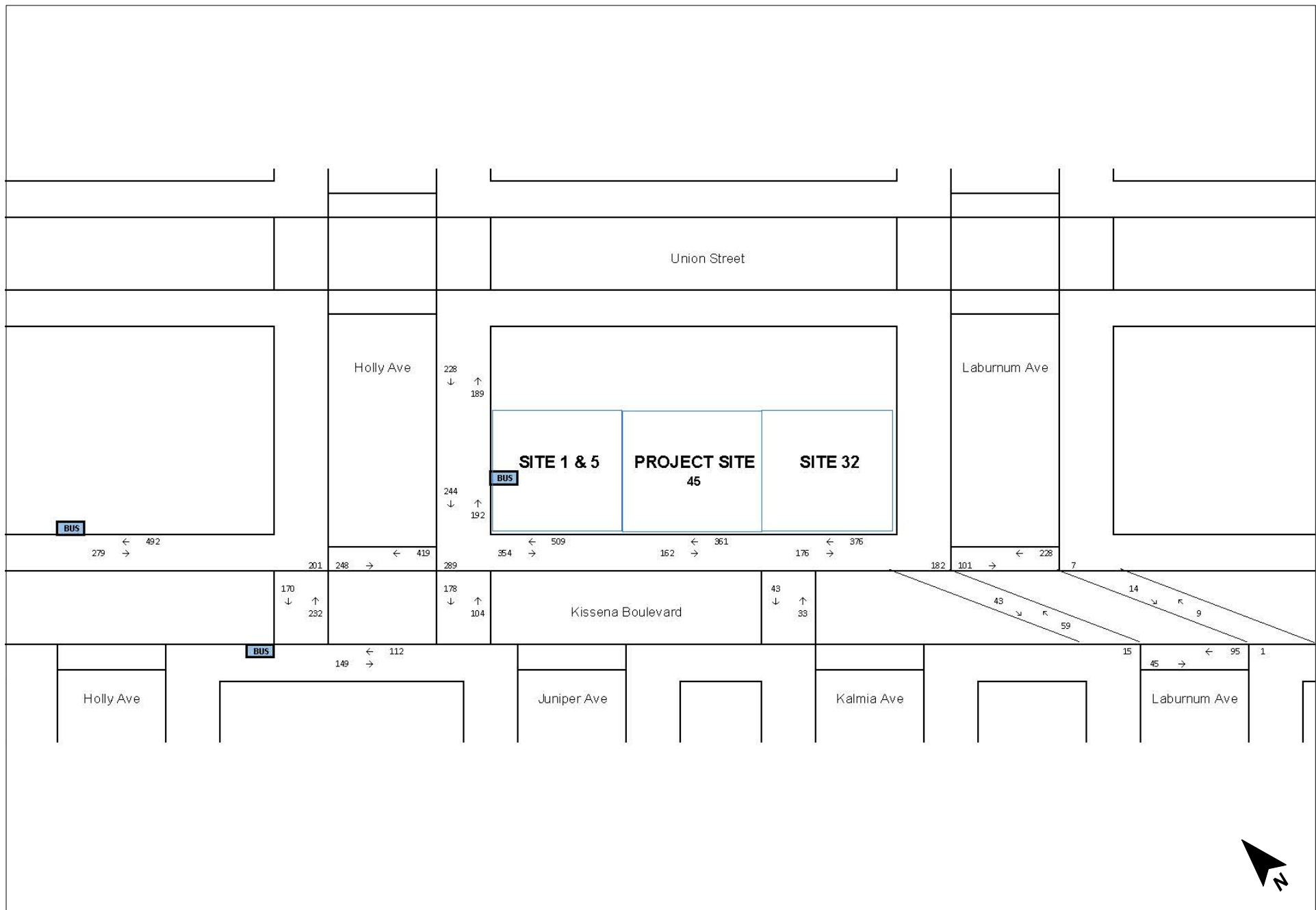
As described above, intersection operations would alter with the implementation of the recommended traffic improvements, which include signal timings modifications and roadway geometry. The effects of these changes were assessed and showed that they would not alter the conclusions made for the pedestrian analysis nor would they result in the potential for significant adverse pedestrian impacts.

PARKING

A parking analysis was performed to determine whether the projected parking demand associated with the future conditions could be accommodated. Parking counts were conducted at the proposed project parking lot (capacity of 90 spaces) for one weekday and one Saturday. The existing parking demand exceeds the existing parking supply between 10 AM and 8 PM on weekday, and 10 AM to 12 PM, 2 PM to 3 PM, and 6 PM to 7 PM on Saturdays.

Under the With Action condition, the number of available parking spaces in the development site would increase to 333 spaces. Access to the parking facility would be shared with the development on Lots 1 and 5, which would have 46 spaces (a total of 379 spaces between the two developments). The With Action parking demand was developed by overlaying the existing parking demand with the proposed project and the Lots 1 and 5 projected parking demand increment. The parking demand would be expected to peak overnight at 8 PM during the weekday (218 spaces) and overnight during the Saturday (207 spaces). **Tables K-34 and K-35** provide the hour-by-hour parking accumulation for the weekday and Saturday, respectively.

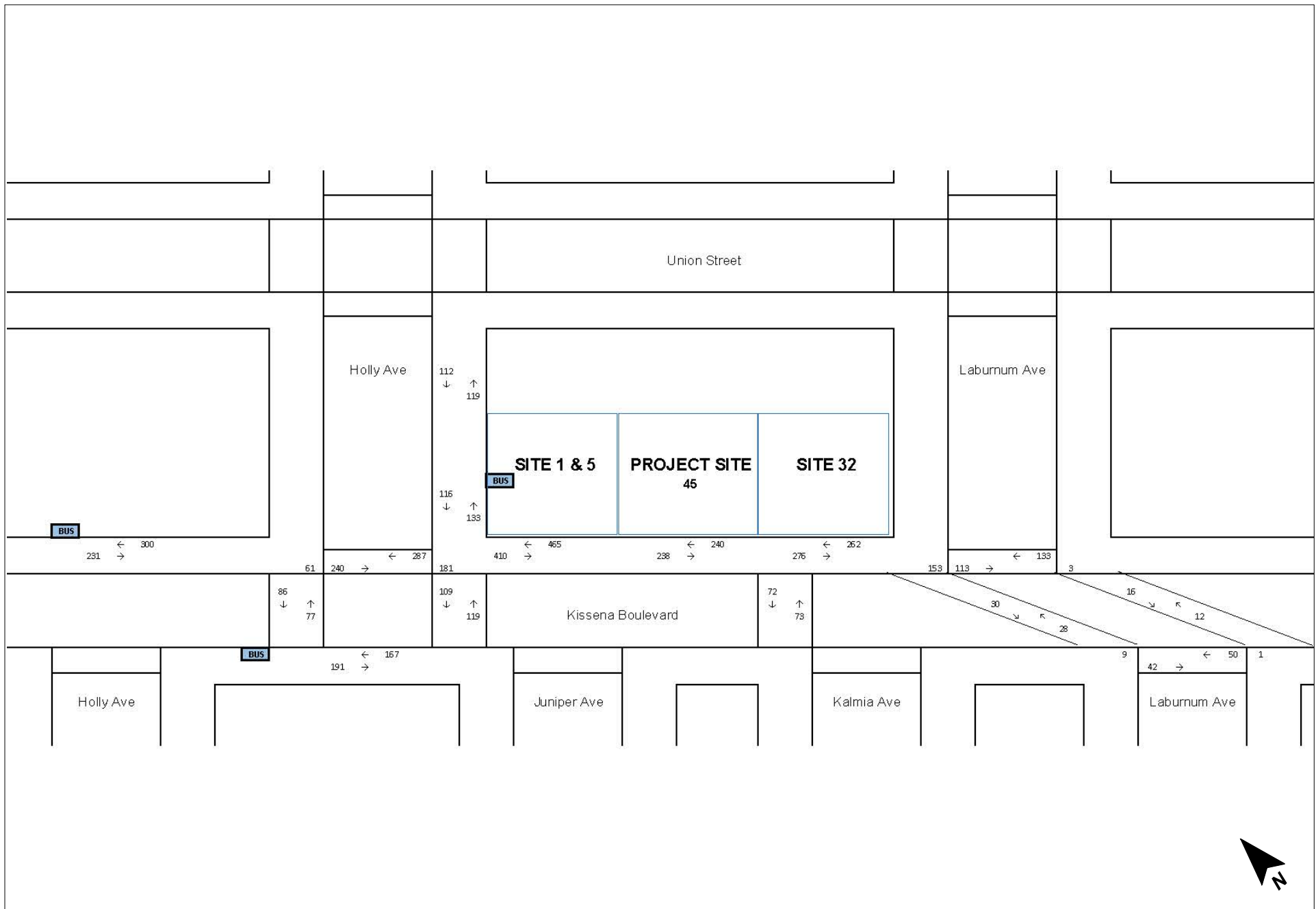
Based on the findings of this parking analysis, the proposed expansion is expected to provide sufficient on-site parking capacity for the peak periods of both a typical weekday and Saturday.



Kissena Boulevard Development
Queens New York 11355

2021 With-Action Pedestrian Volumes
Weekday AM Peak Hour

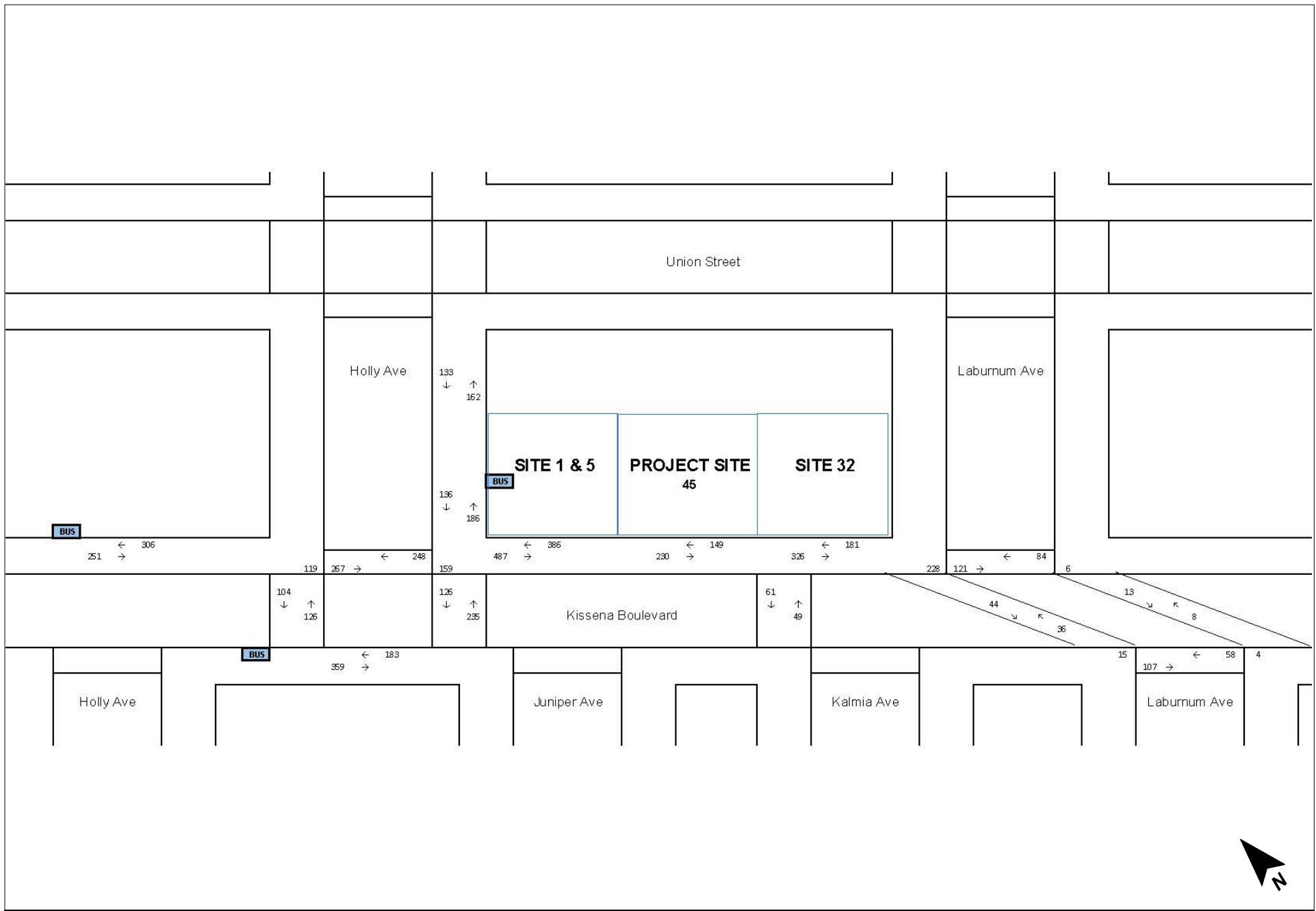
Figure
K-33



Kissena Boulevard Development
Queens New York 11355

2021 With-Action Pedestrian Volumes
Weekday Midday Peak Hour

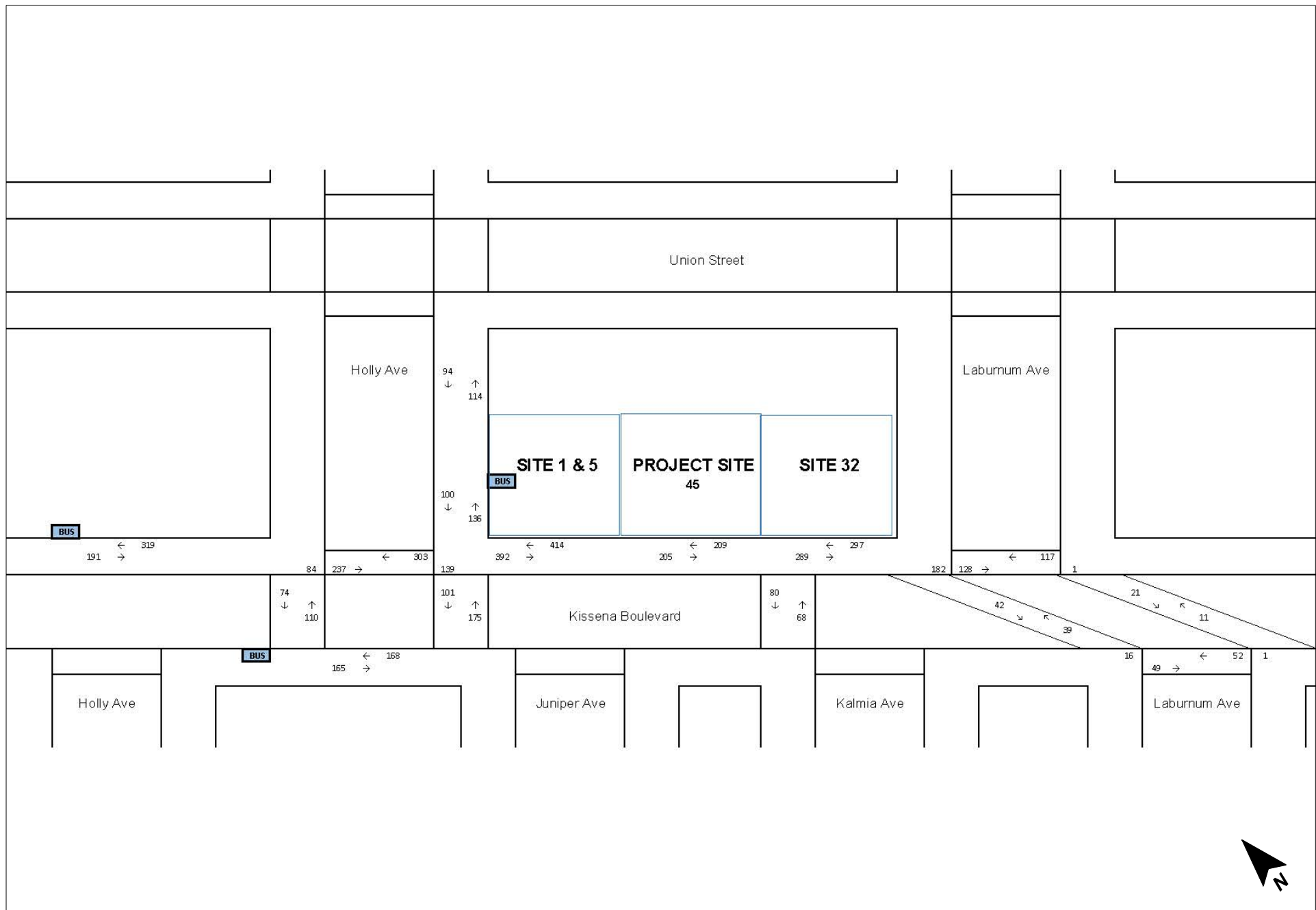
Figure
K-34



Kissena Boulevard Development
Queens New York 11355

2021 With-Action Pedestrian Volumes
Weekday PM Peak Hour

Figure
K-35



Kissena Boulevard Development
Queens New York 11355

2021 With-Action Pedestrian Volumes
Saturday Peak Hour

Figure
K-36

Table K-34

Weekday Peak Period Parking Accumulation

Hour	Existing Parking (capacity = 90 spaces)				Future Proposed Project and Lots 1 and 5 Parking (capacity = 379 spaces)			
	In	Out	Demand	Occupancy	In	Out	Demand	Occupancy
12AM-1AM	4	4	29	32%	11	11	204	54%
1AM-2AM	4	16	17	19%	7	19	192	51%
2AM-3AM	2	12	7	8%	4	14	182	48%
3AM-4AM	3	5	5	6%	4	6	163	43%
4AM-5AM	2	6	1	1%	3	7	159	42%
5AM-6AM	6	7	0	0%	7	7	159	42%
6AM-7AM	74	52	22	24%	75	55	179	47%
7AM-8AM	153	131	44	49%	156	164	171	45%
8AM-9AM	184	162	66	73%	224	244	151	40%
9AM-10AM	178	167	77	86%	201	214	138	36%
10AM-11AM	178	165	90	100%	203	206	135	36%
11PM-12PM	173	163	100	111%	212	211	136	36%
12PM-1PM	163	164	99	110%	212	222	126	33%
1PM-2PM	151	155	95	106%	229	237	118	31%
2PM-3PM	169	169	95	106%	224	221	121	32%
3PM-4PM	177	166	106	118%	240	210	151	40%
4PM-5PM	150	162	94	104%	226	220	157	41%
5PM-6PM	188	184	98	109%	277	263	171	45%
6PM-7PM	168	173	93	103%	246	240	177	47%
7PM-8PM	159	158	94	104%	230	204	203	54%
8PM-9PM	135	143	86	96%	168	153	218	58%
9PM-10PM	80	107	59	66%	104	121	201	53%
10PM-11PM	58	78	39	43%	73	84	200	53%
11PM-12AM	48	58	29	32%	60	63	204	54%

Table K-35

Saturday Peak Period Parking Accumulation

Hour	Existing Parking (capacity = 90 spaces)				Future Proposed Project and Lots 1 and 5 Parking (capacity = 379 spaces)			
	In	Out	Demand	Occupancy	In	Out	Demand	Occupancy
12AM-1AM	0	0	72	80%	8	8	175	46%
1AM-2AM	0	0	72	80%	4	4	175	46%
2AM-3AM	6	16	62	69%	8	18	165	44%
3AM-4AM	5	18	49	54%	6	19	207	55%
4AM-5AM	8	18	39	43%	9	19	197	52%
5AM-6AM	6	11	34	38%	8	11	194	51%
6AM-7AM	45	42	37	41%	48	45	197	52%
7AM-8AM	119	101	55	61%	124	137	184	49%
8AM-9AM	180	171	64	71%	216	249	151	40%
9AM-10AM	196	180	80	89%	219	228	142	37%
10AM-11AM	221	201	100	111%	250	244	148	39%
11PM-12PM	175	178	97	108%	242	235	155	41%
12PM-1PM	169	179	87	97%	226	234	142	38%
1PM-2PM	167	169	85	94%	232	233	136	36%
2PM-3PM	174	163	96	107%	254	240	145	38%
3PM-4PM	158	177	77	86%	232	234	138	36%
4PM-5PM	177	171	83	92%	250	224	159	42%
5PM-6PM	142	137	88	98%	216	210	160	42%
6PM-7PM	192	190	90	100%	282	261	176	46%
7PM-8PM	168	173	85	94%	244	235	180	48%
8PM-9PM	136	146	75	83%	180	190	165	44%
9PM-10PM	106	118	63	70%	137	155	142	37%
10PM-11PM	62	63	62	69%	79	63	153	40%
11PM-12AM	60	50	72	80%	75	53	175	46%

SAFETY ASSESSMENT

According to the *CEQR Technical Manual* criteria, any intersection with 48 or more total (reportable and non-reportable) crashes, or 5 or more pedestrian/bicycle injury crashes, in any consecutive 12 months of the most recent 3-year period for which data are available, is considered a high crash location. The safety assessment performed for this study was based on accident data provided by DOT for years 2014 to 2016. As shown in **Table K-36**, the intersection of Kissena Boulevard and 45th Avenue had 5 or more pedestrian/bicycle injury crashes in a consecutive 12-month period in 2014 and 2015, and would be considered a high crash intersection. Vehicular and pedestrian crash thresholds are not exceeded at any of the other analysis intersections.

Table K-36
Vehicle and Pedestrian Crash Details

Intersection		Study Period					Crashes by Year					
North-South Roadway	East-West Roadway	All Crashes by Year			Total Fatalities	Total Injuries	Pedestrian			Bicycle		
		2014	2015	2016			2014	2015	2016	2014	2015	2016
Kissena Boulevard	Elder Avenue	4	2	3	0	6	1	2	1	0	0	0
Kissena Boulevard	45th Avenue*	3	3	3	0	6	2	3	0	0	0	1
Kissena Boulevard	Holly Avenue	1	3	1	0	2	0	1	1	0	0	0
Kissena Boulevard	Juniper Avenue	1	0	1	0	1	0	0	0	0	0	0
Kissena Boulevard	Kalmia Avenue	0	1	1	0	0	0	0	0	0	0	0
Kissena Boulevard	Laburnum Avenue	2	1	1	0	1	0	0	0	0	1	0
Kissena Boulevard	Negundo Avenue	0	0	0	0	0	0	0	0	0	0	0
Kissena Boulevard	Oak Avenue	0	3	0	0	2	0	0	0	0	1	0
Kissena Boulevard	Booth Memorial Avenue	2	8	7	0	23	0	2	1	0	2	0
Union Street	Holly Avenue	0	0	1	0	1	0	0	0	0	0	0
Union Street	Laburnum Avenue	0	0	0	0	0	0	0	0	0	0	0
Note:												
* denotes a high accident location												
Source:												
New York State Department of Transportation/New York State Department of Motor Vehicles 2014–2016 accident data												

During the 3-year period mentioned above, a total of nine crashes, six injuries, and six pedestrian/bicyclist-related crashes occurred at the intersection of Kissena Boulevard and 45th Avenue. After reviewing crash data, no prevailing trends for pedestrian/bicyclist crashes were identified; two instances involved the pedestrian crossing with the signal and two instances involved the pedestrian crossing against the signal. The intersection is signalized and operates in three phases (including a leading pedestrian interval phase) with school crosswalks striped along each approach. Kissena Boulevard is a two-way roadway and 45th Avenue is a two-way roadway along the east leg and is a one-way away roadway along the west leg of the intersection. Since pedestrian crashes occurred primarily during vehicles making left and right turns, and the majority of the vehicle trips generated by the proposed actions are through vehicles, it is not anticipated to result in additional conflicts with normal pedestrian flow. Nonetheless, additional safety measures such as the conversion of the school crosswalks along each approach to high visibility crosswalks could be implemented to improve pedestrian safety at this intersection.

D. CONCLUSION

The proposed actions would generate traffic volumes exceeding transportation screening thresholds and, as a result, a detailed traffic analysis was performed at the 12 intersections. As part of the proposed project, a traffic signal would be installed at the intersection of Kissena

Kissena Center

Boulevard and Kalmia Avenue. Significant traffic impacts were identified at four intersections as a result of project-generated vehicle trips and traffic improvement measures were identified to mitigate significant adverse transportation impacts. The screening thresholds would be exceeded for pedestrians and, as a result, a detailed pedestrian analysis was performed at 11 elements. Pedestrian improvements were not required for these elements; all pedestrian elements would operate at acceptable LOS A and B. The screening thresholds would not be exceeded for transit and additional analyses were not required. *

A. INTRODUCTION

This attachment assesses the potential for air quality impacts associated with the proposed actions. As discussed in Attachment A, “Project Description and Screening Analyses,” the analysis of potential air quality impacts associated with the proposed actions includes the proposed project on the development site and development on two adjacent Projected Development Sites A and B, as well as the potential development sites.

The proposed actions include the development of three mixed-use buildings on Kissena Boulevard between Holly Avenue and Laburnum Avenue. Since the proposed project would include fuel-fired heat and hot water systems, a stationary source analysis was conducted to evaluate the potential impact from these sources on air quality. As discussed in detail below, the proposed project would not result in any significant adverse impacts on air quality.

The maximum hourly increase in traffic volume due to the proposed actions would not exceed the carbon monoxide (CO) emission screening threshold defined in the 2014 *City Environmental Quality Review (CEQR) Technical Manual* (170 auto trips for peak-hour trips at nearby intersections in the study area for CO). However, since the particulate matter (PM) emission screening threshold—PM emission equivalent to 12 to 23 heavy-duty vehicles, depending on roadway type—would be exceeded, an analysis of on-road PM was undertaken. In addition, the potential impact of the emissions from the proposed and potential indoor parking garages was evaluated.

The rezoning area is not within 400 feet of a manufacturing zoned area; however, the development site and the projected development sites are located near an industrial use. Therefore, the potential effects of stationary source emissions from the existing nearby industrial facility on the nearest building associated with the proposed actions were assessed.

B. METHODOLOGY

OVERVIEW AND APPROACH

Stationary source analyses were conducted using the methodology described in the *CEQR Technical Manual* to assess air quality impacts associated with emissions from the buildings’ heat and hot water systems. Initial screening was prepared using basic project information and applying thresholds defined in the *CEQR Technical Manual*, and further screening was prepared using the U.S. Environmental Protection Agency’s (EPA) AERSCREEN model to evaluate potential 1-hour average sulfur dioxide (SO₂), 1-hour average nitrogen dioxide (NO₂) and 24-hour and annual average concentrations of PM less than 2.5 micrometers in diameter (PM_{2.5}), which are not included in the initial screening procedure.

Potential 1-hour average NO₂ concentrations, added to representative background concentrations in the area, were compared with the National Ambient Air Quality Standards (NAAQS). Potential

24-hour and annual average incremental concentrations of PM_{2.5} were compared with the PM_{2.5} *de minimis* criteria defined in the *CEQR Technical Manual*:

- Predicted increase of more than half the difference between the background concentration and the 24-hour standard;
- Annual average PM_{2.5} concentration increments which are predicted to be greater than 0.1 µg/m³ at ground level on a neighborhood scale (i.e., the annual increase in concentration 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
- Annual average PM_{2.5} concentration increments which are predicted to be greater than 0.3 µg/m³ at a discrete location (elevated or ground level).

Since the building on the Projected Development Site A failed the AERSCREEN analysis, showing potential impacts on the façades of the building on the development site, a refined analysis was prepared using a detailed dispersion model to evaluate the potential for 1-hour average NO₂ and 24-hour and annual average PM_{2.5} impacts.

The detailed mobile source PM_{2.5} analysis, undertaken following the methodology described in the *CEQR Technical Manual*, applied the same criteria for evaluation.

The potential impacts from indoor parking facility ventilation systems on air pollutant concentrations were also evaluated. The incremental criteria described above for PM_{2.5} were applied for this analysis as well. In addition, CO concentrations were evaluated based on the CO NAAQS and the following *CEQR de minimis* criteria—(1) an increase of 0.5 parts per million (ppm) or more in the maximum 8-hour average CO concentration at a location where the predicted No Action 8-hour concentration is equal to or between 8 and 9 ppm; or (2) an increase of more than half the difference between baseline (i.e., No Action) concentrations and the 8-hour standard, when No Action concentrations are below 8.0 ppm. This *de minimis* criteria is 5.6 ppm.

HEAT AND HOT WATER SYSTEMS

INITIAL SCREENING ANALYSIS

Initial screening was undertaken using the methodology described in Chapter 17, Section 322.1 of the *CEQR Technical Manual*. This analysis determines the threshold of development size below which the action would not have a significant adverse impact relative to CO, PM less than 10 micrometers in diameter (PM₁₀), 3-hour average SO₂, and annual average NO₂ NAAQS levels (see “AERSCREEN Analysis” below for additional standards). The screening is based on the distance from the development site to the nearest building of similar or greater height. The screening procedure uses information regarding the type of fuel to be burned, the development type and maximum size, and the exhaust stack height to evaluate whether or not a significant impact is possible.

The initial screening was based on an 82,447-gross square feet (gsf) building (Site A), with the nearest receptor of similar or greater height at an adjacent building (the building on the development site).

AERSCREEN ANALYSIS

Potential 1-hour average NO₂ and 24-hour and annual average PM_{2.5} impacts from the heat and hot water system’s emissions from the building with the lowest height, which is the building on Projected Development Site A, among the buildings included in the proposed actions were

evaluated using the latest version of EPA's AERSCREEN model (version 16216). The AERSCREEN model projects worst-case 1-hour average concentrations downwind from a point, area, or volume source, and longer-period averages are estimated by multiplying the 1-hour results by persistence factors established by EPA or provided in the *CEQR Technical Manual*. AERSCREEN generates application-specific worst-case meteorology using representative minimum and maximum ambient air temperatures, and site-specific surface characteristics such as albedo, Bowen ratio, and surface roughness length.¹ The AERSCREEN model was used to calculate worst-case ambient concentrations of NO₂ and PM_{2.5} from the proposed project downwind of the stack.

