SCA
School Construction Authority

NYC
Department of Education

July 21, 2011

The Honorable Christine C. Quinn
Speaker of the Council
City Hall
New York, New York 10007

Dear Speaker Quinn:

The New York City School Construction Authority (SCA) has undertaken its site selection process for the following proposed school:

- P.S. 315, Queens
- New, Approximately 1,100-Seat Primary School Facility
- Block 1613, Lot 17
- Southwest corner of 97th Place and 43rd Avenue
- Community School District No. 24
- Queens Community Board No. 4

The proposed site contains a total of approximately 55,000 square feet of lot area (1.26 acres) and contains an occupied industrial building located at the southwest corner of 97th Place and 43rd Avenue. Under the proposed project, the SCA would acquire the site, demolish the existing on-site structures and construct a new, approximately 1,100-Seat primary school facility serving students in Community School District No. 24.

The Notice of Filing of the Site Plan was published in the New York Post and the City Record on April 1, 2011. Queens Community Board No. 4 was notified on April 1, 2011, and was asked to hold a public hearing on the proposed Site Plan. Queens Community Board No. 4 held a hearing on the site on May 10, 2011, and submitted written comments recommending against the proposed site. The City Planning Commission was also notified on April 1, 2011 and recommended in favor of the proposed site.

30-30 Thomson Avenue
Long Island City, NY 11101
718 472 8000 T
718 472 8840 F

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The SCA has considered all comments received on the proposed project and affirms the Site Plan pursuant to §1731.4 of the Public Authorities Law. In accordance with §1732 of the Public Authorities Law, the SCA is submitting the enclosed Site Plan to the Mayor and the Council for consideration. Enclosed also are copies of the Environmental Assessment and Negative Declaration that have been prepared for this project.

The SCA looks forward to your favorable consideration of the proposed Site Plan. If you have any questions regarding this Site Plan or would like further information, please contact me at (718) 472-8220 at your convenience. Thank you for your attention to this matter.

Sincerely,

Ross J. Holden
Executive Vice President & General Counsel

Encl.

c. Hon. Michael R. Bloomberg (w/o attachments)
Hon. Leroy G. Comrie, Land Use Committee
Hon. Brad Lander, Subcommittee on Landmarks, Public Siting and Maritime Uses
Hon. Julissa Ferreras, District Councilmember
Kathleen Grimm, Deputy Chancellor

SCA
School Construction Authority

NYC
Department of Education

July 21, 2011

The Honorable Michael R. Bloomberg
Mayor
City Hall
New York, New York 10007

Dear Mayor Bloomberg:

The New York City School Construction Authority (SCA) has undertaken its site selection process for the following proposed school:

- P.S. 315, Queens
- New, Approximately 1,100-Seat Primary School Facility
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- Southwest corner of 97th Place and 43rd Avenue
- Community School District No. 24
- Queens Community Board No. 4

The proposed site contains a total of approximately 55,000 square feet of lot area (1.26 acres) and contains an occupied industrial building located at the southwest corner of 97th Place and 43rd Avenue. Under the proposed project, the SCA would acquire the site, demolish the existing on-site structures, and construct a new, approximately 1,100-Seat primary school facility serving students in Community School District No. 24.

The Notice of Filing of the Site Plan was published in the New York Post and the City Record on April 1, 2011. Queens Community Board No. 4 was notified on April 1, 2011, and was asked to hold a public hearing on the proposed Site Plan. Queens Community Board No. 4 held a hearing on the site on May 10, 2011, and submitted written comments recommending against the proposed site. The City Planning Commission was also notified on April 1, 2011 and recommended in favor of the proposed site.

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The SCA looks forward to your favorable consideration of the proposed Site Plan. If you have any questions regarding this Site Plan or would like further information, please contact me at (718) 472-8220 at your convenience. Thank you for your attention to this matter.

Sincerely,

Ross J. Holden
Executive Vice President & General Counsel

Encl.

c. Hon. Christine C. Quinn (w/o attachments)
Kathleen Grimm, Deputy Chancellor

NOTICE OF FILING

NEW YORK CITY SCHOOL CONSTRUCTION AUTHORITY

Pursuant to §1731 of the New York City School Construction Authority Act, notice has been filed for the proposed site selection of Block 1613, Lot 17 and any other property in the immediate vicinity which may be necessary for the proposed project, located in the Borough of Queens, for the construction of a new, approximately 1,100-seat primary school facility serving Community School District No. 24.