The model incorporates the Plume Rise Model Enhancements (PRIME) downwash algorithm, which is designed to predict concentrations 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). AERSCREEN uses the Building Profile Input Program for PRIME (BPIPPRM) to provide a detailed analysis of downwash influences on a direction-specific basis. AERSCREEN also incorporates AERMOD's complex terrain algorithms and utilizes the AERMAP terrain processor to account for the actual terrain in the vicinity of the source on a direction-specific basis.

The AERSCREEN model was run both with and without the influence of building downwash, using urban diffusion coefficients that were based on a review of land-use maps of the area. Other model options were selected based on EPA guidance.

Maximum 1-hour average NO₂ concentrations were estimated using an NO₂ to NO_x ratio of 0.8—the recommended default ambient ratio per EPA guidance.²

AERMOD ANALYSIS

Since the AERSCREEN screening analysis failed at the project development site, further analysis was performed using the more refined American meteorological Society (AMS) / EPA Regulatory Model (AERMOD) dispersion model.³ 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 and source types. 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 and understanding of turbulence and dispersion, and includes handling of the plume interaction with terrain. AERMOD is EPA's preferred regulatory stationary source model.

AERMOD calculates pollutant concentrations from simulated sources (e.g., exhaust stacks) based on hourly meteorological data and surface characteristics, and has the capability to calculate pollutant concentrations at locations where the plume from the exhaust stack is affected by the

¹ Albedo is the fraction of the total incident solar radiation reflected by the ground surface. The Bowen ratio is the ratio of the sensible heat flux to the latent (evaporative) heat flux. The surface roughness length is related to the height of obstacles to the wind flow and represents the height at which the mean horizontal wind speed is zero based on a logarithmic profile.

² EPA. Memorandum: Clarification on the use of AERMOD Dispersion Modeling for Demonstrating Compliance with the NO₂ NAAQS. September 30, 2014.

³ EPA. AERMOD Implementation Guide. 454/B-16-013. December 2016.

EPA. AERMOD Model Formulation and Evaluation. 454/R-17-001. May 2017. And

EPA. User's Guide for the AMS/EPA Regulatory Model (AERMOD). 454/B-16-011. December 2016.

aerodynamic wakes and eddies (downwash) produced by nearby structures. The analysis of potential impacts from exhaust stacks assumed stack tip downwash, urban dispersion and surface roughness length, and elimination of calms.

AERMOD also incorporates the algorithms from the PRIME model (described above for AERSCREEN), and BPIPPRM 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.

The analysis was prepared both with and without downwash in order to assess the worst-case impacts at elevated locations close to the height of the source, which would occur without downwash, as well as the worst-case impacts at lower elevations and ground level, which would occur with downwash, consistent with the *CEQR Technical Manual* guidance.

For the analysis of the 1-hour average NO₂ concentration from the building's heating and hot water systems, AERMOD's Plume Volume Molar Ratio Method (PVMRM) module was used to analyze chemical transformation within the model. PVMRM incorporates hourly background ozone concentrations to estimate NO_x transformation within the source plume. The model applied ozone concentrations measured in 2012–2016 at the nearest available New York State Department of Environmental Conservation (NYSDEC) ozone monitoring station—the Queens College monitoring station in Queens. An initial NO₂ to NO_x ratio of 10 percent at the source exhaust stack was assumed for boilers, which is considered representative.

Five years of surface meteorological data collected at LaGuardia Airport (2012–2016) and concurrent upper air data collected at Brookhaven, New York were used in the analysis.

MODEL PARAMETERS FOR AERSCREEN AND AERMOD ANALYSES

Emission Rates and Stack Parameters

Annual emission rates for heating and hot water systems were calculated based on fuel consumption estimates, using energy intensity estimates based on type of development and size of each building as recommended in the *CEQR Technical Manual*, and applying emission factors for natural gas-fired boilers⁴ and oil-fired boilers.⁵ PM_{2.5} emissions include both the filterable and condensable components. The short-term emission rates (24-hour and shorter) were calculated by scaling the annual emissions to account for a 100-day heating season. The exhaust from each of the heat and hot water systems was assumed to be vented through a single stack located 3.0 feet above the roof of the building.

To calculate exhaust velocity, the fuel consumption of the proposed project was multiplied by EPA's fuel factor for natural gas and fuel oil,⁶ respectively, providing the exhaust flow rate at standard temperature; the flow rate was then corrected for the exhaust temperature, and exhaust velocity was calculated based on the stack diameter. Assumptions for stack diameter and exhaust temperature for the proposed systems were obtained from a survey of boiler exhaust data prepared

⁴ EPA. *Compilation of Air Pollutant Emission Factors AP-42*. 5th Ed., V. I, Ch. 1.4. September, 1998.

⁵ EPA. *Compilation of Air Pollutant Emission Factors AP-42*. 5th Ed., V. I, Ch. 1.3. September, 1999.

⁶ EPA. *Standards of Performance for New Stationary Sources*. 40 CFR Chapter I Subchapter C Part 60. Appendix A-7, Table 19-2. 2013.

and provided by New York City Department of Environmental Protection (DEP),⁷ and were used to calculate the exhaust velocity.

The emission rates and exhaust stack parameters used in the AERMOD modeling analyses are presented in **Table L-1**.

Table L-1
Exhaust Stack Parameters and Emission Rates

Stack Parameter	Building on Lot 45 (Development Site)	Building on Lots 1 and 5 (Projected Site/ Site A)	Building on Lot 32 (Projected Site/ Site B)	Building on Lots 49 and 50 (Potential Site)
Total Square Footage (gsf) ⁽¹⁾	446,502	82,447	243,455	53,465
Stack Height (feet)	98	78	98	78 ⁽²⁾
Stack Diameter (feet) ⁽³⁾	3.2	2	3.2	2
Exhaust Velocity (meters/second)	1.53	0.75	0.85	0.53
Exhaust Temperature (degrees Fahrenheit) ⁽³⁾	307	307	307	307
<i>Emission Rate (grams/second)</i>				
NO ₂ (1-hour average)	0.0455	0.0086	0.0252	0.0061
NO _x (Annual average)	0.0125	0.0024	0.0069	0.0017
PM _{2.5} (24-hour average)	0.0093	0.0018	0.0052	0.0013
PM _{2.5} (Annual average)	0.0026	0.0005	0.0014	0.0003
Notes:				
⁽¹⁾ The total square footages used in the stationary source analysis include parking areas and exclude mechanical bulkheads.				
⁽²⁾ The building includes two roof heights, and the lower height was conservatively assumed for stack placement.				
⁽³⁾ Stack parameter assumptions are based on boiler specifications for similar sized systems from DEP Boiler Permit Database				

Background Concentrations

For the AERSCREEN analysis, to estimate the maximum projected total 1-hour average NO₂ concentration at a given receptor, the projected concentration increment from the source was added to corresponding background concentration of 112 µg/m³. This background level represents the 3-year average (2014–2016) of the annual 98th percentile of the daily-highest 1-hour average NO₂ concentrations (this is the statistical form of the standard) monitored at the nearest NYSDEC background monitoring station—Queens College, Queens. Note that the maximum concentration increment would not necessarily coincide with the maximum background levels, and, therefore, this approach results in a conservatively high estimate. The annual NO₂ background is based on the maximum annual average value measured over the 5 years (2012–2016), 32.9 µg/m³.

For the AERMOD analysis, which included all of the buildings, total 1-hour NO₂ concentrations were refined following a more detailed approach (EPA “second tier”). The methodology used to determine the total 1-hour NO₂ concentrations from the facility was based on adding the monitored background to modeled concentrations; hourly modeled concentrations from the boilers were first added to the seasonal hourly background monitored concentrations, then the highest combined daily 1-hour NO₂ concentration was determined at each location and the 98th percentile daily 1-

⁷ DEP. *Boiler Database*. Personal communication from Mitchell Wimbish on August 11, 2017.

hour maximum concentration for each modeled year was calculated within the AERMOD model, and finally the 98th percentile concentrations were averaged over the latest 5 years.

PM_{2.5} impacts are assessed on an incremental basis and compared with the PM_{2.5} *de minimis* criteria. The PM_{2.5} 24-hour average background concentration of 19.7 µg/m³ from the Queens College 2 ambient monitoring station was used to establish the *de minimis* value of 7.65 µg/m³ (based on the 98th percentile concentration, averaged over the years 2014–2016).

Receptor Placement

Receptors (locations at which concentrations are projected) generally include operable windows in residential or other buildings, air intakes, and publicly accessible open space locations, as applicable. The nearest building of similar or greater height is adjacent to the proposed project. Receptors representing the nearest existing and No Build buildings of similar or greater height were included. Lower receptors were also included at those same distances, and the worst-case ground level concentration was also evaluated.

For the AERMOD analysis, discrete receptors were modeled along existing and proposed building façades to represent potentially sensitive locations such as operable windows and intake vents. Rows of receptors at spaced intervals on the modeled buildings were analyzed at multiple elevations. A broad ground-level grid was also included to identify potential concentrations at publically accessible locations in the surrounding area.

ON-ROAD MOBILE SOURCES

APPROACH AND DISPERSION MODEL SELECTION

The maximum hourly increase in traffic volume due to the proposed actions would not exceed the CO emission screening threshold defined in the *CEQR Technical Manual* (170 auto trips for peak-hour trips at nearby intersections in the study area for CO). However, since the PM emission screening threshold—PM emission equivalent to 12 to 23 heavy-duty vehicles, depending on roadway type—would be exceeded, an analysis of on-road PM was undertaken for the worst-case intersection.

Maximum contributions from vehicular emissions to PM_{2.5} and PM₁₀ concentrations were calculated using the CAL3QHCR model Version 2.0.⁸ The CAL3 model series employs a Gaussian (normal distribution) dispersion assumption and includes an algorithm for estimating vehicular queue lengths at signalized intersections to calculate emissions and dispersion from idling and moving vehicles.⁹ The CAL3QHC model has been updated with an extended module, CAL3QHCR, which allows for the incorporation of hourly meteorological data into the modeling, instead of worst-case assumptions regarding meteorological parameters. CAL3QHCR can be employed as a refined (“Tier 2”) modeling approach and is applied for PM modeling. This refined version of the model can utilize hourly traffic and meteorology data, and is therefore more appropriate for calculating the 24-hour and annual average concentrations required to address the timescales of the PM NAAQS.

⁸ EPA. Addendum to the User's Guide to CAL3QHC Version 2.0 (CAL3QHCR User's Guide). September 1995.

⁹ EPA. User's Guide to CAL3QHC, A Modeling Methodology for Predicted Pollutant Concentrations Near Roadway Intersections. EPA454R92006 (revised). September 1995.

VEHICLE EMISSIONS

Engine Emissions

Vehicular engine PM emission factors were computed using the EPA mobile source emissions model, Motor Vehicle Emission Simulator (MOVES).¹⁰ This emissions model is capable of calculating engine emission factors for various vehicle types, based on the fuel type (gasoline, diesel, or natural gas), meteorological conditions, vehicle speeds, vehicle age, roadway types, number of starts per day, engine soak time, and various other factors that influence emissions, such as inspection maintenance programs. The inputs and use of MOVES incorporate the most current guidance available from NYSDEC.

Vehicle classification data were based on field studies (see Attachment K, “Transportation”). Appropriate credits were used to accurately reflect the inspection and maintenance program.¹¹ County-specific hourly temperature and relative humidity data obtained from NYSDEC were used.

Road Dust

The contribution of re-entrained road dust to PM₁₀ concentrations, as presented in the PM₁₀ State Implementation Plan (SIP), is considered to be significant; therefore, the PM₁₀ estimates include both exhaust and road dust. PM_{2.5} emission rates were determined with fugitive road dust to account for their impacts in local microscale analyses. However, fugitive road dust was not included in the neighborhood scale PM_{2.5} microscale analyses, since DEP considers it to have an insignificant contribution on that scale. Road dust emission factors were calculated according to the latest procedure delineated by EPA¹² and the *CEQR Technical Manual*.

TRAFFIC DATA

Traffic data for the air quality analysis were derived from existing traffic counts, projected future growth in traffic, and other information developed as part of the traffic analysis for the proposed project (see Attachment K, “Transportation”). Traffic data for the Future without and with the proposed actions (the “With Action” condition and “No Action” condition, respectively) were employed in the respective air quality modeling scenarios. The peak morning, midday, and evening period traffic volumes were used as a baseline for determining off-peak volumes. Off-peak traffic volumes in the No Action condition and off-peak increments from the proposed project were determined by adjusting the peak-hour volumes by the 24-hour distributions of actual vehicle counts collected at appropriate locations and trip generation data.

METEOROLOGY

In general, the transport and concentration of pollutants from vehicular sources are influenced by three principal meteorological factors: wind direction, wind speed, and atmospheric stability. Wind direction influences the direction in which pollutants are dispersed, and atmospheric

¹⁰ EPA. MOVES: User Guide for MOVES2014a. EPA420B15095. November 2015.

¹¹ The inspection and maintenance programs require inspections of automobiles and light trucks to determine if pollutant emissions from each vehicle exhaust system are lower than emission standards. Vehicles failing the emissions test must undergo maintenance and pass a repeat test to be registered in New York State.

¹² EPA. *Compilations of Air Pollutant Emission Factors AP-42*. Fifth Edition, Volume I: Stationary Point and Area Sources, Ch. 13.2.1. NC. <http://www.epa.gov/ttn/chief/ap42>. January 2011.

stability accounts for the effects of vertical mixing in the atmosphere. These factors, therefore, influence the concentration at a particular prediction location (receptor).

The Tier 2 analysis performed with the CAL3QHCR model includes the modeling of hourly concentrations based on hourly traffic data and 5 years of monitored hourly meteorological data. The data consists of surface data collected at LaGuardia Airport and upper air data collected at Brookhaven, New York for the period 2012–2016. All hours were modeled, and the highest resulting concentration for each averaging period is presented.

ANALYSIS YEAR

The microscale analyses applied emission factors and traffic volumes for 2021, the year by which the proposed project is likely to be completed. The future analysis was undertaken with both the No Action condition and with the With Action condition.

BACKGROUND CONCENTRATIONS

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

The background concentrations used in the mobile source analysis were based on concentrations recorded at a monitoring station representative of the project area and in the statistical format of the NAAQS. These represent the most recent 3-year average for 24-hour average PM_{2.5} and the highest value from the three most recent years of data available for PM₁₀. The background concentrations are presented in **Table L-2**.

Table L-2
Maximum Background Pollutant Concentrations for Mobile Source Analysis

Pollutant	Average Period	Location	Concentration	NAAQS
PM ₁₀	24-hour	Queens College 2, Queens	38 µg/m ³	150 µg/m ³
PM _{2.5}	24-hour	Queens College 2, Queens	19.7 µg/m ³	35 µg/m ³
Notes: PM ₁₀ concentrations are the highest of the second-high concentration during the most recent 3 years of data. PM _{2.5} concentrations are the average of the most recent 3 years of data—annual average and 98th percentile of 24-hour averages for each year. Source: NYSDEC. <i>New York State Ambient Air Quality Reports</i> (reports for 2012–2016). 2015–2017.				

ANALYSIS SITES

Intersections in the study area were reviewed for microscale analysis based on the *CEQR Technical Manual* guidance. The incremental traffic volumes for the AM, midday, PM, and Saturday midday periods were reviewed and intersections with increments exceeding the PM volume thresholds were identified. Of those intersections, the intersection of Kissena Boulevard and Kalmia Avenue—the worst-case location with the highest potential increments—was selected for microscale analysis.

RECEPTOR PLACEMENT

Multiple receptors (i.e., precise locations at which concentrations are evaluated) were modeled at each of the selected sites; receptors were placed along the approach and departure links and roadway segments at regularly spaced intervals. Receptors in the analysis models for predicting annual average neighborhood-scale PM_{2.5} concentrations were placed at a distance of 15 meters, from the nearest moving lane at each analysis location, based on the *CEQR Technical Manual* procedure for neighborhood-scale corridor PM_{2.5} modeling.

PARKING VENTILATION

The proposed actions would result in the development of three indoor parking garages: the proposed project would include a 333-space parking garage, Site A would include a 46-space parking garage, and Site B would include a 163-space parking garage. Emissions from vehicles using the mechanically ventilated parking garages could potentially affect pollutant concentrations in the immediate vicinity of the ventilation outlets. The analysis evaluates CO and PM emissions.

The emissions from the outlet vents and their dispersion were analyzed using the methodology defined in the *CEQR Technical Manual*. Maximum CO concentrations were determined for the time periods when overall garage usage would be the greatest, considering the hours when the greatest number of vehicles would exit the facility. PM increments were determined for peak daily (24-hour) use. The number of vehicles entering and exiting the garage were derived from the trip generation analysis described in the traffic section of the Environmental Assessment Statement (EAS).

Emissions from vehicles entering, parking, and exiting the garage were determined using the EPA mobile source emissions model, MOVES, described above.

For all arriving and departing vehicles, an average speed of 5.0 miles per hour (mph) was conservatively assumed for travel within the parking garages. In addition, all departing vehicles were assumed to idle for 60 seconds before proceeding to the exit. The concentrations within the system were calculated assuming a minimum ventilation rate, based on New York City Building Code requirements of 1.0 cubic foot per minute of fresh air per gross square foot of garage area.

To determine pollutant concentrations, the outlet vent was analyzed as a “virtual point source” using the methodology in EPA’s *Workbook of Atmospheric Dispersion Estimates*, AP-26. This methodology estimates concentrations at various distances from an outlet vent by assuming that the concentration at the vent represents the emission rate divided by the fresh air ventilation rate, and determining the appropriate initial horizontal and vertical dispersion coefficients at the vent faces.

Since specific design for the ventilation systems is not yet available, worst-case assumptions were made regarding the design of the garages’ mechanical ventilation systems. Based on the current design, it was assumed that the garages on the development site and Site A would be connected and would share a single ventilation system, and would also include a loading dock for trucks, also included in the analysis. The garage on Site B would be separate with a separate ventilation system. The air from the two parking garages was assumed to be vented through two vents—a single outlet for each—at a height of 10 feet. The vents were assumed to exhaust towards Kissena Boulevard, and a “near” receptor was placed along the sidewalks at a pedestrian height of 6 feet and at a distance 7 feet from the vent. A “far” receptor was placed directly across the street from the assumed vent location at a distance of 59 feet from the assumed vent location. A receptor was also modeled at the vent height, 10 feet from the vent, to conservatively assess the worst-case air quality impacts on the proposed project building window or other air intake location. A persistence factor of 0.70 was used to convert the maximum 1-hour average CO concentrations to 8-hour

averages, per *CEQR Technical Manual* guidance, and factors of 0.6 and 0.1 to convert maximum 1-hour PM_{2.5} concentrations to 24-hour and annual averages, respectively, per EPA guidance,¹³ accounting for meteorological variability over the longer averaging periods.

Background and on-street CO concentrations 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 incremental and Build traffic volumes for Kissena Boulevard from the traffic analysis for this EAS.

INDUSTRIAL SOURCE ANALYSIS

Industrial air pollutant emission sources within 400 feet of the project site were analyzed, as recommended in the *CEQR Technical Manual*.

A request was made to DEP Bureau of Environmental Compliance (BEC) to obtain the certificates of operation for the identified industrial sources in order to determine whether manufacturing or industrial emissions occur.

One permitted facility within 400 feet of the proposed project was identified. After compiling the information on this facility, maximum potential pollutant concentrations from the source were estimated based on the reference values found in Table 17-3 in the *CEQR Technical Manual*. The table consists of a screening database that provides factors for estimating maximum concentrations based on distance from the source, which were derived from generic AERMOD dispersion modeling for the New York City area. The minimum distance between the property boundary of the nearest proposed building on Projected Development Site B and the exhaust location of the facility was used in the analysis, to be conservative. Predicted worst-case impacts on the proposed project were compared with the short-term guideline concentrations (SGCs) and annual guideline concentrations (AGCs) recommended in NYSDEC's *DAR-1 AGS/SGC Tables*.¹⁴ These guideline concentrations present the airborne concentrations, which are applied as a screening threshold to determine whether future occupants in the proposed project could be significantly impacted from nearby sources of air pollution.

The screening procedure used to estimate the pollutant concentrations from this facility's emissions is based on information contained in the certificate of operation obtained from DEP-BEC. The information describes contaminants emitted by the permitted processes, hours of operation per day, and days per year, and the characteristics of the emission exhaust systems (temperature, exhaust velocity, height, and dimensions of the exhaust). Since the solvent emissions were not speciated into individual air toxic compounds in the permit information from a representative source¹⁵ was used for the business, which provides maximum percentage by weight and usage for individual air toxics that are commonly found in coatings used in paint spraying operations. The highest weight percentage associated with each VOC was used, to be conservative. The solvent usage from the source permit was multiplied by the weight percentage for each air toxic to estimate the maximum emission rate for the air toxics, by source. **Table L-3** summarizes the resulting emission rates modeled.

¹³ EPA. *AERSCREEN User's Guide*. EPA-454/B-11-001. March 2011.

¹⁴ NYSDEC Division of Air Resources, Bureau of Stationary Sources, August 2016.

¹⁵ Sandstone Environmental Associates, Inc. Air Toxics Analysis of Auto Repair Spray Paint Booth Near Solow Centers. March 25, 2010.

Table L-3
Exhaust Stack Parameters and Emission Rates

Pollutant	CAS #	Percent by Weight⁽¹⁾	Hourly Emissions (pounds/hour)	Annual Emissions (pounds/year)
Solids (modeled as PM _{2.5} /PM ₁₀)	NY079-00-0 (NY075-02-5 / NY075-00-5)	--	0.03	8.13
Solvents				
<i>Acetone</i>	00067-64-1	43	1.33	333.3
<i>Aliphatic Hydrocarbon</i>	64742-89-8	10	0.31	77.5
<i>Aromatic Petroleum distillates</i>	64742-94-5	5	0.16	38.8
<i>Butane</i>	00106-97-8	11	0.34	85.3
<i>Ethanol</i>	00064-17-5	2	0.06	15.5
<i>Ethyl 3-Ethoxypropionate</i>	00763-69-9	9	0.28	69.8
<i>Ethylbenzene</i>	00100-41-4	5	0.16	38.8
<i>Methyl Ethyl Ketone</i>	00078-93-3	8	0.25	62.0
<i>N-Butyl Acetate</i>	00123-86-4	5	0.16	38.8
<i>Propane</i>	00074-98-6	11	0.34	85.3
<i>Stoddard Solvents</i>	08052-41-3	10	0.31	77.5
<i>Toluene</i>	00108-88-3	10	0.31	77.5
<i>Xylene</i>	01330-20-7	10	0.31	77.5
Notes: ⁽¹⁾ Sandstone Environmental Associates, Inc. <i>Air Toxics Analysis of Auto Repair Spray Paint Booth Near Solow Centers</i> . March 25, 2010.				

Since the predicted Ethyl 3-Ethoxypropionate concentration at Site B was predicted to exceed the SGC based on the screening-level analysis, a refined dispersion modeling using the AERMOD model was conducted to estimate maximum potential impacts for this compound at this site. The AERMOD analysis was performed using the same general methodology as described in the analysis of the proposed project's heating and hot water systems.

C. POTENTIAL IMPACTS OF THE PROPOSED ACTIONS

HEAT AND HOT WATER SYSTEMS

The results of the AERMOD analysis for 1-hour and annual average NO₂ and 24-hour and annual average PM_{2.5} are presented in **Table L-4**.

No exceedance of critical levels was identified in the AERMOD analysis. However, to ensure that there are no significant adverse impacts on PM_{2.5} or NO₂ concentrations from the proposed project's heating and hot water systems' emissions, the following restrictions would be required as part of the proposed project through (E) Designation (E-514).

Table L-4
Maximum Modeled Pollutant Concentrations ($\mu\text{g}/\text{m}^3$)

Pollutant	Averaging Period	Maximum Modeled Impact	Background	Total Concentration	Criterion
NO ₂	1-hour	N/A ⁽¹⁾	N/A ⁽¹⁾	154.1	188 ⁽²⁾
	Annual	0.9 ⁽³⁾	32.9	33.8	100 ⁽²⁾
PM _{2.5}	24-hour	7.4	N/A	N/A	7.65 ⁽⁴⁾
	Annual	0.24	N/A	N/A	0.3 ⁽⁵⁾

Notes:
N/A – Not Applicable
⁽¹⁾ The 1-hour average NO₂ background and modeled concentrations are not presented in the table since the AERMOD model determines the total 98th percentile 1-Hour NO₂ concentration at each receptor.
⁽²⁾ NAAQS
⁽³⁾ The annual average NO₂ concentration is estimated using NO₂ to NO_x ratio of 0.8 as per EPA guidance.
⁽⁴⁾ PM_{2.5} *de minimis* criteria—24-hour average, not to exceed more than half the difference between the background concentration and the 24-hour standard of 35 $\mu\text{g}/\text{m}^3$
⁽⁵⁾ PM_{2.5} *de minimis* criteria—annual (discrete receptor)

BUILDING ON LOT 45

Any fossil fuel-fired heating and hot water equipment in any new development on the above-referenced property must use only natural gas and be fitted with low NO_x burners with NO_x emissions not to exceed 30 ppm. Fossil fuel-fired heating and hot water exhaust stacks must be located at least 98 feet above grade, and at a distance of at least 178 feet from the southeastern lot line facing Laburnum Avenue.

BUILDING ON LOTS 1 AND 5

Any fossil fuel-fired heating and hot water equipment in any new development on the above-referenced property must use only natural gas and be fitted with low NO_x burners with NO_x emissions not to exceed 30 ppm. Fossil fuel-fired heating and hot water exhaust stack(s) are located at least 78 feet above grade, and at a distance of at least 65 feet from the southeastern lot line facing Laburnum Avenue and 115 feet from the southwestern lot line facing Kissena Boulevard.

BUILDING ON LOT 32

Any fossil fuel-fired heating and hot water equipment in any new development on the above-referenced property must use only natural gas and be fitted with low NO_x burners with NO_x emissions not to exceed 30 ppm. Fossil fuel-fired heating and hot water exhaust stacks must be located at least 98 feet above grade, and at a distance of at least 99 feet away from the northwestern lot line facing Holly Avenue.

BUILDING ON LOTS 49 AND 50

Any fossil fuel-fired heating and hot water equipment in any new development on the above-referenced property must use only natural gas. Fossil fuel-fired heating and hot water exhaust stacks must be located at least 78 feet above grade.

ON-ROAD MOBILE SOURCES

The highest PM₁₀ concentrations in the No Action condition and With Action condition for the 2021 Build year were projected to be 49.4 µg/m³ and 51.5 µg/m³, respectively (including a background concentration of 38 µg/m³), which are well below the NAAQS of 150 µg/m³.

The maximum projected 24-hour and annual average increments are lower than the respective *de minimis* criteria (see **Table L-5**). Therefore, the proposed actions would not result in any significant adverse impact on air quality from traffic generated by the proposed actions.

Table L-5
Maximum Projected PM_{2.5} Incremental Concentrations (µg/m³)

Average Period	Increment	De Minimis Criterion
24-hour	0.8	7.65 ⁽¹⁾
Annual (Neighborhood Scale)	0.093	0.1
Note: ¹ PM _{2.5} <i>de minimis</i> criteria—24-hour average, 24-hour average, not to exceed more than half the difference between the background concentration and the 24-hour standard of 35 µg/m ³ .		

PARKING VENTILATION

The maximum predicted eight-hour average CO concentration is 1.8 ppm. This value includes a predicted concentration of 0.4 ppm from the proposed parking garage and a background level of 1.4 ppm. The maximum predicted concentration is substantially below the applicable NAAQS of 9 ppm and the *de minimis* CO criteria of 5.6 ppm.

The maximum predicted 24-hour and annual average PM_{2.5} increments are 1.96 µg/m³ and 0.29 µg/m³, respectively. The maximum predicted PM_{2.5} increments are below the respective PM_{2.5} *de minimis* criteria of 7.65 µg/m³ for the 24-hour average concentration and 0.3 µg/m³ for the annual concentration. Therefore, the proposed parking garages would not result in any significant adverse air quality impacts.

INDUSTRIAL SOURCE ANALYSIS

As discussed, one permitted facility, Pronto Body Works, Inc., located at 47-01 Kissena Boulevard, was identified within 400 feet of the development sites. DEP-BEC and EPA permit databases were also used to verify existing sources of industrial emissions within the 400-foot study area.

Table L-6 presents the maximum modeled short-term and long-term impacts from the facility on the proposed project at the worst-case distance based on the screening method previously described. The table also lists the NYSDEC SGC and AGC for each toxic air pollutant.