The proposed site contains a total of approximately 55,000 square feet of lot area (1.26 acres) and contains an occupied industrial building located at the southwest corner of 97th Place and 43rd Avenue. Site plans and a summary thereof for the proposed action are available at:

New York City School Construction Authority
30-30 Thomson Avenue
Long Island City, New York 11101

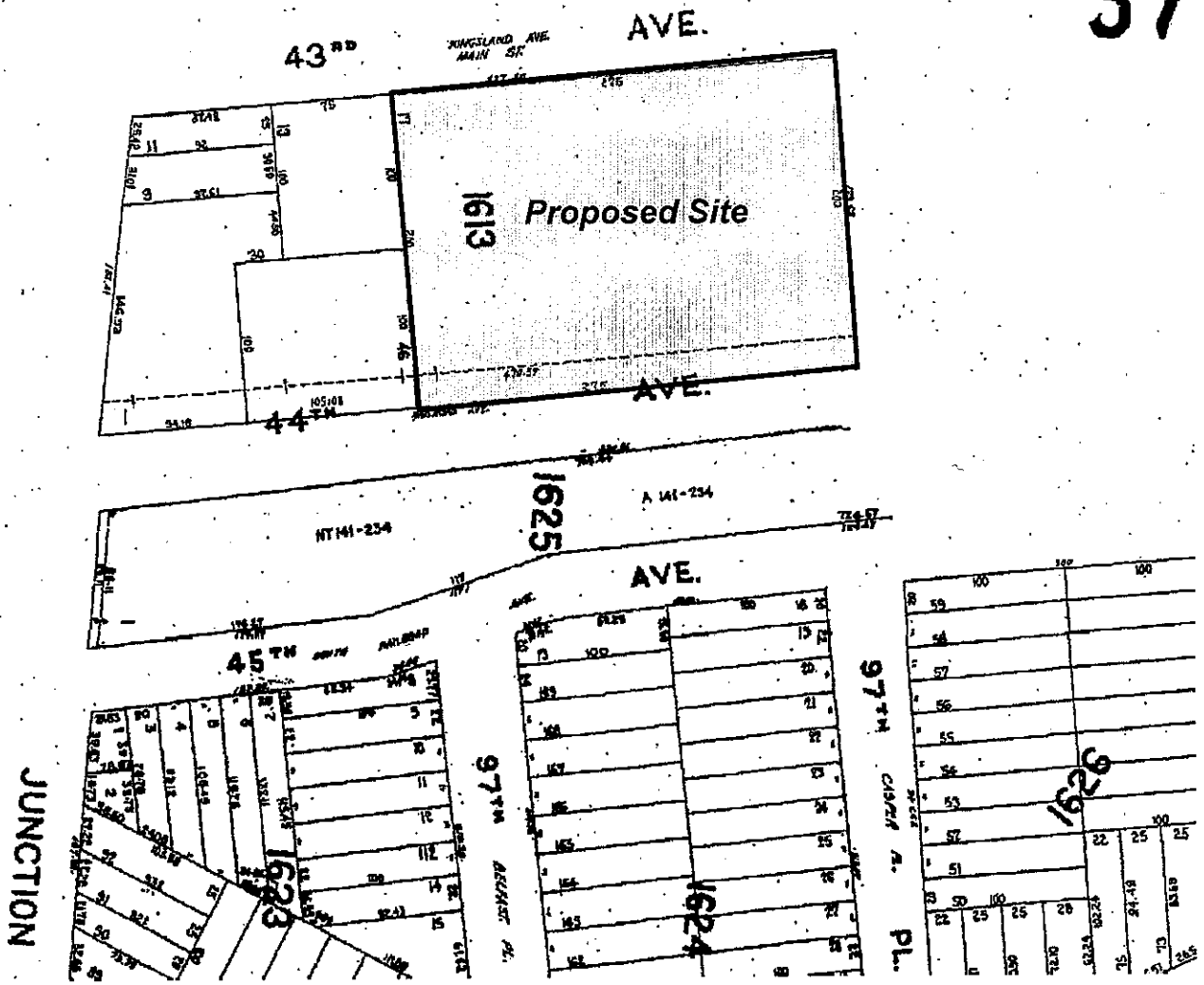
Attention: Ross J. Holden

Comments on the proposed actions are to be sent to the New York City School Construction Authority at the above address and will be accepted until May 16, 2011.

For publication in the New York Post (5 Borough Edition) and the City Record on April 1, 2011.