Table L-6
Maximum Modeled Pollutant Concentrations ($\mu\text{g}/\text{m}^3$)

Pollutant	CAS No.	Short-term impact ($\mu\text{g}/\text{m}^3$)	SGC ($\mu\text{g}/\text{m}^3$)⁽¹⁾	Long-term impact ($\mu\text{g}/\text{m}^3$)	AGC ($\mu\text{g}/\text{m}^3$)⁽¹⁾
Solids	NY079-00-0	147	380	0.2	45
Solvents					
<i>Acetone</i>	00067-64-1	6,518	180,000	9.2	30,000
<i>Aliphatic Hydrocarbon</i>	64742-89-8	1,516	--	2.1	3,200
<i>Aromatic Petroleum distillates</i>	64742-94-5	758	--	1.1	100
<i>Butane</i>	00106-97-8	1,668	238,000	2.3	--
<i>Ethanol</i>	00064-17-5	303	--	0.4	45,000
<i>Ethyl 3-Ethoxypropionate</i>	00763-69-9	156 ⁽²⁾	140	1.9	64
<i>Ethylbenzene</i>	00100-41-4	758	--	1.1	1,000
<i>Methyl Ethyl Ketone</i>	00078-93-3	1,213	13,000	1.7	5,000
<i>N-Butyl Acetate</i>	00123-86-4	758	95,000	1.1	17,000
<i>Propane</i>	00074-98-6	1,668	--	2.3	43,000
<i>Stoddard Solvents</i>	08052-41-3	1,516	--	2.1	900
<i>Toluene</i>	00108-88-3	1,516	37,000	2.1	5,000
<i>Xylene</i>	01330-20-7	1,516	22,000	2.1	100
Notes:					
⁽¹⁾ DAR-1 AGS/SGC Tables, DEC Division of Air Resources, Bureau of Stationary Sources, August 2016.					
⁽²⁾ Modeled results from refined AERMOD analysis					

The maximum short-term impact for Ethyl 3-Ethoxypropionate was predicted to exceed the SGC of $140 \mu\text{g}/\text{m}^3$ based on refined dispersion modeling, with a maximum concentration of $156 \mu\text{g}/\text{m}^3$. However, maximum concentrations were predicted to exceed the SGC at only two receipt locations on the project site. Throughout the five analysis years, exceedances were predicted to occur only once per year on average for each receptor, assuming the source operates continuously. Based on the DEP air permit information, it is reported that the paint spraying is only performed for 250 hours per year (less than three percent of the time on an annual basis); therefore, the worst-case meteorological conditions resulting in an exceedance of the SGC for Ethyl 3-Ethoxypropionate is extremely unlikely to occur during spray coating operations. Based on these factors, the relative magnitude, extent, and frequency of the short-term Ethyl 3-Ethoxypropionate concentrations above $140 \mu\text{g}/\text{m}^3$ are extremely low overall, and are not considered a significant adverse air quality impact on the proposed project. *

A. INTRODUCTION

This attachment considers the potential for the proposed actions to result in significant adverse noise impacts. According to the guidelines established in the 2014 *City Environmental Quality Review (CEQR) Technical Manual*, an initial noise impact screening considers whether a proposed action would generate any mobile or stationary source noise, or be located in an area with high ambient noise levels. A noise analysis examines an action for its potential effects on existing noise-sensitive receptors, and the levels of noise exposure at newly introduced noise receptors.

B. ACOUSTICS FUNDAMENTALS

Sound is a fluctuation in air pressure. Sound pressure levels are measured in units called decibels (dB). The particular character of the sound that we hear (e.g., a whistle compared with a French horn) 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 M-1**, the threshold of human hearing is defined as 0 dBA; quiet conditions (e.g., a library) are approximately 40 dBA; normal daily activity levels are between 50 dBA and 70 dBA; noisy levels are above 70 dBA; and loud, intrusive, and deafening levels approach 130 dBA.

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

Table M-1
Common Noise Levels

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

SOUND LEVEL DESCRIPTORS

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

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

For purposes of the proposed actions, 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* sets external noise exposure standards; these standards are shown in **Table M-2**. Noise exposure is classified into four categories: acceptable, marginally acceptable, marginally unacceptable, and clearly unacceptable.

Table M-2
Noise Exposure Guidelines For Use in City Environmental Impact Review

Receptor Type	Time Period	Acceptable General External Exposure	Airport ³ Exposure	Marginally Acceptable General External Exposure	Airport ³ Exposure	Marginally Unacceptable General External Exposure	Airport ³ Exposure	Clearly Unacceptable General External Exposure	Airport ³ Exposure
Outdoor area requiring serenity and quiet ²		L ₁₀ ≤ 55 dBA	----- L _{dn} ≤ 60 dBA -----	N/A	N/A	N/A	N/A	N/A	N/A
Hospital, nursing home		L ₁₀ ≤ 55 dBA		55 < L ₁₀ ≤ 65 dBA	----- 60 < L _{dn} ≤ 65 dBA -----	65 < L ₁₀ ≤ 80 dBA	(i) 65 < L _{dn} ≤ 70 dBA, (ii) 70 ≤ L _{dn}	L ₁₀ > 80 dBA	----- L _{dn} ≤ 75 dBA -----
Residence, residential hotel, or motel	7 AM–10 PM	L ₁₀ ≤ 65 dBA		65 < L ₁₀ ≤ 70 dBA		70 < L ₁₀ ≤ 80 dBA		L ₁₀ > 80 dBA	
	10 PM–7 AM	L ₁₀ ≤ 55 dBA		55 < L ₁₀ ≤ 70 dBA		70 < L ₁₀ ≤ 80 dBA		L ₁₀ > 80 dBA	
School, museum, library, court, house of worship, transient hotel or motel, public meeting room, auditorium, outpatient public health facility		Same as Residential Day (7 AM–10 PM)		Same as Residential Day (7 AM–10 PM)		Same as Residential Day (7 AM–10 PM)		Same as Residential Day (7 AM–10 PM)	
Commercial or office		Same as Residential Day (7 AM–10 PM)		Same as Residential Day (7 AM–10 PM)		Same as Residential Day (7 AM–10 PM)		Same as Residential Day (7 AM–10 PM)	
Industrial, public areas only ⁴	Note 4	Note 4		Note 4		Note 4		Note 4	
Notes: (i) In addition, any new activity shall not increase the ambient noise level by 3 dBA or more; (ii) <i>CEQR Technical Manual</i> noise criteria for train noise are similar to the above aircraft noise standards: the noise category for train noise is found by taking the L _{dn} value for such train noise to be an L _{dn} (L _{dn} contour) value.									
Table Notes: ¹ Measurements and projections of noise exposures are to be made at appropriate heights above site boundaries as given by American National Standards Institute (ANSI) Standards; all values are for the worst hour in the time period. ² Tracts of land where serenity and quiet are extraordinarily important and serve an important public need, and where the preservation of these qualities is essential for the area to serve its intended purpose. Such areas could include amphitheaters, particular parks or portions of parks, or open spaces dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet. ³ One may use FAA-approved L _{dn} contours supplied by the Port Authority, or the noise contours may be computed from the federally approved INM Computer Model using flight data supplied by the Port Authority of New York and New Jersey. ⁴ External Noise Exposure standards for industrial areas of sounds produced by industrial operations other than operating motor vehicles or other transportation facilities are spelled out in the New York City Zoning Resolution, Sections 42-20 and 42-21. The referenced standards apply to M1, M2, and M3 manufacturing districts and to adjoining residence districts (performance standards are octave band standards).									
Source: New York City Department of Environmental Protection (adopted policy 1983).									

The *CEQR Technical Manual* defines attenuation requirements for buildings based on exterior noise level (see **Table M-3**). Recommended noise attenuation values for buildings are designed to maintain interior noise levels of 45 dBA or lower for residential and community facility uses and interior noise levels of 50 dBA or lower for commercial uses and are determined based on exterior $L_{10(1)}$ noise levels.

Table M-3

Required Attenuation Values to Achieve Acceptable Interior Noise Levels

	Marginally Unacceptable				Clearly Unacceptable
Noise Level with Proposed Actions	$70 < L_{10} \leq 73$	$73 < L_{10} \leq 76$	$76 < L_{10} \leq 78$	$78 < L_{10} \leq 80$	$80 < L_{10}$
Attenuation ^A	(I) 28 dBA	(II) 31 dBA	(III) 33 dBA	(IV) 35 dBA	$36 + (L_{10} - 80)^B$ dBA
Notes: ^A The above composite window-wall attenuation values are for residential and community facility development. Retail uses would be 5 dBA 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 dBA increments for L_{10} values greater than 80 dBA. Source: New York City Department of Environmental Protection.					

D. EXISTING NOISE LEVELS

Existing noise levels were measured at four receptor sites and are described in **Table M-4** and shown in **Figure M-1**.

Table M-4
Noise Receptor Locations

Receptor Site	Location
1	Holly Avenue between Kissena Boulevard and Union Street
2	Kissena Boulevard between Kalmia and Juniper Avenues
3	Laburnum Avenue between Kissena Boulevard and Union Street
4	Parking Lot of Existing Shopping Center

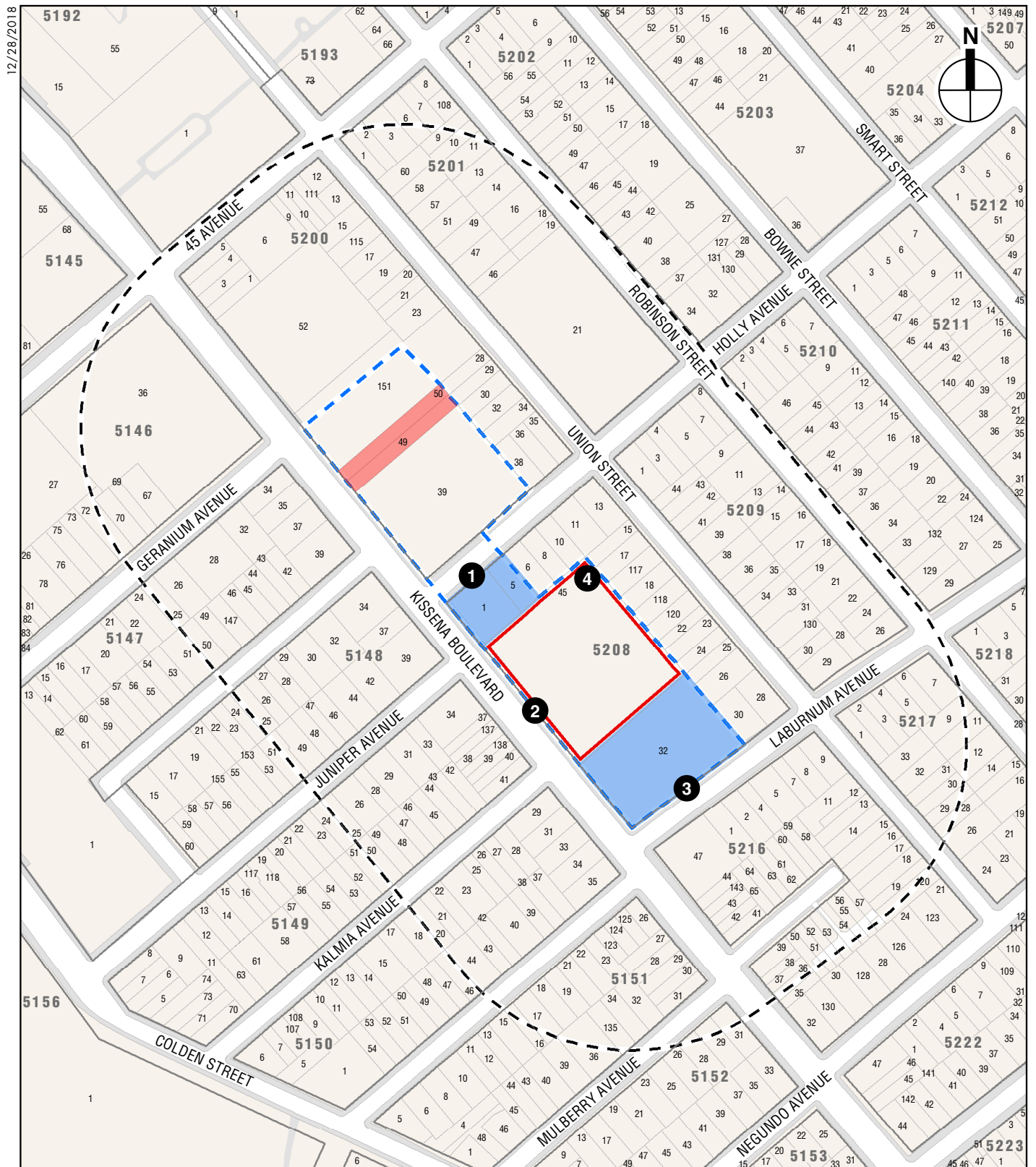
The four noise receptor sites were selected based on the following three criteria: (1) locations of the projected and potential development sites under the Reasonable Worst Case Development Scenario (RWCDS); (2) providing comprehensive geographic coverage across the study area in order to get a comprehensive characterization of the ambient noise environment; and (3) existing land use patterns (e.g., along major commercial road corridors, along bus routes, and near existing stationary noise sources).

These receptors, due to their proximity to the projected and potential development sites, provide an effective and conservative representation of existing ambient noise levels at the locations that would be developed under the RWCDS.

The existing noise levels were measured for 20-minute time periods at receptor sites 1 through 4. Measurements were performed during the three weekday peak periods—AM (7:00 AM to 9:00 AM), midday (MD) (12:00 PM to 2:00 PM), and PM (4:30 PM to 6:30 PM) and the Saturday peak period—midday (MD) (12:00 PM to 2:00 PM). Measurements were performed on June 13, 2017 and June 24, 2017.

EQUIPMENT USED DURING NOISE MONITORING

Measurements were performed using a Brüel & Kjær Sound Level Meter (SLM) Type 2260, a Brüel & Kjær ½-inch microphone Type 4189, and a Brüel & Kjær Sound Level Calibrator Type 4231. The SLM had a valid laboratory calibration within 1 year, as is standard practice. The Brüel & Kjær SLM is Type 1 instruments according to ANSI Standard S1.4-1983 (R2006). The



Project Area

Development Site (Lot 45)

Projected Development Sites (Lots 1, 5, and 32)

Potential Development Sites (Lots 49 and 50)

Study Area (400-foot boundary)

Noise Measurement Location

Tax Block

Tax Lot

0 400 FEET

KISSENA CENTER

Noise Measurement Locations
Figure M-1

microphone was mounted at a height of approximately 5 feet above the ground on a tripod and at least approximately 5 feet away from any large reflecting surfaces. The SLM was calibrated before and after readings with a Brüel & Kjær Type 4231 Sound Level Calibrator using the appropriate adaptors. Measurements were made on the A-scale (dBA). The data were digitally recorded by the SLM 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.

MEASURED EXISTING NOISE LEVELS

The results of the existing noise level measurements are summarized in **Table M-5**.

Table M-5
Existing Noise Levels in dBA

Receptor Site	Location	Time Period	L_{eq}	L_1	L_{10}	L_{50}	L_{90}
1	Holly Avenue between Kissena Boulevard and Union Street	AM	68.8	78.4	72.4	64.7	59.3
		MD	68.6	80.4	70.1	64.3	60.6
		PM	68.0	75.6	71.5	65.4	61.4
		SMD	68.3	78.3	70.1	65.2	61.9
2	Kissena Boulevard between Kalmia and Juniper Avenues	AM	66.0	74.5	69.6	63.4	59.2
		MD	67.0	76.9	70.7	62.4	59.8
		PM	66.3	75.9	69.4	62.8	59.9
		SMD	67.1	76.2	66.7	62.1	59.6
3	Laburnum Avenue between Kissena Boulevard and Union Street	AM	60.4	68.4	62.3	58.4	55.8
		MD	60.7	70.5	62.5	58.3	56.8
		PM	61.9	69.4	65.1	60.0	57.1
		SMD	62.9	70.4	65.9	60.9	58.0
4	Parking Lot of Existing Shopping Center	AM	58.1	66.1	59.7	56.5	55.5
		MD	58.4	64.3	59.7	57.5	56.7
		PM	58.3	62.8	59.6	57.7	56.8
		SMD	61.3	70.8	63.1	59.1	57.6

Note: Noise measurements were performed on June 13, 2017 and June 24, 2017.

At all receptor sites, vehicular traffic was the dominant noise source. Measured levels are low to moderate and reflect the level of vehicular activity on the adjacent roadways. In terms of the CEQR criteria, existing noise levels at receptor site 4 are in the “acceptable” category, existing noise levels at receptor site 3 are in the “marginally acceptable” category and existing noise levels at receptors sites 1 and 2 are in the “marginally unacceptable” category.

E. NOISE PREDICTION METHODOLOGY

GENERAL METHODOLOGY

Future noise levels—including in future without the proposed actions (the “No Action” condition) and the future with the proposed actions (the “With Action” condition)—were calculated using a proportional modeling technique, which was used as a screening tool to estimate changes in noise levels. The proportional modeling technique is an analysis methodology recommended for analysis purposes in the *CEQR Technical Manual*. The noise analysis examined the weekday AM, MD, PM, and Saturday MD peak hours at all receptor locations. The selected time periods are

when the proposed project would be expected to produce the maximum traffic generation (based on the traffic studies presented in Attachment K, “Transportation”) and therefore result in the maximum potential for significant adverse noise impacts. The proportional modeling used for the noise analysis is described below.

PROPORTIONAL MODELING

Proportional modeling was used to determine locations with the potential for having significant noise impacts. Proportional modeling is one of the techniques recommended in the *CEQR Technical Manual* for mobile source analysis.

Using this technique, the prediction of future noise levels where traffic is the dominant noise source is based on a calculation using measured existing noise levels and predicted changes in traffic volumes to determine No Action condition and With Action condition noise levels. Vehicular traffic volumes are converted into Noise Passenger Car Equivalent (Noise PCE) values, for which one medium-duty truck (having a gross weight between 9,900 and 26,400 pounds) is assumed to generate the noise equivalent of 13 cars, and one heavy-duty truck (having a gross weight of more than 26,400 pounds) is assumed to generate the noise equivalent of 47 cars, and one bus (vehicles designed to carry more than nine passengers) is assumed to generate the noise equivalent of 18 cars. Future noise levels are calculated using the following equation:

$$F\ NL - E\ NL = 10 * \log_{10} (F\ PCE / E\ PCE)$$

where:

F NL = Future Noise Level

E NL = Existing Noise Level

F PCE = Future Noise PCEs

E PCE = Existing Noise PCEs

Sound levels are measured in decibels and therefore increase logarithmically with sound source strength. In this case, the sound source is traffic volumes measured in Noise PCEs. For example, assume that traffic is the dominant noise source at a particular location. If the existing traffic volume on a street is 100 PCE and if the future traffic volume were increased by 50 PCE to a total of 150 PCE, the noise level would increase by 1.8 dBA. Similarly, if the future traffic were increased by 100 PCE, or doubled to a total of 200 PCE, the noise level would increase by 3.0 dBA.

F. FUTURE WITHOUT THE PROPOSED ACTIONS

Using the methodology described above, No Action condition noise levels were calculated at the four mobile source noise analysis receptors for the 2021 analysis year. These No Action condition values are shown in **Table M-6**.

Table M-6
2021 No Action Condition Noise Levels (in dBA)

Receptor Site	Location	Time Period	Existing Leq(1)	No Action Leq(1)	Leq(1) Change	No Action L10(1)
1	Holly Avenue between Kissena Boulevard and Union Street	AM	68.8	69.8	1.0	73.4
		MD	68.6	68.7	0.1	70.2
		PM	68.0	68.3	0.3	71.8
		SMD	68.3	68.4	0.1	70.2
2	Kissena Boulevard between Kalmia and Juniper Avenues	AM	66.0	66.3	0.3	69.9
		MD	67.0	67.1	0.1	70.8
		PM	66.3	66.5	0.2	69.6
		SMD	67.1	67.2	0.1	66.8
3	Laburnum Avenue between Kissena Boulevard and Union Street	AM	60.4	60.5	0.1	62.4
		MD	60.7	60.8	0.1	62.6
		PM	61.9	62.0	0.1	65.2
		SMD	62.9	63.0	0.1	66.0
4	Parking Lot of Existing Shopping Center	AM	58.1	58.4	0.3	60.0
		MD	58.4	58.5	0.1	59.8
		PM	58.3	58.5	0.2	59.8
		SMD	61.3	61.4	0.1	63.2

By 2021, the maximum increase in $L_{eq(1)}$ noise levels for the No Action condition would be 1.0 dBA or less at all four mobile source noise analysis receptors. Changes of this magnitude would be considered barely perceptible and not significant according to *CEQR Technical Manual* noise impact criteria. In terms of CEQR noise exposure guidelines, No Action condition noise levels at receptor site 4 would remain in the “acceptable” category, No Action condition noise levels at receptor site 3 would remain in the “marginally acceptable” category, and No Action condition noise levels at receptors sites 1 and 2 would remain in the “marginally unacceptable” category.

G. FUTURE WITH THE PROPOSED ACTIONS

Using the methodology previously described, With Action condition noise levels were calculated at the four mobile source noise analysis receptors for the 2021 analysis year. These With Action condition values are shown in **Table M-7**.

By 2021, the maximum increase in $Leq(1)$ noise levels for the With Action condition as compared to the No Action condition would be 1.6 dBA or less at all four mobile source noise analysis receptors. Changes of this magnitude would be considered barely perceptible according to *CEQR Technical Manual* guidance and would fall below the CEQR threshold for a significant adverse noise impact. Noise levels at receptor site 1 are predicted to decrease due to fewer trucks on Holly Avenue. In terms of CEQR noise exposure guidelines, With Action condition noise levels at receptor site 4 would remain in the “acceptable” category, With Action condition noise levels at receptor site 3 would remain in the “marginally acceptable” category, and With Action condition noise levels at receptors sites 1 and 2 would remain in the “marginally unacceptable” category.

Table M-7

2021 With Action Condition Noise Levels (in dBA)

Receptor Site	Location	Time Period	No Action Leq(1)	With Action Leq(1)	Leq(1) Change	With Action L10(1)
1	Holly Avenue between Kissena Boulevard and Union Street	AM	69.8	69.7	-0.1	73.3
		MD	68.7	68.5	-0.2	70.0
		PM	68.3	68.4	0.1	71.9
		SMD	68.4	68.5	0.1	70.3
2	Kissena Boulevard between Kalmia and Juniper Avenues	AM	66.3	66.4	0.1	70.0
		MD	67.1	67.2	0.1	70.9
		PM	66.5	66.6	0.1	69.7
		SMD	67.2	67.3	0.1	66.9
3	Laburnum Avenue between Kissena Boulevard and Union Street	AM	60.5	62.1	1.6	64.0
		MD	60.8	61.4	0.6	63.2
		PM	62.0	62.6	0.6	65.8
		SMD	63.0	63.5	0.5	66.5
4	Parking Lot of Existing Shopping Center	AM	58.4	58.5	0.1	60.1
		MD	58.5	58.6	0.1	59.9
		PM	58.5	58.6	0.1	59.9
		SMD	61.4	61.5	0.1	63.3

H. NOISE ATTENUATION MEASURES

The *CEQR Technical Manual* has set noise attenuation requirements for buildings based on exterior noise levels. Recommended noise attenuation values for buildings are designed to maintain interior noise levels of 45 dBA or lower for residential and community facility uses and 50 dBA or lower for commercial uses, and are determined based on exterior L₁₀₍₁₎ noise levels.

Table M-8 shows the minimum window-wall attenuation necessary to meet *CEQR Technical Manual* requirements for interior noise levels at each of the projected and potential development sites.

To implement the attenuation requirements shown in **Table M-8**, it is anticipated that an (E) Designation for noise would be applied to the projected and potential development sites specifying the appropriate amount of window-wall attenuation and an alternate means of ventilation. The text for the (E) Designation would be as follows:

To ensure an acceptable interior noise environment, future development at Block 7208, Lots 1, 5, 32, and 45, and Block 5200, Lots 39 and 50, must provide a minimum attenuation shown in Table M-8 of the *Kissena Center EAS* to ensure an interior L₁₀ noise level not greater than 45 dBA for residential and community facility uses or not greater than 50 dBA for commercial uses. To maintain a closed-window condition in these areas, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, central air conditioning.

Table M-8

Required Attenuation at Projected and Potential Development Sites
(in dBA)

Development Site	Façade(s)	Representative Receptor Site	Maximum Measured L ₁₀ Value	Minimum Required Attenuation ^{1, 2}
Development Site (Block 5208, Lot 45)	All	2	70.9	28
Project Development Site A (Block 5208, Lots 1 and 5)	Northeast, Northwest, Southwest (within 50 feet of Holly Avenue)	1	73.3	31
	Southeast, Southwest (more than 50 feet from Holly Avenue)	2	70.9	28
Project Development Site B (Block 5208, Lot 32)	Northeast, Southeast (more than 50 feet from Kissena Boulevard)	3	66.5	N/A
	Northwest, Southwest, Southeast (within 50 feet of Kissena Boulevard)	2	70.9	28
Potential Development Sites (Block 5200, Lots 39 and 50)	All	2	70.9	28
Notes: ¹ Attenuation values are shown for residential and community facility uses; commercial uses would require 5 dBA less attenuation. ² N/A indicates that the L ₁₀ value is less than 70 dBA. The <i>CEQR Technical Manual</i> does not address noise levels this low, therefore there is no minimum attenuation guidance.				

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 is composed of the wall, glazing, and any vents or louvers for HVAC systems in various ratios of surface area. The proposed buildings would be designed to provide a composite façade attenuation rating greater than or equal to the attenuation requirements listed in **Table M-8**.

By adhering to these design guidelines, the proposed project would provide sufficient attenuation to achieve the *CEQR Technical Manual* interior noise level guidelines of 45 dBA L₁₀ for residential and community facility uses and 50 dBA L₁₀ for commercial uses.

I. MECHANICAL EQUIPMENT

It is assumed that the proposed project's mechanical systems (i.e., HVAC systems) would be designed to meet all applicable noise regulations (i.e., Subchapter 5, §24-227 of the New York City Noise Control Code) and to avoid producing levels that would result in any significant increase in ambient noise levels. Therefore, the Proposed Project would not result in any significant adverse noise impacts related to building mechanical equipment. *

Appendix 1
Historic and Cultural Resources

ENVIRONMENTAL REVIEW

Project number: DEPARTMENT OF CITY PLANNING / 18DCP188Q
Project: KISSENA CENTER
Date received: 8/15/2018

Properties with no Architectural or Archaeological significance:

- 1) ADDRESS: 46-01 KISSENA BOULEVARD, BBL: 4052080001
- 2) ADDRESS: 140-12 HOLLY AVENUE, BBL: 4052080005
- 3) ADDRESS: 46-15 KISSENA BOULEVARD, BBL: 4052080045
- 4) ADDRESS: 46-40 LABURNUM AVENUE, BBL: 4052080032
- 5) ADDRESS: 140-15 HOLLY AVENUE, BBL: 4052000039, PROPERTY NAME:
EXPANDED SITE
- 6) ADDRESS: 45-47 KISSENA BOULEVARD, BBL: 4052000049, PROPERTY
NAME: EXPANDED SITE
- 7) ADDRESS: 45-45 KISSENA BOULEVARD, BBL: 4052000050, PROPERTY
NAME: EXPANDED SITE
- 8) ADDRESS: 45-35 KISSENA BOULEVARD, BBL: 4052000151, PROPERTY
NAME: EXPANDED SITE

The LPC is in receipt of the EAS of 6/21/18. There are no concerns.

Gina Santucci

9/10/2018

SIGNATURE
Gina Santucci, Environmental Review Coordinator

DATE

File Name: 32629_FSO_GS_09102018.doc



CITY PLANNING COMMISSION
CITY OF NEW YORK

OFFICE OF THE CHAIR

January 4, 2018

CONDITIONAL NEGATIVE DECLARATION

Project Identification

CEQR No. 18DCP188Q
ULURP Nos. 190203ZRQ, 190202ZMQ
SEQRA Classification: Unlisted

Lead Agency

City Planning Commission
120 Broadway, 31st Floor
New York, NY 10271
Contact: Olga Abinader
(212) 720-3493

Name, Description and Location of Proposal

Kissena Center Rezoning

The applicant, Kimco Kissena Center, LLC, is requesting a zoning map amendment and a zoning text amendment (collectively, the “Proposed Actions”) from the New York City Planning Commission (CPC) in order to rezone an area around the proposed project (Block 5208, Lot 45), including Block 5200, Lots 39, 49, 50 and p/o 151; and Block 5208, Lots 1, a portion of (p/o) Lot 5, Lot 32, and Lot 45 (collectively the “rezoning area”). Together the lots identified within the rezoning area compose the “project area”, which in addition to encompassing the entire rezoning area includes the portion of Block 5208, Lot 5 which is not proposed to be rezoned. The proposed actions would facilitate the development of an eight-story mixed-use building on the development site. The proposed project would require the demolition of the existing single-story retail and surface parking lot on the development site, followed by the construction of the eight-story building, which would include approximately 244,339 gross square feet (gsf) dedicated to residential use; approximately 57,827 gsf of ground-floor commercial (retail) use; approximately 15,675 gsf of community facility use; and approximately 333 parking spaces in a below-grade garage. The residential floor area would be composed of 244 dwelling units (DUs); 25 to 30 percent of the residential floor area (approximately 61 to 73 DUs) would be designated as affordable based on area median income. The proposed project also includes a new traffic signal at the intersection of Kissena Boulevard and Kalmia Avenue/Site driveway. The analysis year for the Proposed Actions is 2021.

To avoid the potential for significant adverse impacts, an (E) designation (E-514) for air quality, hazardous materials, and noise will be placed on Block 5208, Lots 1, 5, 45 and 32, and Block 5200 Lots 49 and 50, as part of the Proposed Actions.

The (E) designation text related to hazardous materials is as follows:

Task 1

The applicant submits to OER, for review and approval, a Phase 1 ESA for the Project Site along with a soil, soil gas and groundwater testing protocol, including a description of methods and a site map with all sampling locations clearly and precisely represented. If site sampling is necessary, no sampling should begin until written approval of a protocol is received from OER. The number and location of sample sites should be selected to adequately characterize the site, the specific source of suspected contamination (i.e., petroleum based contamination and non-petroleum based contamination), and the remainder of the site's condition. The characterization should be complete enough to determine what remediation strategy (if any) is necessary after review of sampling data. Guidelines and criteria for selecting sampling locations and collecting samples are provided by OER upon request.

Task 2

A written report with findings and a summary of the data must be submitted to OER after completion of the testing phase and laboratory analysis for review and approval. After receiving such results, a determination is made by OER if the results indicate that remediation is necessary. If OER determines that no remediation is necessary, written notice shall be given by OER. If remediation is indicated from the test results, a proposed remediation plan must be submitted to OER for review and approval. The applicant must complete such remediation as determined necessary by OER. The applicant should then provide proper documentation that the work has been satisfactorily completed. An OER-approved construction-related health and safety plan would be implemented during evacuation and construction and activities to protect workers and the community from potentially significant adverse impacts associated with contaminated soil and/or groundwater. This plan would be submitted to OER for review and approval prior to implementation. All demolition or rehabilitation would be conducted in accordance with applicable requirements for disturbance, handling and disposal of suspect lead-paint and asbestos-containing materials. In addition to the requirements for lead-based paint and asbestos, requirements (including those of NYSDEC) should petroleum tanks and/or spills be identified and for off-site disposal of soil/fill would need to be followed.

The (E) designation text related to air quality is as follows:

Lot 45

Any fossil fuel-fired heating and hot water equipment in any new development on the above-referenced property must use only natural gas and be fitted with low NOx burners with NOx emissions not to exceed 30 ppm. Fossil fuel-fired heating and hot water exhaust stacks must be located at least 98 feet above grade, and at a distance of at least 178 feet from the southeastern lot line facing Laburnum Avenue.

Lots 1 & 5

Any fossil fuel-fired heating and hot water equipment in any new development on the above-referenced property must use only natural gas and be fitted with low NOx burners with NOx emissions not to exceed 30 ppm. Fossil fuel-fired heating and hot water exhaust

stack(s) are located at least 78 feet above grade, and at a distance of at least 65 feet from the southeastern lot line facing Laburnum Avenue and 115 feet from the southwestern lot line facing Kissena Boulevard.

Lots 32

Any fossil fuel-fired heating and hot water equipment in any new development on the above-referenced property must use only natural gas and be fitted with low NOx burners with NOx emissions not to exceed 30 ppm. Fossil fuel-fired heating and hot water exhaust stacks must be located at least 98 feet above grade, and at a distance of at least 99 feet away from the northwestern lot line facing Holly Avenue.

Lots 49 & 50

Any fossil fuel-fired heating and hot water equipment in any new development on the above-referenced property must use only natural gas. Fossil fuel-fired heating and hot water exhaust stacks must be located at least 78 feet above grade.

The (E) designation text related to noise is as follows:

To ensure an acceptable interior noise environment, the projected and potential development sites building façade(s) future development at Block 7208, Lots 1, 5, 32, 45 and Block 5200, Lots 39, 50 must provide a minimum composite building façade attenuation as shown in Table M-8 of the *Kissena Center EAS* in order to ensure an interior L10 noise level not greater than 45 dBA for residential and community facility uses or not greater than 50 dBA for commercial uses. To maintain a closed-window condition in these areas, an alternate means of ventilation that brings outside air into the buildings without degrading the acoustical performance of the building façade(s) must also be provided. Alternate means of ventilation includes, but is not limited to, central air conditioning.

Statement of No Significant Effect:

The Environmental Assessment and Review Division of the Department of City Planning, on behalf of the City Planning Commission, has completed its technical review of the Environmental Assessment Statement, dated December 28, 2018, prepared in connection with the ULURP Application (Nos. 190203ZRQ, 190202ZMQ). The City Planning Commission has determined that the proposed action will have no significant effect on the quality of the environment, once it is modified as follows:

1. The applicant will enter into a Restrictive Declaration (RD) to ensure the implementation of mitigation relating to transportation which would avoid the potential for any significant adverse impacts. The mitigation is as follows:
 - Kissena Boulevard and 45th Avenue
 - i. Install a “No Standing 7 AM to 7 PM Monday through Friday” regulation along the north curb of the westbound approach for 100 feet.
 - ii. During the weekday AM and PM peak periods, shift 2 seconds of green time from the westbound phase to the northbound/southbound phase; the lead pedestrian interval phase would remain the same.

- Kissena Boulevard and Juniper Avenue:
 - i. Modify the signal timing during the weekday AM and Saturday peak periods. During the weekday AM peak period, shift 4 seconds of green time from the pedestrian phase to the northbound/southbound phase. During the Saturday peak period, shift 2 seconds of green time from the pedestrian phase to the northbound/southbound phase.
 - Kissena Boulevard and Booth Memorial Avenue:
 - i. Install “No Standing 7 am - 7 pm Except Sunday” regulations along the north curb of the WB approach for 175 feet.
 - ii. Modify the signal timing during the weekday AM, midday, PM, and Saturday peak periods – shift 2 second of green time from the eastbound/westbound phase to the southbound lead phase; the northbound/southbound phase remains the same.
 - iii. Restripe the westbound approach from one 10-foot-wide left-turn lane and one 20-footwide through-right lane with parking to one 10-foot-wide left-turn lane, 10-foot-wide through lane, and one 10-foot-wide parking lane which serves as a right-turn lane during specific periods.
2. The applicant will enter into a Restrictive Declaration (RD) to ensure the implementation of project components relating to transportation which would avoid the potential for any significant adverse impacts. The project component is as follows:
- Kissena Boulevard and Kalmia Avenue (the project site)
 - i. Install a new traffic signal at the intersection of Kissena Boulevard and Kalmia Avenue/Site driveway.

Supporting Statement:

The above determination is based on an environmental assessment which finds that:

1. The applicant will enter into a Restrictive Declaration to ensure the implementation of project components and mitigation relating to construction (transportation) which would avoid the potential for any significant adverse impacts related thereto.
2. The (E) designation for hazardous materials, air quality, and noise would ensure that the proposed action would not result in significant adverse impacts.
3. No other significant adverse effects on the environment which would require an Environmental Impact Statement are foreseeable.

It is fully agreed and understood that if the foregoing conditions, modification, and alterations are not fully incorporated into the proposed action, this Conditional Negative Declaration shall become null and void. In such event, the applicant shall be required to prepare a Draft Environmental Impact Statement before proceeding further with said proposal.

This Conditional Negative Declaration has been prepared in accordance with Article 8 of the Environmental Conservation Law 6NYCRR part 617.

I, the Undersigned, as the applicant or authorized representative for this proposal, hereby affix my signature in acceptance of the above conditions to the proposed action.



Signature of Applicant or Authorized Representative

Date: 01/04/2019

NICHOLAS BROWN

Name of Applicant or Authorized Representative

Date: 01/04/2019

Olga Abinader, Acting Director
Environmental Assessment and Review Division
Department of City Planning

Date: 01/04/2019

Marisa Lago, Chair
City Planning Commission

Date: _____

Appendix 2
Revised CEQR EAS



City Environmental Quality Review

ENVIRONMENTAL ASSESSMENT STATEMENT (EAS) FULL FORM

Please fill out and submit to the appropriate agency ([see instructions](#))

Part I: GENERAL INFORMATION

PROJECT NAME Kissena Center - No Easement Scenario*

1. Reference Numbers

CEQR REFERENCE NUMBER (to be assigned by lead agency)
18DCP188Q

BSA REFERENCE NUMBER (if applicable)

ULURP REFERENCE NUMBER (if applicable)
190202ZMQ, 190203ZRQ

OTHER REFERENCE NUMBER(S) (if applicable)
(e.g., legislative intro, CAPA)

2a. Lead Agency Information

NAME OF LEAD AGENCY
New York City Department of City Planning

NAME OF LEAD AGENCY CONTACT PERSON
Olga Abinader, Acting Director

ADDRESS 120 Broadway, 31st Floor

CITY New York

STATE NY

ZIP 10271

TELEPHONE 212-720-3423

EMAIL
Oabinad@planning.nyc.gov

2b. Applicant Information

NAME OF APPLICANT
Kimco Kissena Center, LLC

NAME OF APPLICANT'S REPRESENTATIVE OR CONTACT PERSON
Jodi Stein
Herrick Feinstein LLP

ADDRESS 2 Park Avenue

CITY New York

STATE NY

ZIP 10016

TELEPHONE (212) 592-1556

EMAIL jstein@herrick.com

3. Action Classification and Type

SEQRA Classification

☒ UNLISTED ☐ TYPE I: Specify Category (see 6 NYCRR 617.4 and NYC Executive Order 91 of 1977, as amended):

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

☐ LOCALIZED ACTION, SITE SPECIFIC

☒ LOCALIZED ACTION, SMALL AREA

☐ GENERIC ACTION

4. Project Description

With the No Easement Scenario, the applicant, Kimco Kissena Center, LLC is seeking a zoning map amendment and zoning text amendment (together the "proposed modifications") in order to rezone an area around the proposed project (Block 5208 Lot 45), including Block 5208, Lots 1, a portion of (p/o) Lot 5, and the adjacent block Block 5200, Lots 39, 49, 50 and p/o 151 (collectively the "rezoning area"). The rezoning area is proposed to be rezoned from R3-2 and R3-2/C2-2 to R6A and R6A/C2-3, as well as designate the rezoning area a Mandatory Inclusionary Housing Area (MIHA). Further, the proposed modifications would remove Lot 32 (Projected Development Site B in the January 2019 EAS) from the rezoning area. The proposed modifications would facilitate the construction of a seven-story mixed-use development on Block 5208 Lot 45. The new building would contain approximately 188,515 gross square-feet (gsf) dedicated to residential uses; approximately 53,733 gsf of ground-floor commercial (retail) use; approximately 15,104 gsf of second-floor community facility use; and two below-grade levels of parking that would provide approximately 291 spaces accessory to the residential, commercial, and community facility uses. The residential floor area would be comprised of approximately 189 dwelling units (DUs) and 25 to 30 percent of the residential floor area (up to approximately 57 DUs) would be designated as affordable per MIH regulations. For the purposes of conservative analysis it is assumed that 30 percent of DUs will be designated as affordable to an aggregate average of those earning 80 percent of the area median income (AMI). See appended Technical Memorandum for detailed project description and information regarding Projected Development Site A (Block 5208; Lot 1 and p/o Lot 5).

Project Location

BOROUGH Queens

COMMUNITY DISTRICT(S) CD 7

STREET ADDRESS 46-15 Kissena Boulevard (Proposed Development Site); 46-01 Kissena Boulevard, 140-12 Holly Avenue (Projected Development Site A)

TAX BLOCK(S) AND LOT(S) Block 5208, Lot 45 (Proposed Development Site), Lots 1, and p/o 5 (Projected Development Site A)

ZIP CODE 11355

DESCRIPTION OF PROPERTY BY BOUNDING OR CROSS STREETS Block bound by 45th Avenue to the north, Union Street to the east, Kalmia Avenue to the south, and Kissena Boulevard to the west.

*This form addresses the development without the easement. The attached technical memorandum addresses the future scenario without the easement.

EXISTING ZONING DISTRICT, INCLUDING SPECIAL ZONING DISTRICT DESIGNATION, IF ANY R3-2; C2-2	ZONING SECTIONAL MAP NUMBER 10d
5. Required Actions or Approvals (check all that apply)	
City Planning Commission: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> UNIFORM LAND USE REVIEW PROCEDURE (ULURP) <input type="checkbox"/> CITY MAP AMENDMENT <input type="checkbox"/> ZONING CERTIFICATION <input type="checkbox"/> CONCESSION <input checked="" type="checkbox"/> ZONING MAP AMENDMENT <input type="checkbox"/> ZONING AUTHORIZATION <input type="checkbox"/> UDAAP <input checked="" type="checkbox"/> ZONING TEXT AMENDMENT <input type="checkbox"/> ACQUISITION—REAL PROPERTY <input type="checkbox"/> REVOCABLE CONSENT <input type="checkbox"/> SITE SELECTION—PUBLIC FACILITY <input type="checkbox"/> DISPOSITION—REAL PROPERTY <input type="checkbox"/> FRANCHISE <input type="checkbox"/> HOUSING PLAN & PROJECT <input type="checkbox"/> OTHER, explain: <input type="checkbox"/> SPECIAL PERMIT (if appropriate, specify type: <input type="checkbox"/> modification; <input type="checkbox"/> renewal; <input type="checkbox"/> other); EXPIRATION DATE: SPECIFY AFFECTED SECTIONS OF THE ZONING RESOLUTION ZR Section 23-154, Appendix F	
Board of Standards and Appeals: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> VARIANCE (use) <input type="checkbox"/> VARIANCE (bulk) <input type="checkbox"/> SPECIAL PERMIT (if appropriate, specify type: <input type="checkbox"/> modification; <input type="checkbox"/> renewal; <input type="checkbox"/> other); EXPIRATION DATE: SPECIFY AFFECTED SECTIONS OF THE ZONING RESOLUTION	
Department of Environmental Protection: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO If “yes,” specify:	
Other City Approvals Subject to CEQR (check all that apply) <input type="checkbox"/> LEGISLATION <input type="checkbox"/> FUNDING OF CONSTRUCTION, specify: <input type="checkbox"/> RULEMAKING <input type="checkbox"/> POLICY OR PLAN, specify: <input type="checkbox"/> CONSTRUCTION OF PUBLIC FACILITIES <input type="checkbox"/> FUNDING OF PROGRAMS, specify: <input type="checkbox"/> 384(b)(4) APPROVAL <input type="checkbox"/> PERMITS, specify: <input type="checkbox"/> OTHER, explain:	
Other City Approvals Not Subject to CEQR (check all that apply) <input type="checkbox"/> PERMITS FROM DOT’S OFFICE OF CONSTRUCTION MITIGATION AND COORDINATION (OCMC) <input type="checkbox"/> LANDMARKS PRESERVATION COMMISSION APPROVAL <input type="checkbox"/> OTHER, explain:	
State or Federal Actions/Approvals/Funding: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO If “yes,” specify:	
6. Site Description: <i>The directly affected area consists of the project site and the area subject to any change in regulatory controls. Except where otherwise indicated, provide the following information with regard to the directly affected area.</i> Graphics: <i>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 11 x 17 inches in size and, for paper filings, must be folded to 8.5 x 11 inches.</i> <input checked="" type="checkbox"/> SITE LOCATION MAP <input checked="" type="checkbox"/> ZONING MAP <input checked="" type="checkbox"/> SANBORN OR OTHER LAND USE MAP <input checked="" type="checkbox"/> TAX MAP <input type="checkbox"/> FOR LARGE AREAS OR MULTIPLE SITES, A GIS SHAPE FILE THAT DEFINES THE PROJECT SITE(S) <input checked="" type="checkbox"/> PHOTOGRAPHS OF THE PROJECT SITE TAKEN WITHIN 6 MONTHS OF EAS SUBMISSION AND KEYED TO THE SITE LOCATION MAP	
Physical Setting (both developed and undeveloped areas) Total directly affected area (sq. ft.): 68,200 sf (Proposed Development Site) + 12,786 sf (Projected Development Site A) = 80,986 sf Waterbody area (sq. ft.) and type: 0 Roads, buildings, and other paved surfaces (sq. ft.): Same as above Other, describe (sq. ft.): 0	
7. Physical Dimensions and Scale of Project (if the project affects multiple sites, provide the total development facilitated by the action) SIZE OF PROJECT TO BE DEVELOPED (gross square feet): 389,972 gsf (Proposed Development Site); 81,198 gsf (Projected Development Site A) = 471,170 gsf NUMBER OF BUILDINGS: 1 (Proposed Development Site), 1 (Projected Development Site A) GROSS FLOOR AREA OF EACH BUILDING (sq. ft.): Same as above HEIGHT OF EACH BUILDING (ft.): up to 85' NUMBER OF STORIES OF EACH BUILDING: 7 (Proposed Development Site), 6 (Projected Development Site A)	
Does the proposed project involve changes in zoning on one or more sites? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO If “yes,” specify: The total square feet owned or controlled by the applicant: 68,200 (Proposed Development Site) The total square feet not owned or controlled by the applicant: 12,786 (Projected Development Site A)	
Does the proposed project involve in-ground excavation or subsurface disturbance, including, but not limited to foundation work, pilings, utility lines, or grading? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	

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

AREA OF TEMPORARY DISTURBANCE: sq. ft. (width x length)

VOLUME OF DISTURBANCE: cubic ft. (width x length x depth)

AREA OF PERMANENT DISTURBANCE: sq. ft. (width x length)

8. Analysis Year [CEQR Technical Manual Chapter 2](#)

ANTICIPATED BUILD YEAR (date the project would be completed and operational): 2021

ANTICIPATED PERIOD OF CONSTRUCTION IN MONTHS: 22

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

BRIEFLY DESCRIBE PHASES AND CONSTRUCTION SCHEDULE: Single Phase.

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

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

DESCRIPTION OF EXISTING AND PROPOSED CONDITIONS

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

	EXISTING CONDITION	NO-ACTION CONDITION	WITH-ACTION CONDITION	INCREMENT
LAND USE				
Residential	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
If "yes," specify the following:				
Describe type of residential structures	Single family detached house	Single family detached house	Multi-Family Residence	
No. of dwelling units	1	1	235	234
No. of low- to moderate-income units			71	71
Gross floor area (sq. ft.)	1,000	1,000	234,032	233,032
Commercial	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
If "yes," specify the following:				
Describe type (retail, office, other)	Local / neighborhood retail	Local/ neighborhood retail	Neighborhood Retail	
Gross floor area (sq. ft.)	38,228	38,228	61,164	22,936
Manufacturing/Industrial	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
If "yes," specify the following:				
Type of use				
Gross floor area (sq. ft.)				
Open storage area (sq. ft.)				
If any unenclosed activities, specify:				
Community Facility	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
If "yes," specify the following:				
Type			Unknown, assumed Medical Office	
Gross floor area (sq. ft.)			15,104	15,104
Vacant Land	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
If "yes," describe:				
Publicly Accessible Open Space	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
If "yes," specify type (mapped City, State, or Federal parkland, wetland—mapped or otherwise known, other):				
Other Land Uses	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
If "yes," describe:				
PARKING				
Garages	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
If "yes," specify the following:				
No. of public spaces			0	
No. of accessory spaces			334	+334 (291 on Development Site and 43 on Projected Developmen Site)
Operating hours			24/7	
Attended or non-attended			Attended and Self-parking	
Lots	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
If "yes," specify the following:				
No. of public spaces			0	
No. of accessory spaces	102	102	0	-102
Operating hours	24/7	24/7		
Other (includes street parking)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	

	EXISTING CONDITION	NO-ACTION CONDITION	WITH-ACTION CONDITION	INCREMENT
If "yes," describe:				
POPULATION				
Residents	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
If "yes," specify number:	3	3	644	641
Briefly explain how the number of residents was calculated:	The 2010 U.S. Census Queens Community District 7, Persons Per Household number of 2.74 was used to calculate number of residents.			
Businesses	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
If "yes," specify the following:				
No. and type	Office (1); Gift Shop (1); Laundry (1); Supermarket (1); Bakery (2)	Office (1); Gift Shop (1); Laundry (1); Supermarket (1); Bakery (2)	Neighborhood Retail + Community Facility	
No. and type of workers by business	96	96	153+15=168	72
No. and type of non-residents who are not workers				
Briefly explain how the number of businesses was calculated:	The following employment multipliers were used: 1 employee per 25 residential units; 1 employee per 400 sf of retail; 1 employee per 1,000 sf of community facility use; 1 employee per 250 sf of office use; and 1 employee per 50 parking spaces.			
Other (students, visitors, concert-goers, etc.)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
If any, specify type and number:				
Briefly explain how the number was calculated:				
ZONING				
Zoning classification	R3/C2-2	R3/C2-2	R6A and R6A/C2-3	
Maximum amount of floor area that can be developed	0.5/1	0.5/1	4.6 (Residential with up to 2.0 FAR Commercial)	+3.6
Predominant land use and zoning classifications within land use study area(s) or a 400 ft. radius of proposed project	Commercial, Residential	Commercial, Residential	Commercial, Residential	
Attach any additional information that may be needed to describe the project.				
If your project involves changes that affect one or more sites not associated with a specific development, it is generally appropriate to include total development projections in the above table and attach separate tables outlining the reasonable development scenarios for each site.				

Part II: TECHNICAL ANALYSIS

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


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

	YES	NO
1. LAND USE, ZONING, AND PUBLIC POLICY: CEQR Technical Manual Chapter 4		
(a) Would the proposed project result in a change in land use different from surrounding land uses?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Would the proposed project result in a change in zoning different from surrounding zoning?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) Is there the potential to affect an applicable public policy?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(d) If "yes," to (a), (b), and/or (c), complete a preliminary assessment and attach.		
(e) Is the project a large, publicly sponsored project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o If "yes," complete a PlaNYC assessment and attach.		
(f) Is any part of the directly affected area within the City's Waterfront Revitalization Program boundaries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o If "yes," complete the Consistency Assessment Form .		
2. SOCIOECONOMIC CONDITIONS: CEQR Technical Manual Chapter 5		
(a) Would the proposed project:		
o Generate a net increase of more than 200 residential units or 200,000 square feet of commercial space?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▪ If "yes," answer both questions 2(b)(ii) and 2(b)(iv) below.		
o Directly displace 500 or more residents?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
▪ If "yes," answer questions 2(b)(i), 2(b)(ii), and 2(b)(iv) below.		
o Directly displace more than 100 employees?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
▪ If "yes," answer questions under 2(b)(iii) and 2(b)(iv) below.		
o Affect conditions in a specific industry?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
▪ If "yes," answer question 2(b)(v) below.		
(b) If "yes" to any of the above, attach supporting information to answer the relevant questions below. If "no" was checked for each category above, the remaining questions in this technical area do not need to be answered.		
i. Direct Residential Displacement		
o If more than 500 residents would be displaced, would these residents represent more than 5% of the primary study area population?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o If "yes," is the average income of the directly displaced population markedly lower than the average income of the rest of the study area population?	<input type="checkbox"/>	<input type="checkbox"/>
ii. Indirect Residential Displacement		
o Would expected average incomes of the new population exceed the average incomes of study area populations?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
o If "yes:"		
▪ Would the population of the primary study area increase by more than 10 percent?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
▪ Would the population of the primary study area increase by more than 5 percent in an area where there is the potential to accelerate trends toward increasing rents?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o If "yes" to either of the preceding questions, would more than 5 percent of all housing units be renter-occupied and unprotected?	<input type="checkbox"/>	<input type="checkbox"/>
iii. Direct Business Displacement		
o Do any of the displaced businesses provide goods or services that otherwise would not be found within the trade area, either under existing conditions or in the future with the proposed project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o Is any category of business to be displaced the subject of other regulations or publicly adopted plans to preserve,	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	YES	NO
enhance, or otherwise protect it?		
iv. Indirect Business Displacement		
o Would the project potentially introduce trends that make it difficult for businesses to remain in the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o Would the project capture retail sales in a particular category of goods to the extent that the market for such goods would become saturated, potentially resulting in vacancies and disinvestment on neighborhood commercial streets?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
v. Effects on Industry		
o Would the project significantly affect business conditions in any industry or any category of businesses within or outside the study area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o Would the project indirectly substantially reduce employment or impair the economic viability in the industry or category of businesses?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. COMMUNITY FACILITIES: CEQR Technical Manual Chapter 6		
(a) Direct Effects		
o Would the project directly eliminate, displace, or alter public or publicly funded community facilities such as educational facilities, libraries, health care facilities, day care centers, police stations, or fire stations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Indirect Effects		
i. Child Care Centers		
o Would the project result in 20 or more eligible children under age 6, based on the number of low or low/moderate income residential units? (See Table 6-1 in Chapter 6)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o If "yes," would the project result in a collective utilization rate of the group child care/Head Start centers in the study area that is greater than 100 percent?	<input type="checkbox"/>	<input type="checkbox"/>
o If "yes," would the project increase the collective utilization rate by 5 percent or more from the No-Action scenario?	<input type="checkbox"/>	<input type="checkbox"/>
ii. Libraries		
o Would the project result in a 5 percent or more increase in the ratio of residential units to library branches? (See Table 6-1 in Chapter 6)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o If "yes," would the project increase the study area population by 5 percent or more from the No-Action levels?	<input type="checkbox"/>	<input type="checkbox"/>
o If "yes," would the additional population impair the delivery of library services in the study area?	<input type="checkbox"/>	<input type="checkbox"/>
iii. Public Schools		
o Would the project result in 50 or more elementary or middle school students, or 150 or more high school students based on number of residential units? (See Table 6-1 in Chapter 6)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
o If "yes," would the project result in a collective utilization rate of the elementary and/or intermediate schools in the study area that is equal to or greater than 100 percent?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
o If "yes," would the project increase this collective utilization rate by 5 percent or more from the No-Action scenario?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv. Health Care Facilities		
o Would the project result in the introduction of a sizeable new neighborhood?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o If "yes," would the project affect the operation of health care facilities in the area?	<input type="checkbox"/>	<input type="checkbox"/>
v. Fire and Police Protection		
o Would the project result in the introduction of a sizeable new neighborhood?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o If "yes," would the project affect the operation of fire or police protection in the area?	<input type="checkbox"/>	<input type="checkbox"/>
4. OPEN SPACE: CEQR Technical Manual Chapter 7		
(a) Would the project change or eliminate existing open space?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Is the project located within an under-served area in the Bronx , Brooklyn , Manhattan , Queens , or Staten Island ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c) If "yes," would the project generate more than 50 additional residents or 125 additional employees?	<input type="checkbox"/>	<input type="checkbox"/>
(d) Is the project located within a well-served area in the Bronx , Brooklyn , Manhattan , Queens , or Staten Island ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(e) If "yes," would the project generate more than 350 additional residents or 750 additional employees?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(f) If the project is located in an area that is neither under-served nor well-served, would it generate more than 200 additional residents or 500 additional employees?	<input type="checkbox"/>	<input type="checkbox"/>
(g) If "yes" to questions (c), (e), or (f) above, attach supporting information to answer the following:		
o If in an under-served area, would the project result in a decrease in the open space ratio by more than 1 percent?	<input type="checkbox"/>	<input type="checkbox"/>
o If in an area that is not under-served, would the project result in a decrease in the open space ratio by more than 5	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	YES	NO
percent?		
<ul style="list-style-type: none"> o If “yes,” are there qualitative considerations, such as the quality of open space, that need to be considered? Please specify: 	<input type="checkbox"/>	<input type="checkbox"/>
5. SHADOWS: CEQR Technical Manual Chapter 8		
(a) Would the proposed project result in a net height increase of any structure of 50 feet or more?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c) If “yes” to either of the above questions, attach supporting information explaining whether the project’s shadow would reach any sunlight-sensitive resource at any time of the year.		
6. HISTORIC AND CULTURAL RESOURCES: CEQR Technical Manual Chapter 9		
(a) Does the proposed project site or an adjacent site contain any architectural and/or archaeological resource that is eligible for or has been designated (or is calendared for consideration) as a New York City Landmark, Interior Landmark or Scenic Landmark; that is listed or eligible for listing on the New York State or National Register of Historic Places; or that is within a designated or eligible New York City, New York State or National Register Historic District? (See the GIS System for Archaeology and National Register to confirm)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Would the proposed project involve construction resulting in in-ground disturbance to an area not previously excavated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) If “yes” to either of the above, list any identified architectural and/or archaeological resources and attach supporting information on whether the proposed project would potentially affect any architectural or archeological resources.		
7. URBAN DESIGN AND VISUAL RESOURCES: CEQR Technical Manual Chapter 10		
(a) Would the proposed project introduce a new building, a new building height, or result in any substantial physical alteration to the streetscape or public space in the vicinity of the proposed project that is not currently allowed by existing zoning?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Would the proposed project result in obstruction of publicly accessible views to visual resources not currently allowed by existing zoning?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c) If “yes” to either of the above, please provide the information requested in Chapter 10 .		
8. NATURAL RESOURCES: CEQR Technical Manual Chapter 11		
(a) Does the proposed project site or a site adjacent to the project contain natural resources as defined in Section 100 of Chapter 11 ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o If “yes,” list the resources and attach supporting information on whether the project would affect any of these resources.		
(b) Is any part of the directly affected area within the Jamaica Bay Watershed ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o If “yes,” complete the Jamaica Bay Watershed Form and submit according to its instructions .		
9. HAZARDOUS MATERIALS: CEQR Technical Manual Chapter 12		
(a) Would the proposed project allow commercial or residential uses in an area that is currently, or was historically, a manufacturing area that involved hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Does the proposed project site have existing institutional controls (e.g., (E) designation or Restrictive Declaration) relating to hazardous materials that preclude the potential for significant adverse impacts?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c) Would the project require soil disturbance in a manufacturing area or any development on or near a manufacturing area or existing/historic facilities listed in Appendix 1 (including nonconforming uses)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(d) Would the project result in the development of a site where there is reason to suspect the presence of hazardous materials, contamination, illegal dumping or fill, or fill material of unknown origin?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(e) Would the project result in development on or near a site that has or had underground and/or aboveground storage tanks (e.g., gas stations, oil storage facilities, heating oil storage)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(f) Would the project result in renovation of interior existing space on a site with the potential for compromised air quality; vapor intrusion from either on-site or off-site sources; or the presence of asbestos, PCBs, mercury or lead-based paint?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(g) Would the project result in development on or near a site with potential hazardous materials issues such as government-listed voluntary cleanup/brownfield site, current or former power generation/transmission facilities, coal gasification or gas storage sites, railroad tracks or rights-of-way, or municipal incinerators?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(h) Has a Phase I Environmental Site Assessment been performed for the site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
o If “yes,” were Recognized Environmental Conditions (RECs) identified? Briefly identify: Historical/current on-site dry cleaning operations with associated hazardous waste generation of chlorinated solvents, potential undocumented releases to an on-site dry well, former on-site greenhouse operations and potential former on-site printing operations.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(i) Based on the Phase I Assessment, is a Phase II Investigation needed? Yes	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10. WATER AND SEWER INFRASTRUCTURE: CEQR Technical Manual Chapter 13		
(a) Would the project result in water demand of more than one million gallons per day?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) If the proposed project located in a combined sewer area, would it result in at least 1,000 residential units or 250,000 square feet or more of commercial space in Manhattan, or at least 400 residential units or 150,000 square feet or more of	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	YES	NO
commercial space in the Bronx, Brooklyn, Staten Island, or Queens?		
(c) If the proposed project located in a separately sewered area , would it result in the same or greater development than that listed in Table 13-1 in Chapter 13 ?	<input type="checkbox"/>	<input type="checkbox"/>
(d) Would the project involve development on a site that is 5 acres or larger where the amount of impervious surface would increase?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(e) If the project 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, would it involve development on a site that is 1 acre or larger where the amount of impervious surface would increase?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(f) Would the proposed project be located in an area that is partially sewered or currently unsewered?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(g) Is the project proposing an industrial facility or activity that would contribute industrial discharges to a Wastewater Treatment Plant and/or contribute contaminated stormwater to a separate storm sewer system?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(h) Would the project involve construction of a new stormwater outfall that requires federal and/or state permits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(i) If "yes" to any of the above, conduct the appropriate preliminary analyses and attach supporting documentation.		
11. SOLID WASTE AND SANITATION SERVICES: CEQR Technical Manual Chapter 14		
(a) Using Table 14-1 in Chapter 14 , the project's projected operational solid waste generation is estimated to be (pounds per week): 16,585		
o Would the proposed project have the potential to generate 100,000 pounds (50 tons) or more of solid waste per week?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o If "yes," would the proposed project comply with the City's Solid Waste Management Plan?	<input type="checkbox"/>	<input type="checkbox"/>
12. ENERGY: CEQR Technical Manual Chapter 15		
(a) Using energy modeling or Table 15-1 in Chapter 15 , the project's projected energy use is estimated to be (annual BTUs): 101,914,071		
(b) Would the proposed project affect the transmission or generation of energy?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
13. TRANSPORTATION: CEQR Technical Manual Chapter 16		
(a) Would the proposed project exceed any threshold identified in Table 16-1 in Chapter 16 ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) If "yes," conduct the appropriate screening analyses, attach back up data as needed for each stage, and answer the following questions:		
o Would the proposed project result in 50 or more Passenger Car Equivalents (PCEs) per project peak hour?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 of Chapter 16 for more information.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
o Would the proposed project result in more than 200 subway/rail or bus trips per project peak hour?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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/rail trips per station or line?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o Would the proposed project result in more than 200 pedestrian trips per project peak hour?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
14. AIR QUALITY: CEQR Technical Manual Chapter 17		
(a) <i>Mobile Sources:</i> Would the proposed project result in the conditions outlined in Section 210 in Chapter 17 ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) <i>Stationary Sources:</i> Would the proposed project result in the conditions outlined in Section 220 in Chapter 17 ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
o If "yes," would the proposed project exceed the thresholds in Figure 17-3, Stationary Source Screen Graph in Chapter 17 ? (Attach graph as needed)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) Does the proposed project involve multiple buildings on the project site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d) Does the proposed project require federal approvals, support, licensing, or permits subject to conformity requirements?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(e) Does the proposed project site have existing institutional controls (e.g., (E) designation or Restrictive Declaration) relating to air quality that preclude the potential for significant adverse impacts?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(f) If "yes" to any of the above, conduct the appropriate analyses and attach any supporting documentation.		
15. GREENHOUSE GAS EMISSIONS: CEQR Technical Manual Chapter 18		
(a) Is the proposed project a city capital project or a power generation plant?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Would the proposed project fundamentally change the City's solid waste management system?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c) Would the proposed project result in the development of 350,000 square feet or more?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d) If "yes" to any of the above, would the project require a GHG emissions assessment based on guidance in Chapter 18 ?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	YES	NO
<ul style="list-style-type: none"> o If "yes," would the project result in inconsistencies with the City's GHG reduction goal? (See Local Law 22 of 2008; § 24-803 of the Administrative Code of the City of New York). Please attach supporting documentation. 	<input type="checkbox"/>	<input type="checkbox"/>
16. NOISE: CEQR Technical Manual Chapter 19		
(a) Would the proposed project generate or reroute vehicular traffic?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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 site to that rail line?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d) Does the proposed project site have existing institutional controls (e.g., (E) designation or Restrictive Declaration) relating to noise that preclude the potential for significant adverse impacts?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(e) If "yes" to any of the above, conduct the appropriate analyses and attach any supporting documentation.		
17. PUBLIC HEALTH: CEQR Technical Manual Chapter 20		
(a) Based upon the analyses conducted, do any of the following technical areas require a detailed analysis: Air Quality; Hazardous Materials; Noise?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) If "yes," explain why an assessment of public health is or is not warranted based on the guidance in Chapter 20 , "Public Health." Attach a preliminary analysis, if necessary.		
18. NEIGHBORHOOD CHARACTER: CEQR Technical Manual Chapter 21		
(a) Based upon the analyses conducted, do any of the following technical areas require a detailed analysis: Land Use, Zoning, and Public Policy; Socioeconomic Conditions; Open Space; Historic and Cultural Resources; Urban Design and Visual Resources; Shadows; Transportation; Noise?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) If "yes," explain why an assessment of neighborhood character is or is not warranted based on the guidance in Chapter 21 , "Neighborhood Character." Attach a preliminary analysis, if necessary.		
19. CONSTRUCTION: CEQR Technical Manual Chapter 22		
(a) Would the project's construction activities involve:		
o Construction activities lasting longer than two years?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o Construction activities within a Central Business District or along an arterial highway or major thoroughfare?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o Closing, narrowing, or otherwise impeding traffic, transit, or pedestrian elements (roadways, parking spaces, bicycle routes, sidewalks, crosswalks, corners, etc.)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
o Construction of multiple buildings where there is a potential for on-site receptors on buildings completed before the final build-out?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o The operation of several pieces of diesel equipment in a single location at peak construction?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o Closure of a community facility or disruption in its services?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o Activities within 400 feet of a historic or cultural resource?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
o Disturbance of a site containing or adjacent to a site containing natural resources?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o Construction on multiple development sites in the same geographic area, such that there is the potential for several construction timelines to overlap or last for more than two years overall?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) If any boxes are checked "yes," explain why a preliminary construction assessment is or is not warranted based on the guidance in Chapter 22 , "Construction." It should be noted that the nature and extent of any commitment to use the Best Available Technology for construction equipment or Best Management Practices for construction activities should be considered when making this determination.		
20. APPLICANT'S CERTIFICATION		
<p>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 the 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.</p> <p>Still under oath, I further swear or affirm that I make this statement in my capacity as the applicant or representative of the entity that seeks the permits, approvals, funding, or other governmental action(s) described in this EAS.</p>		
APPLICANT/REPRESENTATIVE NAME John Neil, AKRF Inc.	SIGNATURE 	DATE May 13, 2019
<p>PLEASE NOTE THAT APPLICANTS MAY BE REQUIRED TO SUBSTANTIATE RESPONSES IN THIS FORM AT THE DISCRETION OF THE LEAD AGENCY SO THAT IT MAY SUPPORT ITS DETERMINATION OF SIGNIFICANCE.</p>		