SITE PLAN FOR AN APPROXIMATELY 1,100-SEAT PRIMARY SCHOOL, QUEENS
Queens Block 1613, Lot 17
Community School District No. 24

37



ALTERNATE SITES ANALYSES

NEW, APPROXIMATELY 1,100-SEAT PRIMARY SCHOOL 96-18 43RD AVENUE BLOCK 1613, LOT 17

The following locations were also considered as potential sites for a school in District 24.

1. **111-02 Astoria Boulevard (Block 1705, Lots 1, 5, 10, 61)** This approximately 33,000 square foot assemblage is on the corner of Astoria Boulevard 111th Street. It is currently used as a warehouse and demolition equipment business. The Department of Education conducted a preliminary review and determined that the site would not be suitable for a school due to the property's proximity to a heavily used intersection as well as the site's industrial context.

2. **47-01 108th Street (Block 2003, Lot 1)** This site consists of approximately 20,000 square feet of lot area improved with an approximately 5,000 square foot garage. The site was dropped for consideration given the narrowness of the adjoining avenue and its heavy use for both cars and large trucks.

3. **79-48 Albion Avenue (Block 1537, Lots 48 and 62)** This property, in an M-1 zoning district, was offered for sale. A preliminary review determined that the site was irregular. It was determined that given its size and shape, this property was not suitable for a school. The site was dropped from further consideration.

4. **112-22 to 112-44 Roosevelt Avenue (Block 2013 - Lots 26, 39, 31, 32 and 37)** This assemblage was offered for sale. This site was dropped from consideration at this time due to the proximity of the site to the elevated Number 7 train tracks, and its location at a heavily trafficked intersection.

The City of New York

NEW YORK CITY SCHOOL CONSTRUCTION AUTHORITY

2011 MAY 16 PM 2:22

OFFICE OF GENERAL COUNSEL

COMMUNITY BOARD # 4Q
Serving: Corona, Corona Heights, Elmhurst, and Newtown
46-11 104th Street
Corona, New York 11368-2882
Telephone: 718-760-3141 Fax: 718-760-5971
e-mail: cb4q@nyc.rr.com

Helen Marshall
Borough President

Barry Grodenchik
Deputy Borough President
Director of Community Boards

Anthony R. Moreno
Chairperson

Richard Italiano
District Manager

May 11, 2011

New York City School Construction Authority
30-30 Thomson Avenue
Long Island City, NY 11101

Attention: Ross J. Holden

Re: New, Approximately 1,100-Seat Primary School Facility, Queens
Community School District No. 24

Dear J. Holden,

NYC School Construction Authority proposes site selection of Block 1613, Lot 17, and any other property in the immediate vicinity which may be necessary for the proposed project, located in the Borough of Queens, for the construction of a new, approximately 1,100 seat primary school facility in Community School District No. 24.
The site is located at 96-18 43rd Avenue, located at the intersection of 97th Place and 43rd Avenue.
The proposed site contains a total of approximately 55,000 square feet of lot area (1.26 acres) and contains an occupied industrial building located at the southwest corner of 97th Place and 43rd Avenue.
The site is known as PS 315Q.

A Public Hearing was held on May 10, 2011. All testimony was against this location citing concerns of safety to the children, parents, and FDNY employees.

On May 10, 2011 after the Public Hearing Community Board #4Q reviewed the testimony from the Public Hearing and by a unanimous vote denied the location of PS 315Q based on the safety concerns of the students, parents and FDNY employees.

Please contact the office of Community Board #4Q with any questions.

Sincerely,

Richard Italiano
District Manager, CB #4Q

CITY PLANNING COMMISSION
CITY OF NEW YORK

OFFICE OF THE CHAIR

April 29, 2011

Lorraine Grillo
President and CEO
New York City School Construction Authority
30-30 Thomson Avenue
Long Island City, NY 11101-3045

Dear Ms. Grillo,

This is in response to your letter of April 1, 2011 in which notice was given to the City Planning Commission of the proposed site selection of Block 1613, Lot 17 in the borough of Queens (Community District 4) for the construction of a 1,100-seat Primary School facility for Community School District 24.

In view of the need for additional primary school capacity in this school district, the City Planning Commission recommends in favor of the proposed site for a new school facility for CSD 24.