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.		Potentially Significant Adverse Impact	
IMPACT CATEGORY		YES	NO
Land Use, Zoning, and Public Policy		<input type="checkbox"/>	<input type="checkbox"/>
Socioeconomic Conditions		<input type="checkbox"/>	<input type="checkbox"/>
Community Facilities and Services		<input type="checkbox"/>	<input type="checkbox"/>
Open Space		<input type="checkbox"/>	<input type="checkbox"/>
Shadows		<input type="checkbox"/>	<input type="checkbox"/>
Historic and Cultural Resources		<input type="checkbox"/>	<input type="checkbox"/>
Urban Design/Visual Resources		<input type="checkbox"/>	<input type="checkbox"/>
Natural Resources		<input type="checkbox"/>	<input type="checkbox"/>
Hazardous Materials		<input type="checkbox"/>	<input type="checkbox"/>
Water and Sewer Infrastructure		<input type="checkbox"/>	<input type="checkbox"/>
Solid Waste and Sanitation Services		<input type="checkbox"/>	<input type="checkbox"/>
Energy		<input type="checkbox"/>	<input type="checkbox"/>
Transportation		<input type="checkbox"/>	<input type="checkbox"/>
Air Quality		<input type="checkbox"/>	<input type="checkbox"/>
Greenhouse Gas Emissions		<input type="checkbox"/>	<input type="checkbox"/>
Noise		<input type="checkbox"/>	<input type="checkbox"/>
Public Health		<input type="checkbox"/>	<input type="checkbox"/>
Neighborhood Character		<input type="checkbox"/>	<input type="checkbox"/>
Construction		<input type="checkbox"/>	<input type="checkbox"/>
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? 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.		<input type="checkbox"/>	<input type="checkbox"/>
3. Check determination to be issued by the lead agency: <input type="checkbox"/> 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 <i>Positive Declaration</i> and prepares a draft Scope of Work for the Environmental Impact Statement (EIS). <input type="checkbox"/> Conditional Negative Declaration: A <i>Conditional Negative Declaration</i> (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. <input type="checkbox"/> 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 <i>Negative Declaration</i> . The <i>Negative Declaration</i> may be prepared as a separate document (see template) or using the embedded Negative Declaration on the next page.			
4. LEAD AGENCY'S CERTIFICATION			
TITLE		LEAD AGENCY	
NAME		DATE	
SIGNATURE			

NEGATIVE DECLARATION (Use of this form is optional)**Statement of No Significant Effect**

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

Reasons Supporting this Determination

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

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

TITLE	LEAD AGENCY
NAME	DATE
SIGNATURE	

KISSENA CENTER
CEQR No. 18DCP188Q
(ULURP Nos. 190202ZMQ; 190203ZRQ)
TECHNICAL MEMORANDUM
May 13, 2019

A. INTRODUCTION

This memorandum describes the potential environmental effects of the proposed modifications to the project analyzed in the January 2019 Kissena Center Rezoning Environmental Assessment Statement (the “January 2019 EAS”). The proposed project required authorizations and approvals from the New York City Planning Commission (CPC) for a zoning map amendment and a zoning text amendment in order to rezone an area around the development site (the “proposed actions”), including Block 5200, Lots 39, 49, 50 and p/o 151; and Block 5208, Lots 1, a portion of (p/o) Lot 5, Lot 32, and Lot 45 (collectively the “rezoning area”). The proposed actions would have resulted in the development of an eight-story building on the Applicant-owned site (Block 5208, Lot 45, referred to as the “development site”), which included: approximately 244,339 gross square feet (gsf) of residential use; approximately 57,827 gsf of ground-floor commercial (retail) use; approximately 15,675 gsf of community facility use; and approximately 333 parking spaces in a below-grade garage. The residential use was composed of 244 dwelling units (DUs), and 25 to 30 percent of the residential floor area (approximately 61 to 73 DUs) would have been designated as affordable based on area median income (AMI). In addition, the January 2019 EAS considered additional development within the project area beyond what was proposed by the applicant for Block 5208, Lot 45; as part of the rezoning, Block 5208, Lots 1, 5, and 32 were analyzed in the January 2019 EAS as “projected development sites.” Block 5200, Lots 49 and 50 also had the potential to be redeveloped as a result of the proposed actions, but would have required assemblage under common ownership to maximize the additional density permitted under the proposed rezoning, and therefore were analyzed as “potential development sites” in the January 2019 EAS. Lots 39 and p/o 151 were not expected to change as a result of the proposed actions. A Conditional Negative Declaration was issued on January 4, 2019.

As shown in **Figures TM-1 and TM-2**, the proposed modifications would change the With Action condition rezoning from an R7A and R7A/C2-3 to an R6A and R6A/C2-3, and would remove Projected Development Site B (Block 5208, Lot 32) from the rezoning area. Compared with the development analyzed in the January 2019 EAS:

- There would be fewer new residential units (a 234-DU increment between the No Action and With Action conditions as compared to a 444-DU increment);
- There would be less commercial (retail) square footage due to the exclusion of Projected Development Site B (a 31,213-sf increase in commercial floor area as compared to a 44,138-sf increase);
- There would be less community facility square footage due to the exclusion of Projected Development Site B (a 15,104-sf increase in community facility space as compared to a 15,675-sf increase); and

- There would be a reduction in building heights. The January 2019 EAS analyzed a 94 foot high, 8-story building on the development site (a maximum of 95 feet or 9 stories is permitted), and a 72 foot high, 6-story building on Projected Development Site A. With the proposed modifications, an up to 85-foot-high, 7-story building would be constructed on the development site, and a 76-foot-high, 6-story building is analyzed for development on Projected Development Site A.

As with the previously analyzed project, the modified project would be completed by 2021. Overall, this memorandum concludes that the proposed modifications to the proposed project would not result in any new significant adverse impacts.

B. DESCRIPTION OF THE REZONING AREA

The development site, zoned R3-2/C2-2, is located midblock between Laburnum and Holly Avenues on the east side of Kissena Boulevard (Block 5208 Lot 45) in the Flushing neighborhood of Queens Community District 7, includes a 68,200-sf multi-tenant commercial shopping center with surface parking. To the north of the development site, at the southeast corner of Holly Avenue and Kissena Boulevard is Projected Development Site A (Block 5208, Lots 1 and 5). Lot 1 contains a two-story commercial retail and office building, and Lot 5 contains a two-story single-family residence. It is also located in the R3-2/C2-2 zoning district. North of Holly Avenue, along the east side of Kissena Boulevard, are the potential development sites which comprise of Block 5200, Lots 49 and 50. Both lots are narrow, each with 25 feet of street frontage, located one block to the north of Projected Development Site A. The lots are occupied by two-story residential buildings. The rezoning area also includes two additional lots on Block 5200—Lot 39 and Lot 151. Currently, Lot 39 is occupied by the Holly Houses, a six-story multifamily apartment building with some ground-floor office space for dental and medical office use. Lot 151 is occupied by a five-story, multifamily elevator building.

The neighborhood surrounding the project area is composed of residential, commercial, and community facilities. Residential development is largely low-density, with one- and two-family homes along side streets, and higher density multifamily walkups fronting Kissena Boulevard. Commercial uses within the study area include small neighborhood retail and several stand-alone vendors along Kissena Boulevard, including an auto dealership and auto-repair shop. The neighborhood also includes a number of institutional uses, including houses of worship and a public school.

C. PROJECT PURPOSE AND NEED

Similar to what was described in the January 2019 EAS, the purpose of the proposed project with modifications is to facilitate the mixed-use development by permitting increased residential density in the rezoning area, permitting additional commercial development on Block 5208, Lots 45, 1, and 5 (as compared to Block 5208, Lots 32, 45, 1, and 5 with the proposed actions analyzed in the January 2019 EAS), and establishing permanent affordable housing. The designation of the rezoning area as a MIH area required that 25 to 30 percent of residential floor area be committed to affordable development. Flushing, Queens, along with New York City as a whole has a need for stable quality affordable housing for moderate- and low-income households. Increasing the supply of affordable DUs through the proposed actions would provide housing opportunities for New Yorkers at a range of incomes and households types and create a diverse neighborhood in line with New York City policy goals.

The provision of additional commercial opportunities on the development site would serve the growing population of the Kissena Boulevard corridor, providing retail to meet the diverse market demand within the area. The rezoning would also allow for quality retail development with a consistent streetwall and engagement with the neighborhood, consistent with more modern quality-of-life standards.

As with the previously analyzed actions, the proposed modifications described in this technical memorandum are also intended to further support these goals. The proposed modifications would result in a rezoning to R6A (instead of R7A), and would remove Block 5208, Lot 32 from the rezoning area. These changes would result in a site layout with several critical advantages, including improved transportation in the study area and preservation of the neighborhood's current context.

D. PROPOSED MODIFICATIONS

As described above, the proposed modifications would include:

- A Rezoning to R6A and R6A/C2-3 instead of R7A and R7A/C2-3; and
- The removal of Lot 32 (Projected Development Site B) from the Rezoning Area.

This Technical Memorandum assesses the potential environmental effects these proposed modifications, considering the potential effects for both an "Easement Scenario" and a "No Easement Scenario" as described below.¹

EASEMENT SCENARIO

In the Easement Scenario, the development site would be redeveloped with a seven-story, up to 85-foot-tall mixed-use building, which would include approximately 188,515 gsf of residential use; approximately 53,733 gsf of ground-floor commercial (retail) use; approximately 15,104 gsf of community facility use; and approximately 291 parking spaces in a below-grade garage. As shown in **Figures TM-6 and TM-7**, the proposed building would include garage entrances at the southern edge of the property (allowing access/egress from Kissena Boulevard) and within an easement at Lot 5 of Projected Development Site A (allowing access/egress to the development site from Holly Avenue).

Projected Development Site A would be redeveloped with a six-story, 76-foot-tall, mixed-use building with approximately 45,517 gsf of residential space, approximately 7,431 gsf of commercial use, and approximately 43 parking spaces in a below-grade parking garage. The below-grade parking would connect to the below-grade parking area on the development, allowing for access/egress to Projected Development Site A from both Holly Avenue and Kissena Boulevard.

NO EASEMENT SCENARIO

Under this scenario above-grade uses and building massing for the development site and for Project Development Site A would be exactly the same as the Easement Scenario; the amount of residential use, commercial (retail) use, community facility space, and number of parking spaces within both buildings would be the same. However, under the No Easement Scenario, there would be no connection between the below-grade parking garages of the development site and the

¹ The January 2019 EAS analyzed only the Easement Scenario in the With Action condition.

adjacent Projected Development Site A (see **Figures TM-8 and TM-9**). All access/egress to the development site would be through the same Kissena Avenue curb cut as in the Easement Scenario, while all access/egress to Projected Development Site A would be through the Holly Avenue curb cut as in the Easement Scenario.

E. CEQR ANALYSIS

Following the analysis guidelines presented in the 2014 *CEQR Technical Manual*, this Technical Memorandum assesses the potential for the proposed modifications under the Easement and No Easement Scenarios to result in significant adverse impacts, and each of the relevant CEQR technical areas is discussed below. Like the proposed actions assessed in the January 2019 EAS, the proposed actions as currently contemplated would not meet the CEQR thresholds requiring further analyses of Natural Resources, Solid Waste and Sanitation Services, Energy, Greenhouse Gas Emissions, Public Health, Neighborhood Character, or Construction.

LAND USE, ZONING, AND PUBLIC POLICY

Easement and No Easement Scenarios

Both Scenarios would result in the same uses, and as with the January 2019 EAS, no significant adverse impacts to land use, zoning, and public policies would result from either Scenario.

Land Use

Similar to the development assessed in the original EAS, the proposed development with the proposed modifications would be compatible with the existing uses in the surrounding area, which are predominantly characterized by medium-density mixed use developments along the Kissena Boulevard corridor (see **Figure TM-3**). As with the previously analyzed project, the proposed actions as currently contemplated would result in residential, commercial, and community facility uses on the development site. Therefore, as with the previously analyzed actions, the proposed modifications would not result in any significant adverse impacts to land use.

Zoning

As described above, the proposed modifications would result in R6A and R6A/C2-3 districts on the rezoning area (see **Figures TM-4 and TM-5**). With the previously analyzed actions, the R7A/C2-3 rezoning would result in an allowable FAR of 4.6 (with a Mandatory Inclusionary Housing [MIH] area). With the proposed modifications, the R6A zoning district permits a maximum FAR of 3.6. Similar to R7A, R6A is a contextual districts permitting a maximum of 1.0 FAR for community facility uses and 2.0 FAR for commercial uses.

As with the previously analyzed actions, while residential density in the rezoning area would increase and would be in keeping with existing multifamily residential uses in the study area, the R6A rezoning would result in slightly lower density than the previously analyzed actions.

Public Policy

The proposed modifications would not result in any changes to existing public policies within the rezoning area or the study area; therefore, there would be no significant impacts to public policy with the proposed modifications.

SOCIOECONOMIC CONDITIONS

The January 2019 EAS concluded that the proposed actions would not result in significant adverse socioeconomic impacts. The proposed modifications (in both the Easement and No Easement Scenarios) would result in a reduction in the number of residential units introduced as part of the analyzed project, and the removal of Projected Development Site B from the rezoning area. Overall, as the proposed modifications would remove a projected development site and reduce the scale of development, the proposed modifications would not change the conclusions presented in the Socioeconomic Conditions attachment of the January 2019 EAS.

DIRECT RESIDENTIAL DISPLACEMENT

Both the original proposed actions and the proposed modifications would directly displace one dwelling unit (DU) from Projected Development Site A. As described in the January 2019 EAS, the scale of this displacement would not alter the socioeconomic character of the neighborhood and therefore would not result in significant adverse impacts.

DIRECT BUSINESS DISPLACEMENT

The January 2019 EAS identified the potential direct displacement of 10 businesses and an estimated 246 employees from the development site and Projected Development Sites A and B. The 2019 EAS concluded that the proposed actions would not result in significant adverse effects due to businesses displacement, as the potentially displaced businesses do not provide services essential to the local economy or products that would no longer be available within the study area.

The proposed modifications would result in the removal of Projected Development Site B from the rezoning area, resulting in a reduction in the total number of directly displaced businesses and employees. Specifically, with the proposed modification, Good Fortune Restaurant would remain in operation as described in the Existing and No Action conditions of the January 2019 EAS. In total as a result of the proposed modifications, the number of businesses potentially displaced would be reduced by one from 10 to 9, and the total number of employees directly displaced would be reduced by 84, from 246 to 162. As the proposed modification would reduce the total number of displaced businesses and employees, the modifications would not change the conclusions presented in the Socioeconomic Conditions attachment of the January 2019 EAS.

INDIRECT BUSINESS DISPLACEMENT

The proposed modifications would reduce by an estimated 18,763 gsf the amount of commercial (retail) development, due to the exclusion of Projected Development Site B from the rezoning area. With less overall retail square footage, the proposed modifications would not change the conclusions presented in the Socioeconomic Conditions attachment of the January 2019 EAS.

INDIRECT RESIDENTIAL DISPLACEMENT

The January 2019 EAS identified the potential for limited indirect residential displacement within a ¼-mile study area due to increased rents as a result of the proposed project. However, this potential displacement would not be expected to result in significant adverse environmental effects as the rezoning would introduce new affordable housing and maintain a diverse range of housing types and price points within the ¼-mile study area. The proposed modifications would reduce the total size of residential development as a result of the proposed rezoning. In total, the proposed modification would reduce residential development by 209 DUs from 444 DUs to 235 DUs.

Further, approximately 71 of the 235 DUs would be designated as permanently affordable under MIH. These permanently affordable units introduced by the proposed modification would account for approximately 2 percent of the total households (3,044) within the ¼-mile study area. As compared to the proposed actions advanced in the January 2019 EAS, the proposed modifications would reduce the total number of DUs and new residents introduced by the previously analyzed development, lessening the potential for the new population to influence demographic change. Therefore, as compared to the January 2019 EAS, the modifications would not change the conclusions presented in the Socioeconomic Conditions attachment of the January 2019 EAS.

COMMUNITY FACILITIES

As recommended by the *CEQR Technical Manual*, a community facilities assessment is warranted if a project has the potential to result in either direct or indirect effects on community facilities. 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 a 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.

The Easement Scenario and the No Easement Scenario would be identical with regard to the open space analysis as the only difference between the two scenarios is the change in the number of parking spaces provided and the connection between the development site and Projected Development Site A’s below-grade garages. Therefore, under both scenarios, and as compared with the previously analyzed project, the proposed modifications would not result in significant adverse impacts to open space within the study area.

DIRECT EFFECTS

The proposed development with the proposed modifications would not displace or otherwise directly affect any public schools, child care centers, libraries, health care facilities, or police and fire protection services facilities. Therefore, an analysis of direct effects on community facilities is not warranted.

INDIRECT EFFECTS

The *CEQR Technical Manual* provides thresholds for guidance in making a determination of whether a detailed analysis is necessary to determine potential indirect impacts (see **Table TM-1**). If a project exceeds the threshold for a specific facility type, a more detailed analysis is warranted.

The proposed modifications would allow for development containing in incremental total of 234 units (71 of which would be affordable) as compared to the No Action condition. This increment of market-rate residential units would not trigger the need for detailed analyses of libraries, child care facilities, police/fire services, and health care facilities. However, like the original EAS, it would trigger the need for a detailed analysis of public schools, specifically for elementary/intermediate school students.

Table TM-1
Preliminary Screening Analysis Criteria

Community Facility	Threshold For Detailed Analysis
Public schools	More than 50 elementary/intermediate school or 150 high school students
Libraries	Greater than 5 percent increase in ratio of residential units to libraries in borough
Health care facilities (outpatient)	Introduction of sizeable new neighborhood where none existed before ¹
Child care centers (publicly funded)	More than 20 eligible children based on number of low- and low/moderate-income units by borough
Fire protection	Introduction of sizeable new neighborhood where none existed before ¹
Police protection	Introduction of sizeable new neighborhood where none existed before ¹
Note:	¹ The <i>CEQR Technical Manual</i> cites the Hunters' Point South project as an example of a project that would introduce a sizeable new neighborhood where none existed before. The Hunters' Point South project would introduce approximately 5,000 new residential units to the Hunters' Point South waterfront in Long Island City, Queens.
Source:	2014 <i>CEQR Technical Manual</i> .

Based on updated *CEQR Technical Manual* methodology for Queens, the increment of 234 residential units and the student generation rates for Queens CSD 7 (0.23 elementary and 0.08 intermediate), the proposed modifications would generate an increment of approximately 54 elementary and 19 intermediate students), above the threshold of 50 incremental elementary/intermediate students.

Existing Conditions

While the number of schools would remain unchanged from the January 2019 EAS, data has been updated to reflect the November 2018 multipliers by school district, as noted above. In addition, DOE Utilization Profiles are based on the latest available data from 2017-2018 with use of the CEQR App for data processing (see **Table TM-2**).

Elementary Schools—Subdistrict 2 of CSD 25

Seven elementary schools serve Subdistrict 2/CSD 25. As shown in **Table TM-2**, elementary schools in the subdistrict have a total enrollment of 6,491 and are currently operating at 131 percent utilization, with a deficit of 1,520 seats. The zoned school for the project area is P.S. 24 Andrew Jackson School, located one block away along Holly Avenue.

Intermediate Schools—Subdistrict 2 of CSD 25

Three intermediate schools serve Subdistrict 2/CSD 25 (see **Table TM-2**). Intermediate schools in the subdistrict have a total enrollment of 2,439 students and are currently operating at 108 percent utilization, with a deficit of 184 seats. The zoned intermediate school for the development site is J.H.S. 237, which has a current enrollment of 1,368 students, and is operating at a 122 percent utilization rate.

Table TM-2

**Public Elementary and Intermediate Schools Serving the Study Area,
Enrollment and Capacity Data, 2017–2018 School Year**

Map No.	Name	Address	Enrollment	Capacity	Available Seats	Utilization
Elementary Schools						
Subdistrict 2 of CSD 25						
1	P.S. 20 John Bowne Elementary	142-30 Barclay Avenue	1314	1245	-69	106%
2	P.S. 22 Thomas Jefferson	153-33 Sanford Avenue	921 ²	621	-300 ²	143%
3a ¹	P.S. 24 Andrew Jackson School	141-11 Holly Avenue	125	70	-55	179%
3b ¹	P.S. 24 Andrew Jackson School	167-02 45 Avenue	867	525	-342	165%
4	P.S. 107 Thomas A Dooley	167-02 45 Avenue	970	895	-75	108%
5	P.S. 120	58-01 136 Street	1034	761	-273	136%
6	P.S. 163 Flushing Heights School	159-01 59 Avenue	804	602	-202	134%
7	P.S. 244 The Active Learning Elementary School	137-20 Franklin Avenue	456	252	-204	181%
CSD 25, Subdistrict 2 Total			6,491	4,971	-1,520	131%
Intermediate/Middle Schools						
Subdistrict 2 of CSD 25						
8	J.H.S. 189 Daniel Carter Beard	144-80 Barclay Avenue	771	857	86	90%
9	J.H.S. 237 Rachel Carson Intermediate School	46-21 Colden Street	1368	1124	-244	122%
10	East-West School of International Studies	46-21 Colden Street	300	274	-26	110%
CSD 25, Subdistrict 2 Total			2,439	2,255	-184	108%
Note:						
1. P.S. 24 is temporarily split between two buildings, but will consolidate into a single building by the 2021 analysis year.						
2. Includes transportable units added to enrollments and available seats						
Source:						
DOE Utilization Profiles: Enrollment/Capacity/Utilization, 2017–2018: CEQR App						

No Action Condition

The latest available SCA enrollment projections for Subdistrict 2/CSD 25 projected for 2016–2025 were used to form the baseline projected enrollment in the No Action condition, shown in **Table TM-3** in the column titled “Projected Enrollment in 2021.” The students introduced by other No Action projects are added to this baseline projected enrollment using the SCA No Action student numbers for Subdistrict 2/CSD 25 (derived from the SCA’s “Projected New Housing Starts”). These students are represented in the column titled “Students Introduced by Residential Projects in the No Action condition” in **Table TM-3**.