Very sincerely,

Amanda M. Burden

C: Kathleen Grimm
Ross Holden
Sarah Goldwyn
John Young

Amanda M. Burden, FAICP, Chair
22 Reade Street, New York, NY 10007-1216
(212) 720-3200 FAX (212) 720-3219
nyc.gov/planning

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April 1, 2011

Kathleen Grimm
Deputy Chancellor for Operations
New York City Department of Education
52 Chambers Street
New York, New York 10007

Re: New, Approximately 1,100-Seat Primary School Facility, Queens Community School District No. 24

Dear Kathleen:

Pursuant to §1731 of the New York City School Construction Authority Act, notice is hereby given of the proposed acquisition of Block 1613, Lot 17, and any other property located in the immediate vicinity which may be necessary for the proposed project, located in the Borough of Queens, for the construction of a new, approximately 1,100-seat primary school facility in Community School District No. 24.

By statute, the SCA is required to complete the site selection process before acquiring real property or starting construction of new schools. This process begins with formal notifications to the Department of Education, City Planning Commission, and the affected Community Board. The notification initiates a thirty (30) day period within which the Community Board is required to hold a public hearing, after which it has an additional fifteen (15) days to submit written comments. Following completion of this 45-day period, the SCA can submit the proposed site for approval by the City Council and Mayor. Only after the City Council and Mayor approve the site can the SCA acquire the site.

Attached are copies of the Notice of Filing, the Site Plan, and the Alternate Sites Analyses for the proposed action. The SCA will accept public comments on this proposed action until May 16, 2011. All comments will be taken into consideration in the SCA's final decision regarding this matter. If you require any additional information, please do not hesitate to contact Ross at (718) 472-8220.

Sincerely,

Lorraine Grillo
President and CEO

Attachments

30-30 Thomson Avenue
Long Island City, NY 11101

718 472 8000 T
718 472 8840 F

SCA
School Construction Authority

NYC
Department of Education

April 1, 2011

Amanda M. Burden, FAICP
Chairperson
City Planning Commission
22 Reade Street
New York, New York 10007

Re: New, Approximately 1,100-Seat Primary School Facility, Queens Community School District No. 24

Dear Ms. Burden:

Pursuant to §1731 of the New York City School Construction Authority Act, notice is hereby given of the proposed site selection of Block 1613, Lot 17, and any other property in the immediate vicinity which may be necessary for the proposed project, located in the Borough of Queens, for the construction of a new, approximately 1,100-seat primary school facility in Community School District No. 24. The site is located at 96-18 43rd Avenue, located at the intersection of 97th Place and 43rd Avenue.

Attached please find copies of the Notice of Filing, Site Plan, and Alternate Sites Analyses for the proposed action. The Authority will accept public comments on this proposed action until May 16, 2011. All comments will be taken into consideration in the Authority's final decision regarding this matter.

If you require any additional information, please do not hesitate to contact Ross J. Holden, Vice President and General Counsel, at (718) 472-8220.

Sincerely,

Lorraine Grillo
President and CEO

c: Kathleen Grimm, Deputy Chancellor for Operations
Sarah Whitham, NYC Department of City Planning

30-30 Thomson Avenue
Long Island City, NY 11101

718 472 8000 T
718 472 8840 F

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Department of Education

April 1, 2011

Mr. Anthony Moreno
Chairperson
Queens Community Board No. 4
46-11 104th Street
Corona, New York 11368

Re: New, Approximately 1,100-Seat Primary School Facility, Queens Community School District No. 24

Dear Mr. Moreno:

Pursuant to §1731 of the New York City School Construction Authority Act, notice is hereby given of the proposed site selection of Block 1613, Lot 17, and any other property in the immediate vicinity which may be necessary for the proposed project, located in the Borough of Queens, for the construction of a new, approximately 1,100-seat primary school facility in Community School District No. 24. The site is located at 96-18 43rd Avenue, located at the intersection of 97th Place and 43rd Avenue.

Section 1731.2 states that within thirty (30) days of this notice, a public hearing with sufficient public notice shall be held by each affected community board on any or all aspects of the Site Plan. You may request the attendance of representatives of the Authority or Department of Education at this hearing.

In addition, §1731.3 states that within forty-five (45) days of this notice, each affected community board shall prepare and submit to the Authority written comments on the Site Plan. Attached please find copies of the Notice of Filing, Site Plan, and Alternate Sites Analyses for the proposed action. The Authority will accept public comments on this proposed action until May 16, 2011. All comments will be taken into consideration in the Authority's final decision regarding this matter.

If you require any additional information, please do not hesitate to contact Ross J. Holden, Vice President and General Counsel, at (718) 472-8220.

Sincerely,

Lorraine Grillo
President and CEO

Attachments

c: Kathleen Grimm, Deputy Chancellor for Operations
Mr. Richard Italiano, District Manager, Queens Community District No. 4

30-30 Thomson Avenue
Long Island City, NY 11101
718 472 8000 T
718 472 8840 F

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April 1, 2011

The Honorable Helen Marshall
President, Borough of Queens
120-55 Queens Boulevard
Kew Gardens, New York 11424

Re: New, Approximately 1,100-Seat Primary School Facility, Queens Community School District No. 24

Dear Borough President Marshall:

Pursuant to §1731 of the New York City School Construction Authority Act, notice is hereby given of the proposed site selection of Block 1613, Lot 17, and any other property in the immediate vicinity which may be necessary for the proposed project, located in the Borough of Queens, for the construction of a new, approximately 1,100-seat primary school facility in Community School District No. 24. The site is located at 96-18 43rd Avenue, located at the intersection of 97th Place and 43rd Avenue.

This notification was sent to Queens Community Board No. 4 and the City Planning Commission. The Notice of Filing for this site selection will be published in the New York Post and City Record on April 1, 2011, and the SCA will continue to accept public comments until May 16, 2011.

I have also attached the Site Plan and Alternate Sites Analyses for your review. If you require any additional information, please do not hesitate to contact Ross J. Holden, Vice President and General Counsel at (718) 472-8220.

Sincerely,

Lorraine Grillo
President and CEO

Attachments

c: Kathleen Grimm, Deputy Chancellor for Operations

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Long Island City, NY 11101
718 472 8000 T
718 472 8840 F

SCA
School Construction Authority

NYC
Department of Education

April 1, 2011

The Honorable Christine C. Quinn
Speaker of the City Council
City Hall
New York, New York 10007

Re: New, Approximately 1,100-Seat Primary School Facility, Queens Community School District No. 24

Dear Speaker Quinn:

Pursuant to §1731 of the New York City School Construction Authority Act, notice is hereby given of the proposed site selection of Block 1613, Lot 17, and any other property in the immediate vicinity which may be necessary for the proposed project, located in the Borough of Queens, for the construction of a new, approximately 1,100-seat primary school facility in Community School District No. 24. The site is located at 96-18 43rd Avenue, located at the intersection of 97th Place and 43rd Avenue.

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Sincerely,

Lorraine Grillo
President and CEO

Attachments

c: Kathleen Grimm, Deputy Chancellor for Operations
Chairperson Leroy G. Comrie, Jr. Land Use Committee
Chairperson Brad Lander, Subcommittee on Landmarks, Public Siting and Maritime Uses
Hon. Julissa Ferreras, District Councilmember
Gail Benjamin, Director, Land Use Division
Alonzo Carr, Land Use Division

30-30 Thomson Avenue
Long Island City, NY 11101
718 472 8000 T
718 472 8840 F

SCA
School Construction Authority

NYC
Department of Education

April 1, 2011

The Honorable Francisco P. Moya
New York State Assembly, 39th District
82-11 37th Avenue, Suite 709A
Jackson Heights, New York 11372

Re: New, Approximately 1,100-Seat Primary School Facility, Queens Community School District No. 24

Dear Assemblyman Moya:

Pursuant to §1731 of the New York City School Construction Authority Act, notice is hereby given of the proposed site selection of Block 1613, Lot 17, and any other property in the immediate vicinity which may be necessary for the proposed project, located in the Borough of Queens, for the construction of a new, approximately 1,100-seat primary school facility in Community School District No. 24. The site is located at 96-18 43rd Avenue, located at the intersection of 97th Place and 43rd Avenue.

This notification was sent to Queens Community Board No. 4 and the City Planning Commission. The Notice of Filing for this site selection will be published in the New York Post and City Record on April 1, 2011, and the SCA will continue to accept public comments until May 16, 2011.

I have also attached the Site Plan and Alternate Sites Analyses for your review. If you require any additional information, please do not hesitate to contact Ross J. Holden, Vice President and General Counsel at (718) 472-8220.

Sincerely,

Lorraine Grillo
President and CEO

Attachments

c: Kathleen Grimm, Deputy Chancellor for Operations

30-30 Thomson Avenue
Long Island City, NY 11101

718 472 8000 T
718 472 8840 F

SCA
School Construction Authority

NYC
Department of Education

April 1, 2011

The Honorable Jose Peralta
New York State Senate, 12th District
District Office
32-37 Junction Boulevard
East Elmhurst, New York 11369

Re: New, Approximately 1,100-Seat Primary School Facility, Queens Community School District No. 24

Dear State Senator Peralta:

Pursuant to §1731 of the New York City School Construction Authority Act, notice is hereby given of the proposed site selection of Block 1613, Lot 17, and any other property in the immediate vicinity which may be necessary for the proposed project, located in the Borough of Queens, for the construction of a new, approximately 1,100-seat primary school facility in Community School District No. 24. The site is located at 96-18 43rd Avenue, located at the intersection of 97th Place and 43rd Avenue.