Table TM-3

**Estimated Public Elementary and Intermediate School
Enrollment, Capacity, and Utilization: No Action Condition**

Study Area	Projected Enrollment in 2021	Students Introduced by Residential Projects in the No Action Condition	Total No Action Condition Enrollment	Capacity	Available Seats	Utilization
Elementary Schools						
Subdistrict 2 of CSD 25	7,433	458	7,901	4,971	-2,930	159%
Intermediate Schools						
Subdistrict 2 of CSD 25	2,541	160	2,701	2,255	-446	120%
Sources:						
Enrollment Projections 2016 to 2025 New York City Public Schools by Statistical Forecasting; CEQR App						

Elementary Schools—Subdistrict 2 of CSD 25

As shown in **Table TM-3**, the total No Action condition enrollment in the subdistrict is projected to be 7,901 elementary students. Elementary schools in the subdistrict study area would operate above capacity (159 percent utilization) with a deficit of 2,930 seats in the No Action condition.

Intermediate Schools—Subdistrict 2 of CSD 25

As shown in **Table TM-3**, the total No Action condition enrollment at the subdistrict level is projected to be 2,701 intermediate students. Intermediate schools at the subdistrict level would operate above capacity with a deficit of 446 seats (120 percent utilization).

With Action Condition

The proposed modifications would introduce an increment of 234 DUs to the project area. Based on the public school student generation rates in the *CEQR Technical Manual*, these DUs would introduce approximately 54 elementary students to Subdistrict 2/CSD 25. The proposed modifications would also introduce 19 intermediate school students (see **Table TM-4**).

Table TM-4
Estimated Public Elementary and Intermediate School Enrollment, Capacity, and Utilization: With Action Condition

Study Area	No Action Enrollment	Students Introduced by the Proposed Project	Total With Action Enrollment	Capacity	Available Seats	Utilization	Change in Utilization Compared with No Action
Elementary Schools							
Subdistrict 2 of CSD 25	7,901	54	7,955	4,971	-2,984	160%	1.09%
Intermediate Schools							
Subdistrict 2 of CSD 25	2,701	19	2,720	2,255	-465	121%	0.84%
Sources: Enrollment Projections 2016 to 2025 New York City Public Schools by Statistical Forecasting; DOE, Utilization Profiles: Enrollment/Capacity/Utilization, 2017-2018, DOE 2015–2019 Proposed Five-Year Capital Plan, Amendment February 2016; SCA; CEQR App							

Elementary Schools—Subdistrict 2 of CSD 25

In the With Action condition, total elementary school enrollment of Subdistrict 2/CSD 25 would increase by 54 students to 7,955 (160 percent utilization) with a deficit of 2,984 seats.

According to the *CEQR Technical Manual*, a significant adverse impact may occur if the proposed project would result in both of the following conditions: (1) a utilization rate in the subdistrict study area that is equal to or greater than 100 percent in the With Action condition; and (2) an increase of 5 percentage points or more in the collective utilization rate between the No Action and With Action conditions.

As shown in **Table TM-4**, elementary schools in Subdistrict 2/CSD 25 would operate over capacity in the With Action condition. However, the proposed modifications would not result in an increase in the utilization rate of 5 percentage points or more compared to the No Action condition. Therefore, the proposed modifications would not result in a significant adverse impact to elementary schools.

Compared with the previously analyzed project, the change in utilization would differ slightly. While the previously analyzed project examined a 2.1 percent change in utilization for elementary schools from the No Action to With Action condition, the proposed modifications would result in a smaller 1.09 percent change in utilization for elementary schools.

Intermediate Schools—Subdistrict 2 of CSD 25

In the With Action condition total intermediate school enrollment of Subdistrict 2/CSD 25 would increase by 19 students to 2,701 (121 percent utilization) with a deficit of 465 seats. As shown in **Table TM-4**, intermediate schools in Subdistrict 2/CSD 25 would operate over capacity in the With Action condition. However, the proposed modifications would not result in an increase in the utilization rate of 5 percentage points or more compared to the No Action condition. Therefore the proposed modifications would not result in a significant adverse impact to intermediate schools.

Compared with the previously analyzed project, the change in utilization would differ slightly. While the previously analyzed project examined a 2.3 percent change in utilization for intermediate schools from the No Action to With Action condition, the proposed modifications would result in a smaller 0.84 percent change in utilization for intermediate schools.

NO EASEMENT SCENARIO

Therefore, under both scenarios, and when compared to the previously analyzed project, the proposed modifications would not result in significant adverse impacts to elementary or to intermediate schools.

OPEN SPACE

The proposed modifications, under both the Easement and No Easement Scenario, would not alter the findings of the open space analyses presented in the January 2019 EAS. The proposed modifications would add 234 dwelling units over the No Action condition, and therefore, an open space analysis is still required. The open space analysis in the original EAS was based on an average household size of 2.74 which is used here as well. Compared to the January 2019 EAS, the number of open spaces within the study area has remained the same.

The January 2019 EAS concluded that the proposed actions would not have a significant adverse impact on the non-residential open space study area. Compared to the No Action condition, the proposed modifications would result in an increment of 31,213 sf of retail space, which translates to approximately 148 new employees. As a result, the proposed modifications do not meet the *CEQR Technical Manual* threshold for a non-residential open space analysis, which is an additional 750 employees in an area that is “well-served.” Therefore, the proposed modifications would not have a significant adverse impact on passive open spaces within the non-residential study area.

The *CEQR Technical Manual* threshold for an open space assessment for a residential study area that is “well-served” is an addition of 200 or more residents. The proposed modifications would add an additional 234 residential units over the No Action condition. These 92 units would result in an additional 641 residents when using the 2010 United States Census average household size of 2.74 residents per unit in for census tracts 797.01, 837,845, 857, 859, 861, 1189, 1199, 1201, 1203, and 1205 triggering the need for an open space analysis of the residential study area.

As shown in **Table TM-5**, with the proposed modifications there would be a decrease in the total open space ratio for the residential study area compared to the No Action condition. The total open space ratio for the residential study area would decrease from 1.74 acres per 1,000 residents in the No Action condition to 1.71 acres per 1,000 residents with the proposed modifications, a 1.55 percent decrease. A total open space ratio of 1.71 acres per 1,000 residents is less than the City guideline of 2.5 acres per 1,000 residents, but the decrease is less than 5 percent, the *CEQR Technical Manual* threshold for further analysis. The passive and active open space ratios for the

residential study area would also decrease with the proposed modifications. As shown in **Table TM-5**, with the proposed modifications the passive open space ratio for the residential study area would decrease from 0.88 acres per 1,000 residents in the No Action condition to 0.87 acres per 1,000 residents, a 1.50 percent decrease. With the proposed modifications, the active open space ratio for the residential study area would decrease from 0.87 acres per 1,000 residents to 0.86 acres per 1,000 residents, a 1.49 percent decrease. The passive open space ratio with the proposed modifications of 0.87 acres per 1,000 residents is above the city guideline of 0.5 acres per 1,000 residents. The active open space ratio with the proposed modifications of 0.86 is less than the city guideline of 2 acres per 1,000 residents. Neither of the open space ratio decreases that would result from the proposed modifications approaches the *CEQR Technical Manual* impact threshold of a 5 percent decrease. Therefore, the proposed development with the proposed modifications would not result in any significant adverse impacts on total, passive, or active open space within the residential study area.

Table TM-5
Open Space Ratios Summary
Future with the Proposed Modifications

Ratio	City Guideline	Existing Ratio	No Action Ratio	With Action Ratio	Percent Change No Action to With Action
				Proposed Mod. TM 001	
Residential Study Area					
Total/residents	2.5	1.76	1.74	1.71	-1.55%
Passive/residents	0.5	2.00	0.88	0.87	-1.50%
Active/residents	2.0	0.88	0.87	0.86	-1.49%
Notes:					
1. Ratios in acres per 1,000 people.					
2. Existing conditions ratios for this analysis were re-calculated using updated 2017 ACS 5-year demographic data while the 2010 United States Census data average household multiplier of 2.74 is used to approximate the new residential population.					
Sources: US Census Bureau, American Community Survey; Population Division – New York City Department of City Planning; Kissena Rezoning Environmental Assessment Statement (EAS), January 2019; DCP website, May 2019.					

Compared with the previously analyzed project, the open space analysis with the proposed modifications would ultimately result in even less of a change to the open space ratio. The previously analyzed project resulted in a With Action ratio of 1.729, with a total percent change between No Action and With Action conditions of -3.35 percent, while the proposed modifications would result in a With Action ratio of 1.71, with a total percent change between No Action and With Action conditions of -1.55 percent.

SHADOWS

The Reasonable Worst Case Development Scenario (RWCDS) assessed for shadow impacts in Attachment F of the January 2019 EAS included the development of a 90-foot tall structure (the “proposed project”) on the development site (Block 5208, Lot 45) and the projected development of two additional structures that could reach maximum heights of 90 and 75 feet. The RWCDS assessed in the EAS also included the potential development of a 95-foot structure that would be located one block to the north of the development site within the project area. The shadow assessment presented in Attachment F of the January 2019 EAS determined that no sunlight-sensitive resources are within the longest shadow study area of the structures developed on the development site and the projected and potential development sites under the RWCDS. Shadow cast by structures developed under the RWCDS would not be long enough to reach any sunlight-sensitive resources and would not result in a significant shadow impact.

The proposed modifications would modify the previously analyzed massings of all buildings in the January 2019 EAS. As described above, the modifications under both the Easement and No Easement Scenarios would not increase the maximum height of the proposed project. Therefore, shadow cast by structures with the proposed modifications would not be long enough to reach any sunlight-sensitive resources and would not result in a significant shadow impact. No additional analysis is required.

HISTORIC AND CULTURAL RESOURCES

As discussed in the January 2019 EAS, the Andrew Jackson School (P.S. 24), a State/National Register of Historic Places (S/NR) eligible building, was identified in the study area. The school is located approximately 230 feet north of the development site, approximately 296 feet northeast of northernmost corner of Projected Development Site A, and approximately 182 feet west of the potential development sites. Additionally, four groups of residential buildings—140-12 to 140-26 Mulberry Avenue (east side) and 140-11 to 140-25 Mulberry Avenue (west side)—were identified in the study area as potential architectural resources. Located approximately 350 feet southeast of the development site, approximately 615 feet southeast of Projected Development Site A, and approximately 953 feet southeast of the potential development sites, the proposed modifications under the Easement and No Easement Scenarios would not alter the development sites such that it would adversely impact the historic context of known and potential architectural resources compared to the previously analyzed project. Additionally, the proposed modifications in the two scenarios would not change the EAS conclusion that the project sites are not sensitive for archaeological resources. Therefore, as with the project analyzed in the January 2019 EAS, the proposed modifications would not result in significant adverse impacts to historic and cultural resources with either the Easement or No Easement Scenario.

URBAN DESIGN AND VISUAL RESOURCES

EASEMENT SCENARIO

Urban Design

Development Site

In the With Action condition, the development site would be redeveloped with a seven-story, up to 85-foot-tall mixed-use building which would include: approximately 188,515 gsf of residential use; approximately 53,733 gsf of ground-floor commercial (retail) use; approximately 15,104 gsf of community facility use; and approximately 291 parking spaces in a below-grade garage (see **Figure TM-6**). This would be a reduction in height and use from the original EAS. The building would occupy the majority of the development site, as compared to the No Action condition. There would be a garage entrance at the southern edge of the property, with another garage entrance located within an easement at Lot 5 as analyzed in the January 2019 EAS. The ground-floor retail space would cover the full extent of the lot, with separate residential and community facilities lobbies located at the northwest and southwest corners of the development. The new development would be set back eight feet along the north, east, and south sides of the building at the ground floor. At the second story, there would be an additional setback, which would allow for a terrace approximately 45 feet wide; this second story also would continue to include the community facility space as discussed in the original EAS. The setback would create a rectangular structure along the western edge of the property that is approximately 65 feet wide, with two separate wings that run approximately 136 feet east towards the eastern edge of the property and are

approximately 60 feet wide. The terrace would increase by an additional 15 feet than what was discussed in the original EAS; however, the wings of the building would reduce by approximately 14 feet than what was previously presented. From the third to the seventh story the building would be designated for residential use. The new development would continue to have a 10-foot setback along Kissena Boulevard, but at the sixth floor. The structure would continue to be clad in prefabricated gray paneling of two different textures. The Kissena Boulevard façade of the building would include large floor-to-ceiling windows, and help to create a new streetwall along the corridor as compared to the No Action condition.

Projected Development Site

Projected Development Site B would be removed as part of the proposed modifications; therefore, only Projected Development Site A would be redeveloped. Projected Development Site A would be redeveloped with a six-story, 76-foot-tall, 80,847-gsf mixed-use building that would include: approximately 45,517 gsf of residential space; approximately 7,431 gsf of commercial use; and approximately 43 parking spaces in a below-grade parking garage (see **Figure TM-7**). The parking facility would continue to have the potential to connect on the development site (Lot 45) as discussed in the original EAS, with the residence on Lot 5 replaced with an easement connection leading to the underground parking garage located on the development site. The massing of the new building on Projected Development Site A would be similar to that analyzed in the January 2019 EAS, just a reduction in height through the removal of one story.

Potential Development Sites

As in the January 2019 EAS, the potential development sites would still be assumed to be assembled and redeveloped with a 58,465-gsf residential building. The potential building would still comprise of two sections, one seven stories (approximately 75 feet) tall and the other proposed to now be eight stories (approximately 85 feet) tall, connected at the ground floor. The taller section would remain located on the lot line along Kissena Boulevard.

Overall, the proposed modifications would result in a development site, a projected development site, and potential development sites that would be taller than most of the existing buildings in the study area, though slightly less so as compared to the proposed R7A zoning advanced in the January 2019 EAS. And as discussed in the January 2019 EAS, the northern portion of the study area includes some taller structures, such as the 137-75 Geranium Avenue residences and the Selfhelp Community Service building. Additionally, other residential developments along Kissena Boulevard between Holly and 45th Avenues range from five to eight stories, and thus the proposed project and projected and potential development site buildings with the proposed modifications would still be consistent with the use, height, and massing of buildings in the study area.

Additionally, with the proposed modifications, the development site and Projected Development Site A would establish more consistent streetwalls along Kissena Boulevard and Holly Avenue. The proposed modifications would continue to allow for retail space to be expanded on the ground floor of the development site and Projected Development Site A, and would introduce new residential uses, which is the prominent land use in the area. The proposed setbacks from the rear lot lines as well as north and south lot lines of the development site would provide space between the new buildings and the existing residences along Union Street and Holly Avenue. The massing and height of the proposed buildings would remain concentrated along the commercial corridor of Kissena Boulevard and would resemble the larger residential buildings to the north along Kissena Boulevard. Overall, with the proposed modifications the development site and projected and potential developments would not adversely impact the urban design character of the study area, and would not result in substantial differences to the pedestrian experience along Kissena

Boulevard as compared to the design analyzed in the January 2019 EAS. See **Figure TM-10** for a street-level view of the With Action condition with the proposed modifications.

VISUAL RESOURCES

While there would be differences in massing and height between the proposed and No Action buildings, the height of development resulting from the proposed modifications would be consistent with the larger multifamily residential buildings in the northern portion of the study area. Like the No Action, views on the avenues would continue to be partially obscured by large, mature street trees. The proposed, projected, and potential buildings would not replace or obstruct/eliminate views to any visual landmarks in the surrounding area. The proposed actions would not partially or totally block a view corridor or a natural or built visual resource. Therefore, similar to the findings in the January 2019 EAS, the proposed modifications would not be expected to significantly adversely affect the context of natural or built visual resources, or any view corridors within the project area.

CONCLUSION

The January 2019 EAS concluded that the proposed actions would not result in significant adverse urban design or visual resource impacts, and it is similarly expected that the proposed buildings with the proposed modifications would not have significant adverse impacts on the urban design or visual resources of the study area. The proposed, projected, and potential buildings, like the No Action buildings, would not alter the street pattern, block shapes, or natural features of the study area and would not adversely affect the study area's streetscape. Like the buildings analyzed under the originally proposed R7A rezoning, the proposed buildings with the proposed modifications would not block existing view corridors or views of visual resources, and they would be of comparable height to existing multifamily residential buildings in the study area.

NO EASEMENT SCENARIO

The No Easement Scenario, like the Easement Scenario, would not result in a significant adverse urban design or visual resource impact. The only difference between the two scenarios would be the removal of the easement connection between Lot 5 of Projected Development Site A and the development site within the below-grade parking garage. Therefore, no further analysis is required.

WATER AND SEWER INFRASTRUCTURE

The January 2019 EAS concluded that the project would not result in any significant adverse impacts on wastewater treatment or stormwater conveyance infrastructure. The Easement and No Easement Scenarios would result in a decrease in residential, community facility, and commercial space on the development site and Projected Development Site A, such that the demand for water and sanitary sewage demand would decrease as compared to the projections presented in the January 2019 EAS. Therefore, as with the previously analyzed project, neither the Easement nor the No Easement Scenario would not result in any significant adverse impacts related to water and sewer infrastructure.

HAZARDOUS MATERIALS

As with the previously analyzed project, an (E) Designation for hazardous materials would be placed on the development site (Block 5208, Lot 45), Projected Development Site A (Block 5208, Lots 1 and 5), and the potential development sites (Block 5200, Lots 49 and 50) to ensure requirements pertaining hazardous materials are addressed during future redevelopment, which

would impose pre- and post-construction requirements overseen by the New York City Office of Environmental Remediation (OER). As described above, Block 5208, Lot 32 is no longer part of the rezoning area, and would not be rezoned or subject to the (E) designation.

As with the previously analyzed project, with the requirements of the (E) Designation or comparable measures, no significant adverse impacts related to hazardous materials would be expected to occur with the proposed modifications. The implementation of the preventative and remedial measures outlined in the (E) Designation would reduce or avoid the potential of significant adverse hazardous materials impacts from potential construction on the development site. Following such construction, there would be no potential for significant adverse impacts.

TRANSPORTATION

A trip generation was performed for the proposed modifications which would result in a reduction of total development as compared to the proposed actions advanced in the January 2019 EAS. As described above, the proposed modifications would change the proposing rezoning from R7A and R7A/C2-3 to R6A and R6A/C2-3, and would remove Projected Development Site B from the rezoning. The change in the proposed rezoning would reduce the number of residential units in the proposed and projected development sites from 296 units to 235 units, and would slightly reduce the commercial space, from 65,457 gsf to 59,871 gsf, as well as reducing community facility space, from 15,675 gsf to 13,867 gsf. The proposed 148 residential units and 31,270 sf of commercial space for Projected Development Site B assumed in the January 2019 EAS would not be developed. The amount of proposed residential, commercial, and community facility space described above would be the same for both the With Action condition's Easement Scenario and No Easement Scenario. Under both the Easement and No Easement Scenarios, 291 parking spaces would be provided on the development site and 43 spaces would be provided in Projected Development Site A.

Trip generation assumptions assumed for the January 2019 EAS was used to develop the trip generation estimates for the proposed modifications analysis. A comparison of the total number of person and vehicle trips generated by the proposed modifications program as compared to the January 2019 EAS program is shown in **Tables TM-6 and TM-7**, respectively.

During all peak hours analyzed, the proposed modifications program would generate less vehicle, transit, and pedestrian trips than the January 2019 EAS program. The proposed modifications would generate approximately 212, 318, 331, and 332 person (transit plus walk) trips during the weekday AM, midday, PM, and Saturday peak hours, respectively. In comparison, the January 2019 EAS program would generate 380, 804, 682, and 708 person trips during the weekday AM, midday, PM, and Saturday peak hours, respectively. The proposed modifications would generate approximately 90, 73, 124, and 124 vehicle trips during the weekday AM, midday, PM, and Saturday peak hours, respectively. In comparison, the January 2019 EAS program would generate 159, 158, 225, and 212 vehicle trips during the weekday AM, midday, PM, and Saturday peak hours, respectively.

Therefore, as compared to the January 2019 EAS, the proposed modifications would generate 168 fewer person trips during the weekday AM peak hour, 486 fewer person trips during the weekday midday peak hour, 351 fewer person trips during the weekday PM peak hour, and 376 fewer person trips during the Saturday peak hour. The proposed modifications would generate 69 fewer vehicle trips during the weekday AM peak hour, 85 fewer vehicle trips during the weekday midday peak hour, 101 fewer vehicle trips during the weekday PM peak hour, and 90 fewer vehicle trips during the Saturday peak hour.

Table TM-6
Person Trip Generation Summary:
Proposed Modifications Program vs. January 2019 EAS Program

Mode	Weekday AM			Weekday MD			Weekday PM			Saturday		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
Proposed Modifications												
Bus	21	29	50	24	37	61	41	44	85	38	50	88
Subway	25	52	77	14	27	41	49	42	91	39	43	82
Walk	40	45	85	89	127	216	68	87	155	70	92	162
Total	86	126	212	127	191	318	158	173	331	147	185	332
January 2019 EAS												
Bus	32	53	85	60	72	132	76	71	147	73	81	154
Subway	40	95	135	42	56	98	95	73	168	78	77	155
Walk	73	87	160	268	306	574	177	190	367	190	209	399
Total	145	235	380	370	434	804	348	334	682	341	367	708
Difference (Proposed Modifications vs. January 2019 EAS)												
Bus	-11	-24	-35	-36	-35	-71	-35	-27	-62	-35	-31	-66
Subway	-15	-43	-58	-28	-29	-57	-46	-31	-77	-39	-34	-73
Walk	-33	-42	-75	-179	-179	-358	-109	-103	-212	-120	-117	-237
Total	-59	-109	-168	-243	-243	-486	-190	-161	-351	-194	-182	-376

Table TM-7
Vehicle Trip Generation Summary:
Proposed Modifications Program vs. January 2019 EAS Program

Mode	Weekday AM			Weekday MD			Weekday PM			Saturday		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
Proposed Modifications												
Auto	28	56	84	35	44	79	64	58	122	59	61	120
Taxi	4	4	8	-1	-1	-2	1	1	2	1	1	2
Truck	-1	-1	-2	-2	-2	-4	0	0	0	0	0	0
Total	31	59	90	32	41	73	65	59	124	60	62	122
January 2019 EAS												
Auto	45	102	147	75	81	156	118	97	215	105	101	206
Taxi	6	6	12	1	1	2	5	5	10	3	3	6
Truck	0	0	0	0	0	0	0	0	0	0	0	0
Total	51	108	159	76	82	158	123	102	225	108	104	212
Difference (Proposed Modifications vs. January 2019 EAS)												
Auto	-17	-46	-63	-40	-37	-77	-54	-39	-93	-46	-40	-86
Taxi	-2	-2	-4	-2	-2	-4	-4	-4	-8	-2	-2	-4
Truck	-1	-1	-2	-2	-2	-4	0	0	0	0	0	0
Total	-20	-49	-69	-44	-41	-85	-58	-43	-101	-48	-42	-90

TRAFFIC

Easement Scenario

Project generated vehicle trips were distributed and assigned using similar assumptions as those in the January 2019 EAS. Access to the development site and to the projected development sites in Lots 1 and 5 would be shared, and would be provided along Kissena Boulevard at Kalmia Avenue and along Holly Avenue east of Kissena Boulevard. A quantitative assessment was

prepared for the four intersections where significant traffic impacts and mitigation measures were identified in the January 2019 EAS to determine if significant impacts are expected under the proposed modifications, and whether mitigation measures are needed. The intersection of Kissena Boulevard and Kalmia Avenue was also included to assess the proposed project improvements at the site entrance, which includes the installation of a two-phase traffic signal with a 90-second cycle to facilitate vehicle and pedestrian traffic. The intersections analyzed were:

- Kissena Boulevard and 45th Avenue
- Kissena Boulevard and Holly Avenue (south)
- Kissena Boulevard and Juniper Avenue
- Kissena Boulevard and Kalmia Avenue
- Kissena Boulevard and Booth Memorial Avenue

The With Action condition analysis showed that, under the Easement Scenario, significant traffic impacts identified in the January 2019 EAS would also occur with the proposed modifications, with the exception of one intersection – Kissena Boulevard and Holly Avenue (south). Impacts identified in the January 2019 EAS during the weekday midday and Saturday peak hours at this intersection would not be expected under the proposed modifications. **Table TM-8** below provides a comparison, by peak hour, of significant impacts under the proposed modifications program and the January 2019 EAS program.

Table TM-8

Summary of Traffic Impacts – Easement Scenario
Proposed Modifications Program vs. January 2019 EAS Program

Intersection	Weekday AM		Weekday MD		Weekday PM		Saturday	
	Prop. Mod.	EAS	Prop. Mod.	EAS	Prop. Mod.	EAS	Prop. Mod.	EAS
Kissena Boulevard and 45th Avenue	X	X			X	X		
Kissena Boulevard and Holly Avenue (south)	X	X		X				X
Kissena Boulevard and Juniper Avenue	X	X					X	X
Kissena Boulevard and Kalmia Avenue								
Kissena Boulevard and Booth Memorial Avenue	X	X	X	X	X	X	X	X

Mitigation

Significant impacts identified at the above locations could be mitigated with similar measures as identified in the January 2019 EAS.

- Significant impacts were identified for the intersection of Kissena Boulevard and 45th Avenue during the weekday AM and PM peak hours and could be mitigated by installing “No Standing 7 AM to 7 PM Monday through Friday” regulations along the north curb of the westbound approach for 100 feet, and modifying the signal timing during the weekday AM and PM peak periods; these are the same measures identified in the January 2019 EAS.

- Significant impacts were identified for the intersection of Kissena Boulevard and Holly Avenue (south) during the weekday AM peak hour and could be mitigated by modifying the signal timing during this time period. Signal timing modifications identified in the January 2019 EAS during the weekday midday and Saturday peak periods are not needed with the proposed modifications.
- Significant impacts were identified for the intersection of Kissena Boulevard and Juniper Avenue during the weekday AM and Saturday peak hours and could be mitigated by modifying the signal timing during the impacted time periods similar to the measures identified in the January 2019 EAS.
- Significant impacts were identified for the intersection of Kissena Boulevard and Booth Memorial during the weekday AM, midday, PM, and Saturday peak hours and could be mitigated by installing “No Standing 7 AM to 7 PM Except Sunday” regulations along the north curb of the westbound approach for 175 feet to provide an additional travel lane, restriping the westbound approach from one 10-foot wide left turn lane and one 20-foot wide through-right lane with parking to one 10-foot wide left turn lane, one 10-foot wide through lane, and one 10-foot wide parking lane which serves as a right turn lane during specific periods, and modifying the signal timing during the weekday AM, midday, PM, and Saturday peak periods; these are the same measures identified in the January 2019 EAS.

No Easement Scenario

Under the No Easement Scenario, access between the development site and Projected Development Site A would not be shared. Access to the development site would be provided along Kissena Boulevard at Kalmia Avenue, while access to Projected Development Site A would be provided along Holly Avenue east of Kissena Boulevard. A quantitative assessment was prepared for the three intersections affected by this change; traffic volumes at the remaining traffic analysis locations would be the same during both the Easement and No Easement scenarios. The intersections analyzed were:

- Kissena Boulevard and Holly Avenue (south)
- Kissena Boulevard and Juniper Avenue
- Kissena Boulevard and Kalmia Avenue

The With Action condition analysis showed that under the No Easement Scenario, significant traffic impacts identified in the January 2019 EAS would also occur with the proposed modifications. One additional traffic impact was identified as compared to the January 2019 EAS program—the intersection of Kissena Boulevard and Juniper Avenue would also be significantly impacted during the weekday PM peak hour. **Table TM-9** provides a comparison, by peak hour, of significant impacts under the proposed modification program and the January 2019 EAS program.

Table TM-9

Summary of Traffic Impacts – No Easement Scenario
Proposed Modifications Program vs. January 2019 EAS Program

Intersection	Weekday AM		Weekday MD		Weekday PM		Saturday	
	Prop. Mod.	EAS	Prop. Mod.	EAS	Prop. Mod.	EAS	Prop. Mod.	EAS
Kissena Boulevard and Holly Avenue (south)	X	X	X	X			X	X
Kissena Boulevard and Juniper Avenue	X	X			X		X	X
Kissena Boulevard and Kalmia Avenue								

Mitigation

Significant impacts identified at the above locations could be mitigated with similar measures as identified in the January 2019 EAS.

- Significant impacts were identified for the intersection of Kissena Boulevard and Holly Avenue (south) during the weekday AM, midday, and Saturday peak hour and could be mitigated by modifying the signal timing during the impacted time periods similar to the measures identified in the January 2019 EAS.
- Significant impacts were identified for the intersection of Kissena Boulevard and Juniper Avenue during the weekday AM, PM, and Saturday peak hours and could be mitigated by modifying the signal timing during the impacted time periods similar to the measures identified in the January 2019 EAS. A one second shift in signal timing is needed during the weekday PM peak period under the proposed modification program but is not needed under the January 2019 EAS program.

TRANSIT AND PEDESTRIANS

The January 2019 EAS identified that the proposed project would not result in pedestrian or transit impacts. Since the proposed modifications would result in fewer project-generated pedestrian and transit trips, the findings would remain unchanged under both the Easement and No Easement Scenarios.

PARKING

Similar to the January 2019 EAS, parking would be provided on-site to accommodate the parking demand generated by the proposed modifications and existing on-site parking demand. A parking demand analysis was conducted, and the weekday and Saturday parking demand are shown in **Tables TM-10 and TM-11**, respectively. Similar to the January 2019 EAS, the proposed parking supply would be sufficient to accommodate the project's parking demand.