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Sincerely,

Lorraine Grillo
President and CEO

Attachments

c: Kathleen Grimm, Deputy Chancellor for Operations

30-30 Thomson Avenue
Long Island City, NY 11101

718 472 8000 T
718 472 8840 F

SCA
School Construction Authority

NYC
Department of Education

April 1, 2011

Mr. Nick Comaianni
President
Community Education Council No. 24
68-10 Central Avenue
Glendale, New York 11385

Re: New, Approximately 1,100-Seat Primary School Facility, Queens Community School District No. 24

Dear Mr. Comaianni:

Pursuant to §1731 of the New York City School Construction Authority Act, notice is hereby given of the proposed site selection of Block 1613, Lot 17, and any other property in the immediate vicinity which may be necessary for the proposed project, located in the Borough of Queens, for the construction of a new, approximately 1,100-seat primary school facility in Community School District No. 24. The site is located at 96-18 43rd Avenue, located at the intersection of 97th Place and 43rd Avenue.

This notification was sent to Queens Community Board No. 4 and the City Planning Commission. We have requested that Queens Community Board No. 4 hold a public hearing on the proposed site selection within thirty (30) days of this notice, and the SCA will continue to accept public comments until May 16, 2011.

I have also attached the Site Plan and Alternate Sites Analyses for your review. If you require any additional information, please do not hesitate to contact Ross J. Holden, Vice President and General Counsel at (718) 472-8220.

Sincerely,

Lorraine Grillo
President and CEO

Attachments

c: Kathleen Grimm, Deputy Chancellor for Operations

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Long Island City, NY 11101

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718 472 8840 F

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STATE ENVIRONMENTAL QUALITY REVIEW
NEGATIVE DECLARATION
NOTICE OF DETERMINATION OF NON-SIGNIFICANCE

DATE: July 20, 2011

SEQR PROJECT NO.: 12-004

LEAD AGENCY: New York City School Construction Authority
30-30 Thomson Avenue
Long Island City, New York 11101-3045

This notice is issued pursuant to Part 617 of the implementing regulations pertaining to Article 8 (State Environmental Quality Review Act) of the Environmental Conservation Law. Pursuant to §1730.2 of the Public Authorities Law, the New York City School Construction Authority (SCA) is SEQR Lead Agency.

The SCA, as Lead Agency, has determined that the proposed action described below will not have a significant effect on the quality of the environment, and a Draft Environmental Impact Statement (DEIS) will not be prepared.

NAME OF ACTION: **P.S. 315, Queens**
New, Approximately 1,100-Seat
Primary School Facility and Schoolyard

LOCATION: 96-18 43rd Avenue
Tax Block 1613, Lot 17

SEQR STATUS: Unlisted

NEGATIVE DECLARATION

Description of Action:

On behalf of the New York City Department of Education (DOE), the New York City School Construction Authority (SCA) proposes the site selection, acceptance of construction funding, and construction of a new, approximately 1,100-seat primary school facility and associated schoolyards in the Corona section of Queens. Construction of this proposed facility would be conducted pursuant to DOE's Capital Plan for Fiscal Years 2010-2014.

The proposed site is located at 96-18 43rd Avenue, at the southwest corner of 97th Place and 43rd Avenue in Community School District No. 24. The site is comprised of approximately 55,000 square feet in lot area and contains an

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Long Island City, NY 11101
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industrial building with various commercial uses. The site is adjoined by a two-story commercial building on 43rd Avenue, and a vacant two-story building along 44th Avenue.

The proposed project is intended to address the need for additional public school capacity in the area, as identified in DOE's Five-Year Capital Plan for Fiscal Years 2010-2014. According to the Capital Plan, a total of 4,491 additional seats at the primary and intermediate school levels are required in District No. 24. The new facility is expected to help relieve overcrowded conditions at nearby District No. 24 schools, such as P.S. 19, which is located at 98-02 Roosevelt Avenue, less than one-half mile from the proposed site. During the 2009-2010 school year, the P.S. 19 school organization occupied its main building, a minibuilding and Transportable Classroom Units that adjoined the main building. All of these facilities were overutilized during the 2009-2010 year, and operated at 127, 118 and 143 percent of their respective target capacities.

Under the proposed project, the SCA would demolish the existing on-site structure and construct a new primary school facility. Based on preliminary design concept, the new school facility would be five stories in height, and would contain approximately 131,500 gross square feet, consisting of general education classrooms, cafeteria and gymnasium/assembly space, library, administrative and support space, An 14,500 square foot play area is also included in the design. The SCA would move forward with acquisition of the property in 2012, and student occupancy of the completed facility is expected to begin in Fall, 2015.

Reasons Supporting This Determination:

A comprehensive Environmental Assessment Form (EAF) and Supplemental Environmental Studies for this action were completed and issued on July 20, 2011. Based upon those documents (which are appended hereto), the SCA has determined that the proposed project will have no significant adverse impacts on environmental conditions related to the following areas: land use, zoning and public policy; socioeconomic conditions; community facilities; open space; shadows; historic and cultural resources; urban design and visual resources; community character; natural resources; hazardous materials; infrastructure; solid waste and sanitation services; energy; transportation; air quality; noise; construction-related impacts; and, public health.

The key findings related to the analysis of the following four environmental impact areas in the Environmental Assessment are discussed in greater detail below:

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Zoning and Public Policy

The project site contains a portion of a mapped street along 44th Avenue, which is currently being used by the existing warehouse as a driveway and loading area. The SCA has confirmed that the City does not plan to widen the street to its fully mapped width (and such widening would require the acquisition of several private properties) and shall coordinate with the New York City Department of Transportation (NYCDOT) and the New York City Department of City Planning (DCP) to modify the official City Map to conform the mapped street width to the width of the existing and built right-of-way. The SCA will undertake this proposed City Map change, which will require review and approval pursuant to the City's Uniform Land Use Review Procedure (ULURP) upon receipt of site plan approval. The demapping of the unbuilt street bed extension would not affect zoning on the project site or in the study area.

Historic and Cultural Resources

The existing on-site structure, which is the former Tiffany Studios Complex, is a known historic resource, and its demolition would constitute an Adverse Impact under Section 14.09 of the New York State Historic Preservation Law. As such, the SCA has initiated and would continue consultation with the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) regarding the proposed project and specific measures that would be included within the project to reduce the impact to historic resources below the level of significance. Those measures would include preparation and distribution of HABS photodocumentation of the existing historic structure, continued consultation with OPRHP regarding the final design of the new school building, and also the development and placement of an interpretive panel on the new school building that would acknowledge the history associated with the site. The final measures, which may include additional items to be negotiated between SCA and OPRHP, would be established in a Letter of Resolution (LOR).

Transportation

Concurrent with the proposed school project, the SCA is also currently pursuing plans to develop a new 785-seat Intermediate School (I.S.) at 97-36 43rd Avenue (Q311), one block east of the proposed project. The new I.S. at 97-36 43rd Avenue is currently anticipated to be completed by the proposed project's Build Year, 2015. However, in the event that the new I.S. is not constructed by 2015, the transportation impact analyses considered two analysis scenarios for the future without the proposed project—Scenario One includes construction of the 785-seat I.S. by 2015, and Scenario Two assumes that the new I.S. is not constructed by 2015.

Scenario One

Under Scenario One, in addition to general background growth of the surrounding neighborhood, both proposed schools in the study area are expected to be completed by the year 2015. Vehicular and pedestrian trips

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generated by these two planned school projects and their corresponding proposed improvements were incorporated in the 2015 No Build analysis. These include the traffic improvements proposed as part of the new primary school located at 96-18 43rd Avenue involving installation of All-Way-Stop-Controls (AWSCs) at the intersections of 43rd and 44th Avenues at 97th Place to facilitate safe pedestrian crossings at newly installed crosswalks.

For the streets around the site, future intersection volumes would generally represent a moderate increase over the existing traffic volumes. The street capacities at most of the study area intersections would be sufficient to accommodate these increases. However, the proposed project could require traffic improvements at the following intersection approaches/lane-groups during the two peak hours analyzed:

Signalized Intersections

- The northbound and southbound approaches at the intersection of Roosevelt Avenue and Junction Boulevard during the AM and PM peak periods. The impact to this traffic movement at the intersection could be avoided by shifting three (3) seconds of green time from the eastbound and westbound phase to the northbound and southbound phases.
- The southbound approach at the intersection of 43rd Avenue and Junction Boulevard during the AM and PM peak periods would operate more efficiently if parking was prohibited 100 feet from the southbound approach at this intersection.