The Easement scenario peak parking demand of 218 spaces would occur during Saturday at 7 PM, and could be accommodated by the 334 parking spaces proposed between the development site and Projected Development Site A. Under the No Easement Scenario, parking between the development site and Projected Development Site A would be separated. The development site would provide 291 parking spaces and Projected Development Site A would provide 43 parking spaces. The proposed parking would be sufficient to accommodate the peak parking demand for the development site (197 spaces which would occur during Saturday at 6 PM), and for Projected Development Site A (25 spaces which would occur overnight).

Table TM-10
Weekday Parking Demand

Hour	Development Site			Projected Development Site on Lots 1 and 5			Total		
	In	Out	Demand	In	Out	Demand	In	Out	Demand
12AM–1AM	7	7	130	1	1	25	8	8	155
1AM–2AM	6	18	118	0	0	25	6	18	143
2AM–3AM	3	13	108	0	0	25	3	13	133
3AM–4AM	4	6	106	0	0	25	4	6	131
4AM–5AM	3	7	102	0	0	25	3	7	127
5AM–6AM	7	7	102	0	0	25	7	7	127
6AM–7AM	75	53	124	0	0	25	75	53	149
7AM–8AM	159	149	134	0	4	21	159	153	155
8AM–9AM	212	207	139	4	11	14	216	218	153
9AM–10AM	206	201	144	3	6	11	209	207	155
10AM–11AM	207	198	153	3	5	9	210	203	162
11PM–12PM	210	201	162	4	6	7	214	207	169
12PM–1PM	219	214	167	12	12	7	231	226	174
1PM–2PM	216	222	161	10	10	7	226	232	168
2PM–3PM	218	224	155	7	7	7	225	231	162
3PM–4PM	229	212	172	7	7	7	236	219	179
4PM–5PM	204	217	159	9	7	9	213	224	168
5PM–6PM	258	243	174	13	9	13	271	252	187
6PM–7PM	227	226	175	11	7	17	238	233	192
7PM–8PM	211	195	191	11	8	20	222	203	211
8PM–9PM	159	164	186	3	1	22	162	165	208
9PM–10PM	94	128	152	2	1	23	96	129	175
10PM–11PM	66	81	137	2	1	24	68	82	161
11PM–12AM	55	62	130	2	1	25	57	63	155

Table TM-11
Saturday Parking Demand

Hour	Development Site			Projected Development Site on Lots 1 and 5			Total		
	In	Out	Demand	In	Out	Demand	In	Out	Demand
12AM–1AM	4	4	173	1	0	25	5	4	198
1AM–2AM	2	2	173	0	0	25	2	2	198
2AM–3AM	7	17	163	0	0	25	7	17	188
3AM–4AM	6	19	150	0	0	25	6	19	175
4AM–5AM	9	19	140	0	0	25	9	19	165
5AM–6AM	7	11	136	0	0	25	7	11	161
6AM–7AM	47	44	139	0	0	25	47	44	164
7AM–8AM	124	120	143	1	5	21	125	125	164
8AM–9AM	205	214	134	4	10	15	209	224	149
9AM–10AM	224	215	143	3	7	11	227	222	154
10AM–11AM	252	233	162	7	6	12	259	239	174
11PM–12PM	234	223	173	7	9	10	241	232	183
12PM–1PM	222	227	168	9	8	11	231	235	179
1PM–2PM	220	220	168	9	8	12	229	228	180
2PM–3PM	243	227	184	12	10	14	255	237	198
3PM–4PM	216	229	171	10	9	15	226	238	186
4PM–5PM	231	218	184	11	10	16	242	228	200
5PM–6PM	199	197	186	10	10	16	209	207	202
6PM–7PM	254	243	197	13	9	20	267	252	217
7PM–8PM	219	222	194	12	8	24	231	230	218
8PM–9PM	167	184	177	6	6	24	173	190	201
9PM–10PM	127	150	154	4	6	22	131	156	176
10PM–11PM	71	67	158	2	1	23	73	68	181
11PM–12AM	68	53	173	2	1	24	70	54	197

CONCLUSION

The proposed modifications would generate fewer pedestrian, transit, and vehicle trips as compared to the January 2019 EAS under both the Easement and No Easement Scenarios. A traffic analysis was performed for the five intersections where project improvements or mitigation measures were identified in the January 2019 EAS. Under the Easement Scenario, findings at four intersections would remain the same. The fifth intersection at Kissena Boulevard and Holly Avenue (south) would not be impacted during the weekday midday and Saturday peak hours as was identified in the January 2019 EAS. Under the No Easement Scenario, findings at four intersections would remain the same while one intersection, Kissena Boulevard and Juniper Avenue, would be impacted during one additional peak hour; this impact could be mitigated with signal timing modifications. Since the January 2019 EAS did not identify pedestrian or transit impacts and the proposed modifications would result fewer project-generated pedestrian and transit trips, no pedestrian and transit impacts are expected. The proposed modifications would provide sufficient parking to accommodate the proposed modifications parking demand similar to in the January 2019 EAS.

AIR QUALITY

The January 2019 EAS concluded that the proposed actions would not have significant adverse impacts from mobile source or stationary source emissions. For developments on certain parcels, restrictions were placed on fuel type and/or stack placement on the rooftops to ensure that no significant adverse impacts on nearby taller buildings would occur from stationary source emissions.

The proposed modifications would result in modified square footage and building heights under both the Easement and No Easement Scenarios, as described above. Therefore, the scenario with the maximum development size was used to assess air quality impacts associated with emissions from the heating and hot water systems of the proposed buildings with the proposed modifications, using the same methodology described in the January 2019 EAS. Air quality impacts associated with mobile sources at intersections as well as the parking garages were also reassessed based on altered traffic patterns and demands. Since the removal of Projected Development Site B (Block 5208, Lot 32) from the rezoning area would remove it as a receptor from the existing industrial source facility, the potential effects of stationary source emissions from the existing nearby industrial facility on the nearest building associated with the proposed modifications were assessed.

HEAT AND HOT WATER SYSTEMS

The methodology used in the January 2019 EAS was used to assess the effects of the proposed modifications under the No Easement Scenario, which would result in slightly higher square footage (approximately 2,500 gsf) from the proposed parking garages.

The emission rates and exhaust stack parameters used in the AERMOD modeling analyses for the proposed modifications are presented in **Table TM-12**.

Table TM-12
Exhaust Stack Parameters and Emission Rates

Stack Parameter	Building on Lot 45 (Development Site)	Building on Lots 1 and 5 (Projected Site/ Site A)	Building on Lots 49 and 50 (Potential Site)
Total Square Footage (gsf) ⁽¹⁾	391,632	79,198	47,570
Stack Height (feet)	88	83	80 ⁽²⁾
Stack Diameter (feet) ⁽³⁾	3.2	2	2
Exhaust Velocity (meters/second)	1.33	0.71	0.48
Exhaust Temperature (degrees Fahrenheit) ⁽³⁾	307	307	307
<i>Emission Rate (grams/second)</i>			
NO ₂ (1-hour average)	0.0392	0.0081	0.0055
NO _x (Annual average)	0.0107	0.0022	0.0015
PM _{2.5} (24-hour average)	0.0080	0.0017	0.0011
PM _{2.5} (Annual average)	0.0022	0.0005	0.0003
Notes:			
⁽¹⁾ The total square footages used in the stationary source analysis include parking areas and exclude mechanical bulkheads and represent the maximum square footages between the Easement Scenario and No Easement Scenario.			
⁽²⁾ The building includes two roof heights, and the lower height was conservatively assumed for stack placement.			
⁽³⁾ Stack parameter assumptions are based on boiler specifications for similar sized systems from DEP Boiler Permit Database			

The results of the AERMOD analysis for 1-hour and annual average NO₂ and 24-hour and annual average PM_{2.5} are presented in **Table TM-13**.

No exceedance of critical levels was identified in the AERMOD analysis. However, to ensure that there are no significant adverse impacts on PM_{2.5} or NO₂ concentrations from the proposed project's heating and hot water systems' emissions, the following restrictions would be required as part of the proposed project through (E) Designation (E-514).

Table TM-13
Maximum Modeled Pollutant Concentrations (µg/m³)

Pollutant	Averaging Period	Maximum Modeled Impact	Background	Total Concentration	Criterion
NO ₂	1-hour	N/A ⁽¹⁾	N/A ⁽¹⁾	187.4	188 ⁽²⁾
	Annual	0.8 ⁽³⁾	32.9	33.7	100 ⁽²⁾
PM _{2.5}	24-hour	6.2	N/A	N/A	7.65 ⁽⁴⁾
	Annual	0.21	N/A	N/A	0.3 ⁽⁵⁾
Notes:					
N/A – Not Applicable					
⁽¹⁾ The 1-hour average NO ₂ background and modeled concentrations are not presented in the table since the AERMOD model determines the total 98th percentile 1-Hour NO ₂ concentration at each receptor.					
⁽²⁾ NAAQS					
⁽³⁾ The annual average NO ₂ concentration is estimated using NO ₂ to NO _x ratio of 0.8 as per EPA guidance.					
⁽⁴⁾ PM _{2.5} <i>de minimis</i> criteria—24-hour average, not to exceed more than half the difference between the background concentration and the 24-hour standard of 35 µg/m ³					
⁽⁵⁾ PM _{2.5} <i>de minimis</i> criteria—annual (discrete receptor)					

Building on Block 5208, Lot 45

Any fossil fuel-fired heating and hot water equipment in any new development on the above-referenced property must use only natural gas and be fitted with low NO_x burners with NO_x emissions not to exceed 30 ppm. Fossil fuel-fired heating and hot water exhaust stacks must be located at least 88 feet above grade, and at a distance of no more than 182 feet from the southeastern lot line facing Laburnum Avenue.

Building on Block 5208, Lots 1 and 5

Any fossil fuel-fired heating and hot water equipment in any new development on the above-referenced property must use only natural gas and be fitted with low NO_x burners with NO_x emissions not to exceed 30 ppm. Fossil fuel-fired heating and hot water exhaust stack(s) are located at least 83 feet above grade, and at a distance of at least 67 feet from the southeastern lot line facing Laburnum Avenue.

Building on Block 5200, Lots 49 and 50

Any fossil fuel-fired heating and hot water equipment in any new development on the above-referenced property must use only natural gas and be fitted with low NO_x burners with NO_x emissions not to exceed 30 ppm. Fossil fuel-fired heating and hot water exhaust stacks must be located at least 80 feet above grade.

ON-ROAD MOBILE SOURCES

All intersections have lower volumes under the Easement Scenario as compared to the January 2019 EAS. However, sections of Kissena Boulevard would have higher volumes under the No Easement Scenario. Therefore, traffic data for the No Easement Scenario was used to assess potential impacts from on-road mobile sources at the intersection of Kissena Boulevard and Kalmia Avenue—the worst-case location that was selected.

Based on the revised analysis, the highest PM₁₀ concentrations in the No Action condition and With Action condition for the 2021 Build year were projected to be 49.4 µg/m³ and 51.4 µg/m³, respectively (including a background concentration of 38 µg/m³), which are well below the NAAQS of 150 µg/m³.

The maximum projected 24-hour and annual average increments are lower than the respective *de minimis* criteria (see **Table TM-14**). Therefore, the proposed modifications would not result in any significant adverse impact on air quality.

Table TM-14
Maximum Projected PM_{2.5} Incremental Concentrations (µg/m³)

Average Period	Increment	<i>De Minimis</i> Criterion
24-hour	0.6	7.65 ⁽¹⁾
Annual (Neighborhood Scale)	0.063	0.1
Note:		
¹ PM _{2.5} <i>de minimis</i> criteria—24-hour average, 24-hour average, not to exceed more than half the difference between the background concentration and the 24-hour standard of 35 µg/m ³ .		

PARKING VENTILATION

Emissions from vehicles using the mechanically ventilated parking garages were evaluated for CO and PM under the Easement Scenario as the worst case, as the garages on the development site and Projected Development Site A would be connected and would share a single ventilation system, and would also include a loading dock for trucks under this scenario.

Based on this approach, the maximum predicted eight-hour average CO concentration is 1.8 ppm. This value includes a predicted concentration of 0.4 ppm from the proposed parking garage and a background level of 1.4 ppm. The maximum predicted concentration is substantially below the applicable NAAQS of 9 ppm and the *de minimis* CO criteria of 5.6 ppm.

The maximum predicted 24-hour and annual average PM_{2.5} increments are 1.96 µg/m³ and 0.29 µg/m³, respectively. The maximum predicted PM_{2.5} increments are below the respective PM_{2.5} *de minimis* criteria of 7.65 µg/m³ for the 24-hour average concentration and 0.3 µg/m³ for the annual concentration. Therefore, the proposed parking garages would not result in any significant adverse air quality impacts.

INDUSTRIAL SOURCE ANALYSIS

Since Projected Development Site B would be removed as part of the proposed modifications, the minimum distance between the property boundary of the nearest proposed building on Development Site and the exhaust location of the facility was used in the same screening procedure used in the original EAS. Predicted worst-case impacts on the proposed project were compared with the short-term guideline concentrations (SGCs) and annual guideline concentrations (AGCs) recommended in NYSDEC's *DAR-1 AGS/SGC Tables*.² **Table TM-15** summarizes the resulting emission rates used in the screening procedure.

Table TM-15
Exhaust Stack Parameters and Emission Rates

Pollutant	CAS #	Percent by Weight ⁽¹⁾	Hourly Emissions (pounds/hour)	Annual Emissions (pounds/year)
Solids (modeled as PM _{2.5} /PM ₁₀)	NY079-00-0 (NY075-02-5 / NY075-00-5)	--	0.03	8.13
Solvents				
Acetone	00067-64-1	43	1.33	333.3
Aliphatic Hydrocarbon	64742-89-8	10	0.31	77.5
Aromatic Petroleum distillates	64742-94-5	5	0.16	38.8
Butane	00106-97-8	11	0.34	85.3
Ethanol	00064-17-5	2	0.06	15.5
Ethyl 3-Ethoxypropionate	00763-69-9	9	0.28	69.8
Ethylbenzene	00100-41-4	5	0.16	38.8
Methyl Ethyl Ketone	00078-93-3	8	0.25	62.0
N-Butyl Acetate	00123-86-4	5	0.16	38.8
Propane	00074-98-6	11	0.34	85.3
Stoddard Solvents	08052-41-3	10	0.31	77.5
Toluene	00108-88-3	10	0.31	77.5
Xylene	01330-20-7	10	0.31	77.5

² NYSDEC Division of Air Resources, Bureau of Stationary Sources, August 2016.

Notes: ⁽¹⁾ Sandstone Environmental Associates, Inc. *Air Toxics Analysis of Auto Repair Spray Paint Booth Near Solow Centers*. March 25, 2010.

One permitted facility, Pronto Body Works, Inc., located at 47-01 Kissena Boulevard, was identified within 400 feet of the development sites. DEP-BEC and EPA permit databases were also used to verify existing sources of industrial emissions within the 400-foot study area. Predicted worst-case impacts were compared with the SGCs and AGCs described above. These guideline concentrations were applied as a screening threshold to determine whether sensitive receptors could be significantly impacted from the paint spray booth operation.

Table TM-16 presents the maximum modeled short-term and long-term impacts from the facility on the proposed modifications at the worst-case distance based on the screening method previously described. The table also lists the NYSDEC SGC and AGC for each toxic air pollutant.

Table TM-16
Maximum Modeled Pollutant Concentrations ($\mu\text{g}/\text{m}^3$)

Pollutant	CAS No.	Short-term impact ($\mu\text{g}/\text{m}^3$)	SGC ($\mu\text{g}/\text{m}^3$) ⁽¹⁾	Long-term impact ($\mu\text{g}/\text{m}^3$)	AGC ($\mu\text{g}/\text{m}^3$) ⁽¹⁾
Solids	NY079-00-0	11	380	0.02	45
Solvents					
Acetone	00067-64-1	508	180,000	0.7	30,000
Aliphatic Hydrocarbon	64742-89-8	118	--	0.7	3,200
Aromatic Petroleum distillates	64742-94-5	59	--	0.2	100
Butane	00106-97-8	130	238,000	0.1	--
Ethanol	00064-17-5	24	--	0.2	45,000
Ethyl 3-Ethoxypropionate	00763-69-9	106	140	0.03	64
Ethylbenzene	00100-41-4	59	--	0.2	1,000
Methyl Ethyl Ketone	00078-93-3	95	13,000	0.1	5,000
N-Butyl Acetate	00123-86-4	59	95,000	0.1	17,000
Propane	00074-98-6	130	--	0.1	43,000
Stoddard Solvents	08052-41-3	118	--	0.2	900
Toluene	00108-88-3	118	37,000	0.2	5,000
Xylene	01330-20-7	118	22,000	0.2	100
Notes:					
⁽¹⁾ DAR-1 AGS/SGC Tables, DEC Division of Air Resources, Bureau of Stationary Sources, August 2016.					

The results of the industrial source analysis demonstrate that there would be no predicted significant adverse air quality impacts on the proposed modifications from the existing facility.

Therefore, as with the previously analyzed project, neither the Easement nor the No Easement Scenario would not result in any significant adverse air quality impacts.

NOISE

As with the proposed actions analyzed in the January 2019 EAS, an (E) Designation for noise would be applied to proposed development site, Projected Development Site A, and the potential development sites specifying the appropriate amount of window-wall attenuation and an alternate means of ventilation. The text for the (E) Designation would be as follows:

To ensure an acceptable interior noise environment, future development at Block 5208, Lots 1, 5, and 45, and Block 5200, Lots 39 and 50, must provide a minimum attenuation

shown in Table M-8 of the *Kissena Center January 2019 EAS* to ensure an interior L_{10} noise level not greater than 45 dBA for residential and community facility uses or not greater than 50 dBA for commercial uses. To maintain a closed-window condition in these areas, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, central air conditioning.

By adhering to the specified design guidelines, there would be sufficient attenuation to achieve the *CEQR Technical Manual* interior noise level guidelines of 45 dBA L_{10} for residential and community facility uses and 50 dBA L_{10} for commercial uses. As described above, Projected Development Site B (Block 5208, Lot 32) is no longer part of the rezoning area, and would not be rezoned or subject to the (E) designation. With adherence to the requirements of the (E) designation, the proposed modifications would not result in any significant adverse noise impacts under either the Easement Scenario or the No Easement Scenario.

In addition, as with the previously analyzed project, it is assumed that with the proposed modifications, the proposed project's mechanical systems (i.e., HVAC systems) would be designed to meet all applicable noise regulations (i.e., Subchapter 5, §24-227 of the New York City Noise Control Code) and to avoid producing levels that would result in any significant increase in ambient noise levels. Therefore, the proposed actions with the proposed modifications would not result in any significant adverse noise impacts related to building mechanical equipment.

F. CONCLUSIONS

Under both the Easement and No Easement Scenarios, the proposed modifications would not affect the environmental impact areas assessed in the January 2019 EAS or result in any new significant adverse environmental impacts not previously identified. *



Data source: NYC Dept. of City Planning, March 2019

- Project Area
- Development Site (Lot 45)
- Projected Development Sites (Lots 1 and 5)
- Potential Development Sites (Lots 49 and 50)
- Study Area (400-foot boundary)

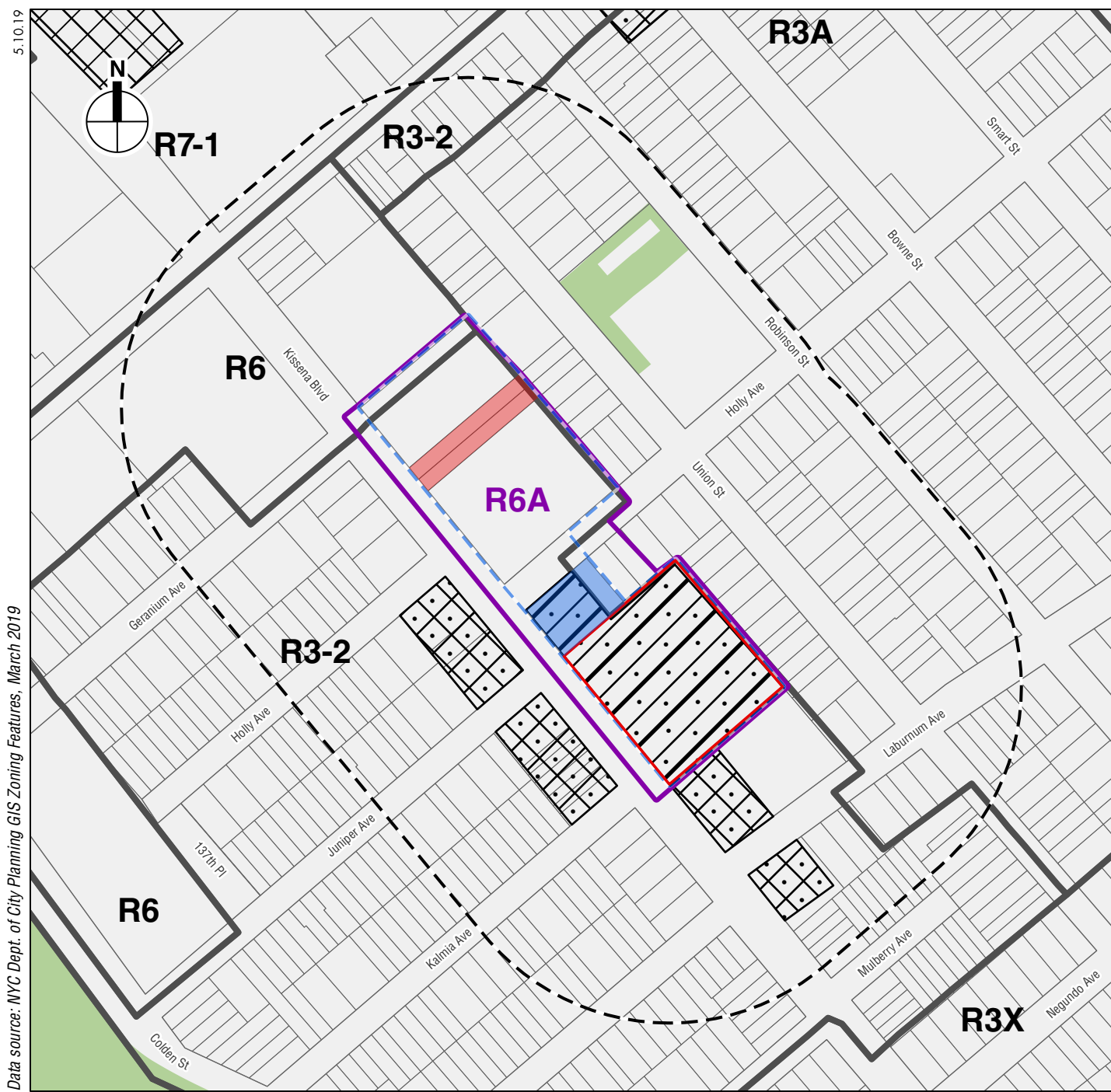
5208 Tax Block

45 Tax Lot

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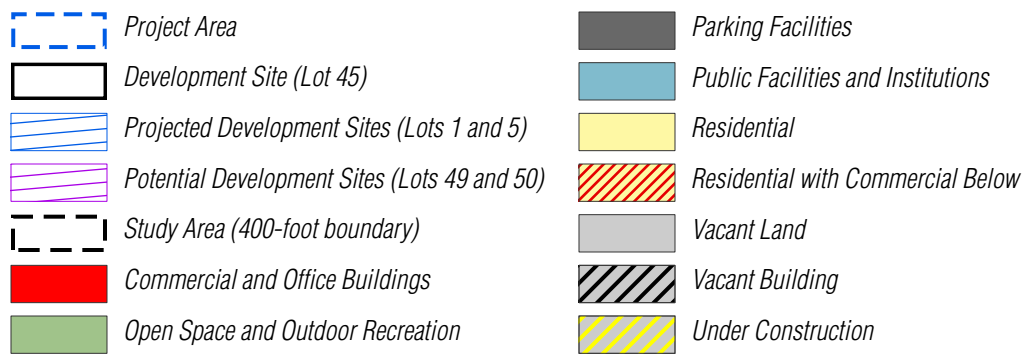
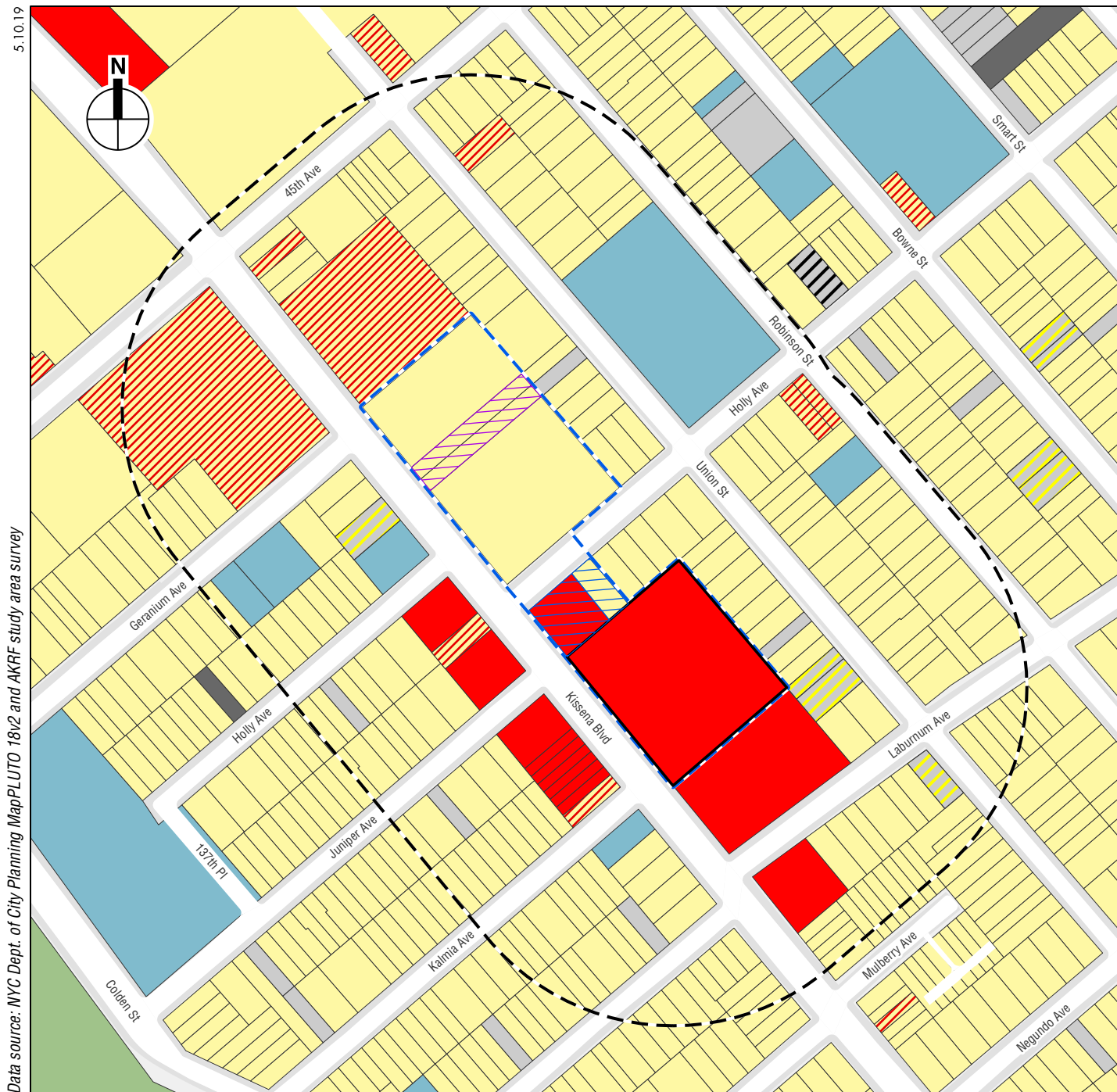
Project Location
Figure TM-1

KISSENA CENTER



- Project Area
- Development Site (Lot 45)
- Projected Development Sites (Lots 1 and 5)
- Potential Development Sites (Lots 49 and 50)
- Study Area (400-foot boundary)
- Zoning District Boundaries
- C1-2 Commercial Overlay District
- C2-2 Commercial Overlay District
- Proposed Zoning District Boundary (R6A)
- Proposed C2-3 - Zoning Commercial District Overlay
- Open Space

0 200 FEET

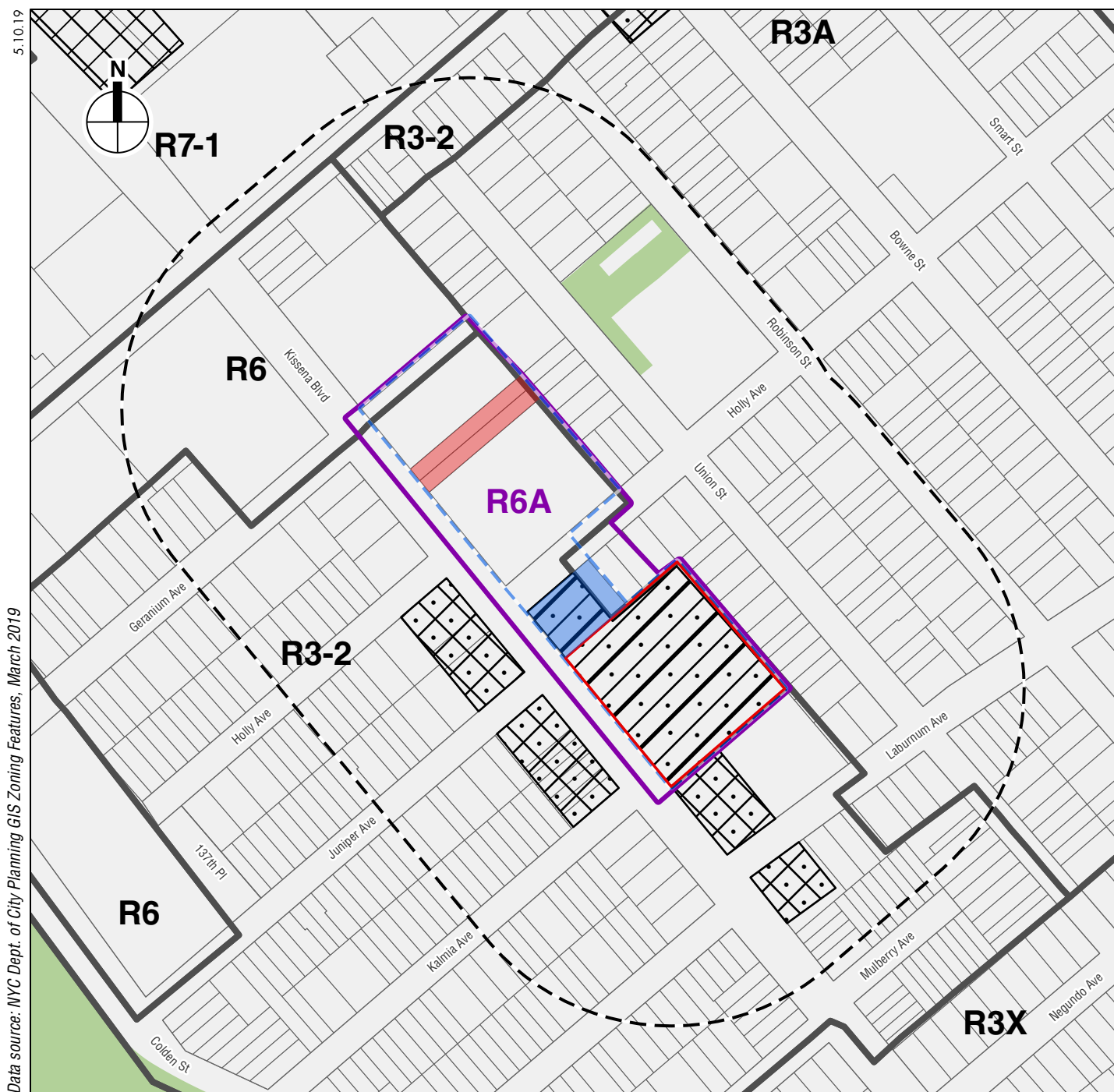


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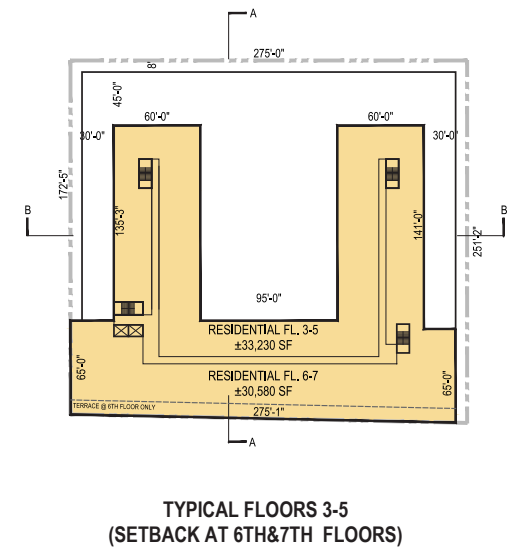
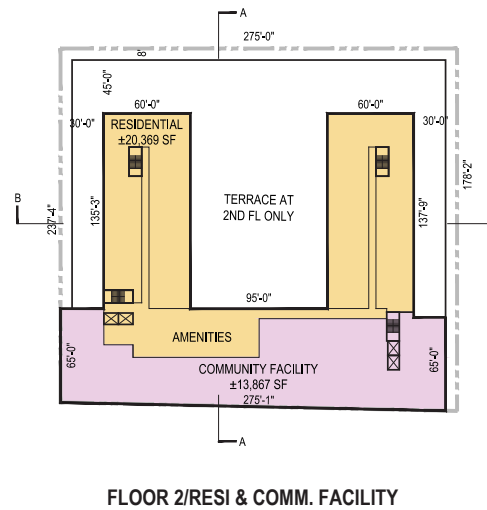
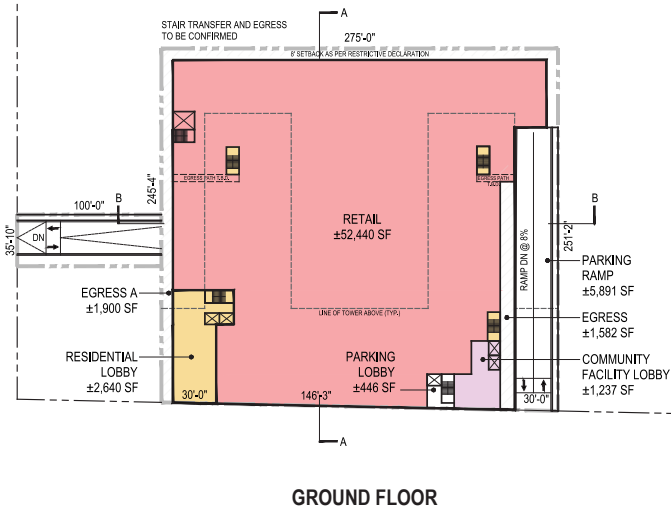
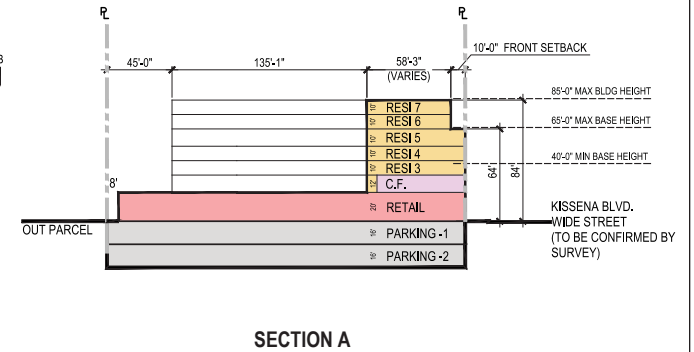
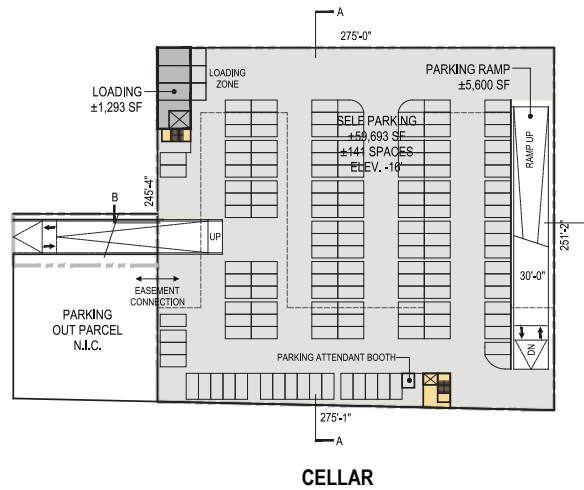
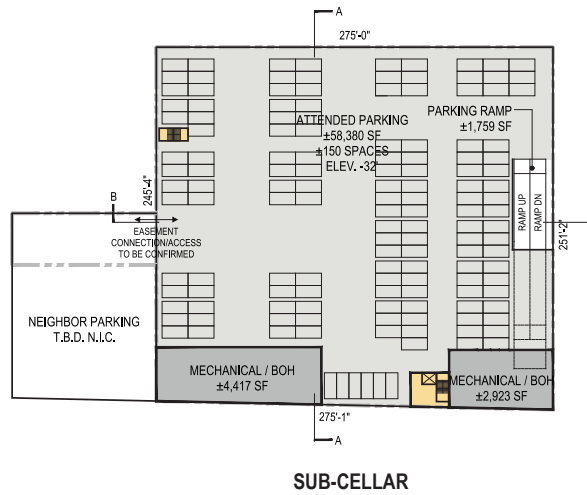
- Project Area
- Development Site (Lot 45)
- Projected Development Sites (Lots 1 and 5)
- Potential Development Sites (Lots 49 and 50)
- Study Area (400-foot boundary)
- Zoning District Boundaries
- C1-2 Commercial Overlay District
- C2-2 Commercial Overlay District
- Open Space

0 200 FEET



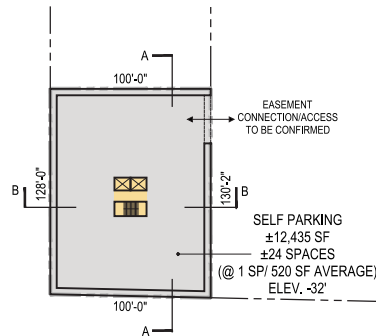
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|--|--|--|--|
| | Project Area | | Zoning District Boundaries |
| | Development Site (Lot 45) | | C1-2 Commercial Overlay District |
| | Projected Development Sites (Lots 1 and 5) | | C2-2 Commercial Overlay District |
| | Potential Development Sites (Lots 49 and 50) | | Proposed Zoning District Boundary (R6A) |
| | Study Area (400-foot boundary) | | Proposed C2-3 - Zoning Commercial District Overlay |
| | | | Open Space |

Proposed Zoning
Figure TM-5

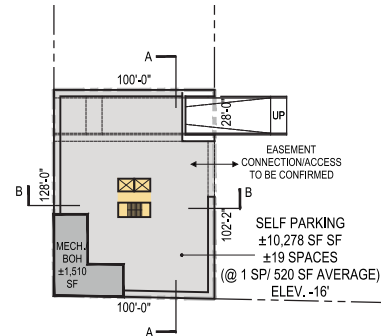


Plans and Sections for the Development Site (Lot 45)
[Easement Scenario]

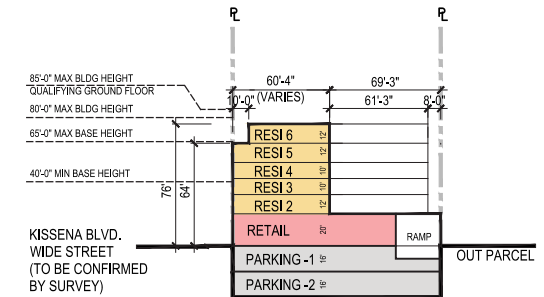
Figure TM-6



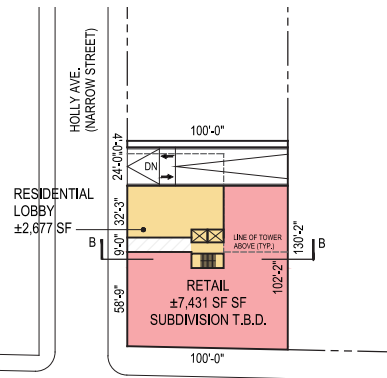
SUB-CELLAR



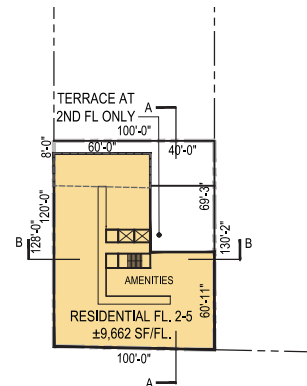
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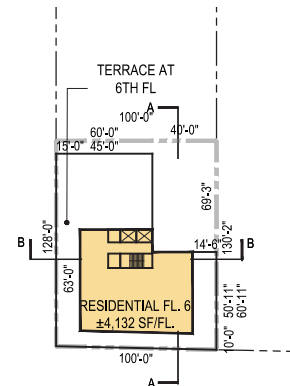
SECTION A



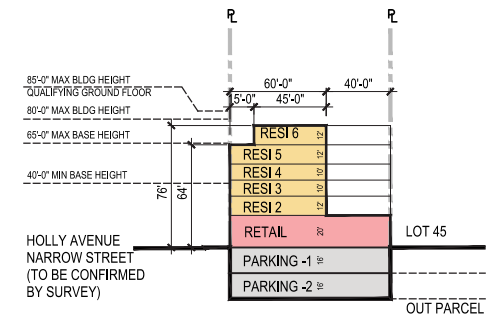
GROUND FLOOR



FLOOR 2-5/RESI



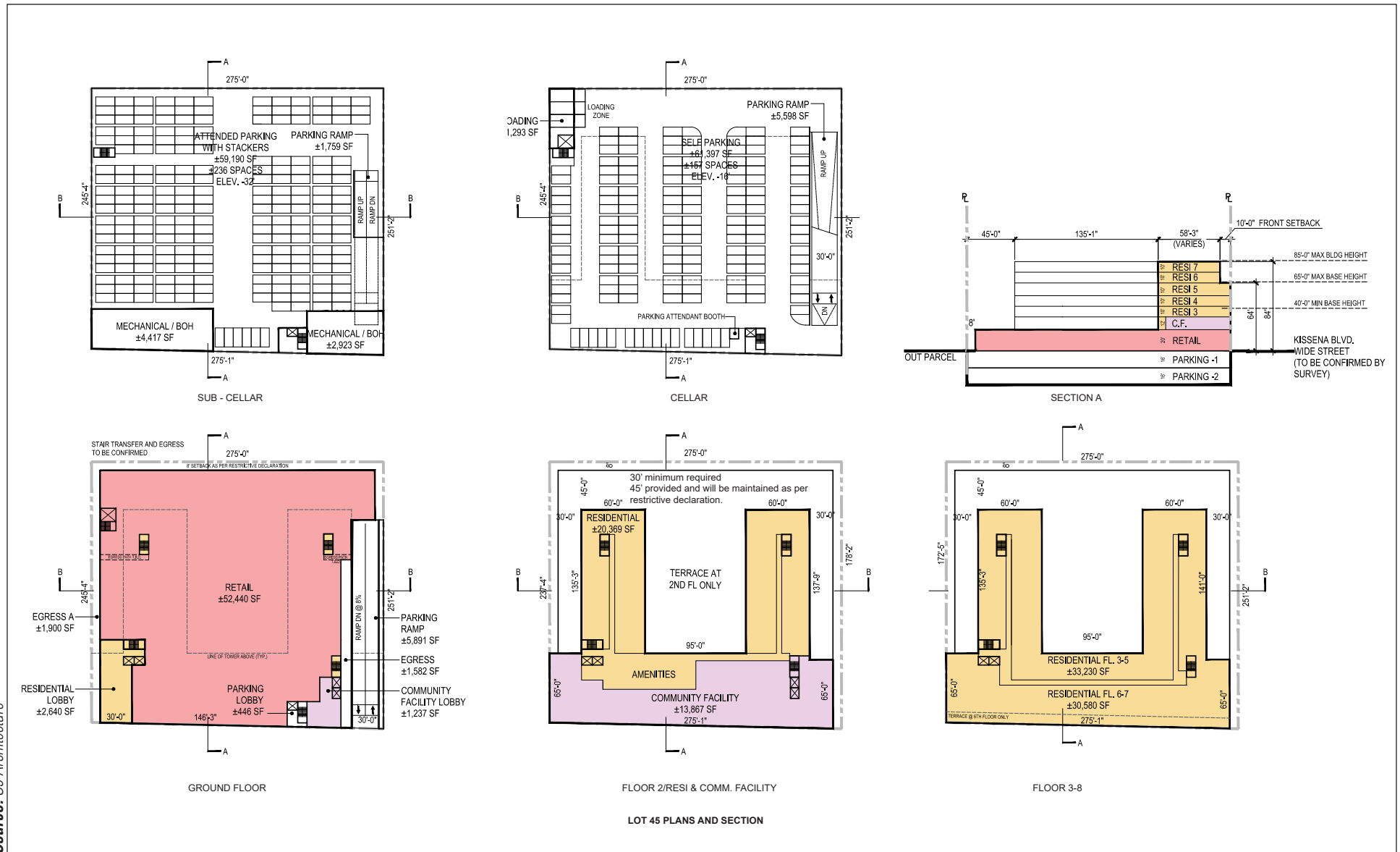
FLOOR 6/ RESI



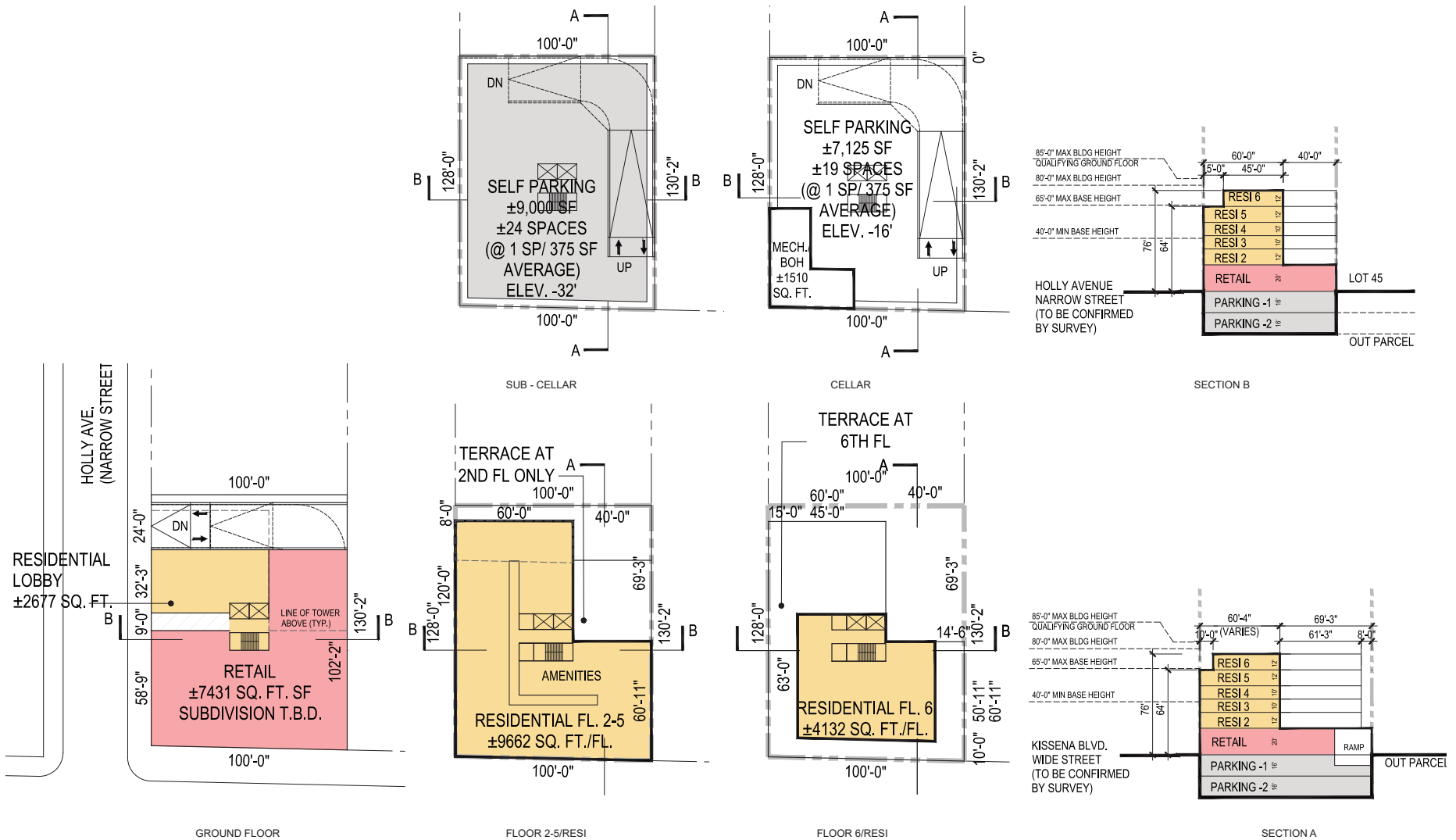
SECTION B

Plans and Sections for the Projected Development Site (Lots 1 and 5)
[Easement Scenario]

Figure TM-7



Plans and Sections for the Development Site (Lot 45)
[No Easement Scenario]



Plans and Sections for the Projected Development Site (Lots 1 and 5)
[No Easement Scenario]



View north from Kissena Boulevard

Illustrative Rendering of the Development Site and
Projected Development Site [No Easement Scenario]



CITY PLANNING COMMISSION
CITY OF NEW YORK

OFFICE OF THE CHAIR

June 3, 2019

REVISED CONDITIONAL NEGATIVE DECLARATION

Project Identification

CEQR No. 18DCP188Q

ULURP Nos. 190203ZRQ, 190202ZMQ

SEQRA Classification: Unlisted

Lead Agency

City Planning Commission

120 Broadway, 31st Floor

New York, NY 10271

Contact: Olga Abinader

(212) 720-3493

Name, Description and Location of Proposal

Kissena Center Rezoning

The applicant, Kimco Kissena Center, LLC, is requesting a zoning map amendment and a zoning text amendment (collectively, the "Proposed Actions") from the New York City Planning Commission (CPC) in order to rezone an area around the proposed project (Block 5208, Lot 45), including Block 5200, Lots 39, 49, 50 and p/o 151; and Block 5208, Lots 1, 5, and 45 (collectively the "rezoning area"). Per CPC modifications overriding the previous application, the rezoning area is proposed to be rezoned from R3-2 and R3-2/C2-2 to R6A and R6A/C2-3, and will be designated a Mandatory Inclusionary Housing Area (MIHA). The Proposed Actions would facilitate the construction of a seven-story mixed-use development on Block 5208 Lot 45. The new building would contain approximately 188,515 gross square-feet (gsf) dedicated to residential uses; approximately 53,733 gsf of ground-floor commercial use; approximately 15,104 gsf of second-floor community facility use; and two below-grade levels of parking that would provide approximately 291 spaces accessory to the residential, commercial, and community facility uses. The residential floor area would be comprised of approximately 189 dwelling units (DUs) and 25 to 30 percent of the residential floor area (up to approximately 57 DUs) would be designated as affordable per MIH regulations. The analysis year for the Proposed Actions is 2021.

To avoid the potential for significant adverse impacts, an (E) designation (E-514) for air quality, hazardous materials, and noise will be placed on Block 5208, Lots 1, 5, 45 and Block 5200 Lots 49 and 50, as part of the Proposed Actions.

Marisa Lago, *Chair*

120 Broadway, 31st Floor, New York, NY 10271

(212) 720-3200 FAX (212) 720-3219

<http://www.nyc.gov/planning>

The (E) designation text related to hazardous materials is as follows:

Task 1

The applicant submits to OER, for review and approval, a Phase 1 ESA for the Project Site along with a soil, soil gas and groundwater testing protocol, including a description of methods and a site map with all sampling locations clearly and precisely represented. If site sampling is necessary, no sampling should begin until written approval of a protocol is received from OER. The number and location of sample sites should be selected to adequately characterize the site, the specific source of suspected contamination (i.e., petroleum based contamination and non-petroleum based contamination), and the remainder of the site's condition. The characterization should be complete enough to determine what remediation strategy (if any) is necessary after review of sampling data. Guidelines and criteria for selecting sampling locations and collecting samples are provided by OER upon request.

Task 2

A written report with findings and a summary of the data must be submitted to OER after completion of the testing phase and laboratory analysis for review and approval. After receiving such results, a determination is made by OER if the results indicate that remediation is necessary. If OER determines that no remediation is necessary, written notice shall be given by OER. If remediation is indicated from the test results, a proposed remediation plan must be submitted to OER for review and approval. The applicant must complete such remediation as determined necessary by OER. The applicant should then provide proper documentation that the work has been satisfactorily completed. An OER-approved construction-related health and safety plan would be implemented during evacuation and construction and activities to protect workers and the community from potentially significant adverse impacts associated with contaminated soil and/or groundwater. This plan would be submitted to OER for review and approval prior to implementation. All demolition or rehabilitation would be conducted in accordance with applicable requirements for disturbance, handling and disposal of suspect lead-paint and asbestos-containing materials. In addition to the requirements for lead-based paint and asbestos, requirements (including those of NYSDEC) should petroleum tanks and/or spills be identified and for off-site disposal of soil/fill would need to be followed.

The (E) designation text related to air quality is as follows:

Block 5208 Lot 45

Any fossil fuel-fired heating and hot water equipment in any new development on the above-referenced property must use only natural gas and be fitted with low NOx burners with NOx emissions not to exceed 30 ppm. Fossil fuel-fired heating and hot water exhaust stacks must be located at least 88 feet above grade, and at a distance of no more than 182 feet from the southeastern lot line facing Laburnum Avenue.

Block 5208 Lots 1 & 5

Any fossil fuel-fired heating and hot water equipment in any new development on the above-referenced property must use only natural gas and be fitted with low NOx burners with NOx emissions not to exceed 30 ppm. Fossil fuel-fired heating and hot water

exhaust stack(s) are located at least 83 feet above grade, and at a distance of at least 67 feet from the southeastern lot line facing Laburnum Avenue.

Block 5200 Lots 49 & 50

Any fossil fuel-fired heating and hot water equipment in any new development on the above-referenced property must use only natural gas and be fitted with low NOx burners with NOx emissions not to exceed 30 ppm. Fossil fuel-fired heating and hot water exhaust stacks must be located at least 80 feet above grade.

The (E) designation text related to noise is as follows:

To ensure an acceptable interior noise environment, future development at Block 5208, Lots 1, 5, and 45, and Block 5200, Lots 39 and 50, must provide a minimum attenuation shown in Table M-8 of the Kissena Center January 2019 EAS to ensure an interior L10 noise level not greater than 45 dBA for residential and community facility uses or not greater than 50 dBA for commercial uses. To maintain a closed-window condition in these areas, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, central air conditioning.

Statement of No Significant Effect:

The Environmental Assessment and Review Division of the Department of City Planning, on behalf of the City Planning Commission, has completed its technical review of the revised Environmental Assessment Statement, dated May 2019, prepared in connection with the ULURP Application (Nos. 190203ZRQ, 190202ZMQ). The City Planning Commission has determined that the proposed action will have no significant effect on the quality of the environment, once it is modified as follows:

1. Declarant agrees, at Declarant's expense, to perform the following PCRE in consultation with DOT:
 - a. Install a new traffic signal at the intersection of Kissena Boulevard and Kalmia Avenue/Site driveway.
2. Declarant agrees, at Declarant's expense, to perform the following mitigation measures, at the specified locations, and that such measures shall be in consultation with DOT (the "Traffic Mitigation Measures"):
 - a. Kissena Boulevard and 45th Avenue
 - i. Install a "No Standing 7 AM to 7 PM Monday through Friday" regulation along the north curb of the westbound approach for 100 feet.
 - ii. During the weekday AM and PM peak periods, shift 2 seconds of green time from the westbound phase to the northbound/southbound phase; the lead pedestrian interval phase would remain the same.
 - b. Kissena Boulevard and Holly Avenue (south):
 - i. During the weekday AM peak period – shift 3 seconds of green time from the westbound phase to the northbound/southbound phase.

- ii. If the easement along Holly Avenue is not realized, modify the signal timing during the weekday PM and Saturday peak periods – shift 1 second of green time from the westbound phase to the northbound/southbound phase.
- c. Kissena Boulevard and Juniper Avenue:
 - i. Modify the signal timing during the weekday AM and Saturday peak periods. During the weekday AM peak period, shift 4 seconds of green time from the pedestrian phase to the northbound/southbound phase. During the Saturday peak period, shift 2 seconds of green time from the pedestrian phase to the northbound/southbound phase.
 - ii. If the easement along Holly Avenue is not realized, modify the signal timing during weekday PM peak period – shift 1 second of green time from the pedestrian phase to the northbound/southbound phase would be applied.
- d. Kissena Boulevard and Booth Memorial Avenue:
 - i. Install “No Standing 7 am - 7 pm Except Sunday” regulations along the north curb of the west-bound approach for 175 feet.
 - ii. Modify the signal timing during the weekday AM, midday, PM, and Saturday peak periods – shift 2 second of green time from the eastbound/westbound phase to the southbound lead phase; the northbound/southbound phase remains the same.
 - iii. Restripe the westbound approach from one 10-foot-wide left-turn lane and one 20-footwide through-right lane with parking to one 10-foot-wide left-turn lane, 10-foot-wide through lane, and one 10-foot-wide parking lane which serves as a right-turn lane during specific periods.

Supporting Statement:


The above determination is based on an environmental assessment which finds that:

1. The applicant will enter into a Restrictive Declaration to ensure the implementation of project components relating to construction (transportation) which would avoid the potential for any significant adverse impacts related thereto.
2. The (E) designation for hazardous materials, air quality, and noise would ensure that the proposed action would not result in significant adverse impacts.
3. No other significant adverse effects on the environment which would require an Environmental Impact Statement are foreseeable.

It is fully agreed and understood that if the foregoing conditions, modification, and alterations are not fully incorporated into the proposed action, this Conditional Negative Declaration shall become null and void. In such event, the applicant shall be required to prepare a Draft Environmental Impact Statement before proceeding further with said proposal.

This Conditional Negative Declaration has been prepared in accordance with Article 8 of the Environmental Conservation Law 6NYCRR part 617.

I, the Undersigned, as the applicant or authorized representative for this proposal, hereby affix my signature in acceptance of the above conditions to the proposed action.



Signature of Applicant or Authorized Representative

Date: 05/31/2019

KIMCO KISSENA CENTER, LLC
NICHOLAS BROWN

Name of Applicant or Authorized Representative

Date: 05/31/2019



Olga Abinader, Acting Director
Environmental Assessment and Review Division
Department of City Planning

Date: 05/31/2019

Marisa Lago, Chair
City Planning Commission

Date: 06/03/2019