Unsignalized Intersections

- The installation of a two-phase signal at the intersection of 44th Avenue and Junction Boulevard.
- The installation of a three-phase signal at the intersection of 44th Avenue and National Street.
- The installation of a three-phase signal at the intersection of 45th Avenue and National Street.

With these improvement measures in place, all of the impacted intersection approaches/lane groups would operate at the same or at better service conditions than the No Build conditions.

Scenario Two
Under Scenario Two, only the school at the P.S. 315 site is constructed by 2015.

It should be noted that under Scenario Two, the AWSCs proposed as part of the Q311 project located at 97-36 43rd Avenue would still be incorporated in the analysis. This is due to the fact that the new Q311 project and the proposed P.S. Q315 are in close proximity of each other and regardless of the completion

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schedule for the new intermediate school, the proposed AWSCs would be required to facilitate the safe pedestrian crossings for the proposed P.S. 315.

For the streets around the site, future intersection volumes would generally represent a moderate increase over the existing traffic volumes. The street capacities at most of the study area intersections would be sufficient to accommodate these increases. However, the proposed project could require traffic improvements at the following intersection approaches/lane-groups during the two peak hours analyzed:

Signalized Intersections

- The northbound and southbound approaches at the intersection of Roosevelt Avenue and Junction Boulevard during the AM and PM peak periods. The impact to this traffic movement at the intersection could be mitigated by shifting three (3) seconds of green time from the eastbound and westbound phase to the northbound and southbound phases.
- The southbound approach at the intersection of 43rd Avenue and Junction Boulevard during the AM and PM peak periods would operate more efficiently if parking was prohibited 100 feet from the southbound approach at this intersection.

Unsignalized Intersections

- The installation of a two-phase signal at the intersection of 44th Avenue and Junction Boulevard.
- The installation of a three-phase signal at the intersection of 44th Avenue and National Street.
- The installation of a three-phase signal at the intersection of 45th Avenue and National Street.

With these improvement measures in place, all of the impacted intersection approaches/lane groups would operate at the same or at better service conditions than the No Build conditions.

Each of the proposed traffic improvement measures under either Scenario One or Scenario Two are subject to the review and approval by the New York City Department of Transportation (NYCDOT).

Soil and Groundwater conditions

A Phase I Environmental Site Assessment (ESA), a Phase II Environmental Site Investigation (ESI), and a Supplemental Phase II ESI were completed for the proposed site in July 2010, October 2010, and July 2011, respectively, to evaluate the environmental conditions. The proposed site is approximately 55,000 square feet with four contiguous buildings that occupy a footprint of approximately 44,000 square feet. A concrete-paved courtyard is located in the

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center and a narrow walkway extends along the southwestern portion of the site. Tenants include garment manufacturers, a live poultry distribution facility/slaughter house, a vacant room used for indoor soccer, a cabinet maker, and a retail bicycle shop.

The Phase I ESA identified on-site recognized environmental conditions (RECs) related to dry wells; suspect buried structures; evidence of a petroleum storage tank; and, historic and on-going manufacturing operations. On-site environmental concerns include the potential presence of asbestos-containing material (ACM), lead-based paint (LBP), and polychlorinated biphenyls (PCBs) in building materials. The Phase I ESA identified off-site RECs including suspect petroleum storage tanks, evidence of an environmental investigation, historic manufacturing and repair facilities, and the presence of volatile organic compounds (VOCs) in groundwater and soil vapor at a nearby property. Based on the results of the Phase I ESA, Phase II ESI activities were completed at the site and included the performance of a geophysical survey, the advancement of soil borings, installation of soil vapor points and temporary groundwater monitoring wells, and the collection of soil, sediment, groundwater and soil gas samples for laboratory analyses.

The purpose of the Phase II ESI was to investigate potential impacts from RECs and environmental concerns that were identified in the Phase I ESA and to preliminarily characterize the material anticipated to be excavated in support of construction of the proposed public school. The Supplemental Phase II ESI was conducted to further assess environmental conditions identified in the Phase II ESI.

The proposed site is underlain by historic fill material through depths of 6 to 16 feet below grade surface (bgs) followed by native soil. A geophysical anomaly indicative of a 7,500 gallon UST was identified during the geophysical survey. Analytical data for soil samples collected from depths greater than 25 feet bgs in borings advanced in the sidewalk adjacent to the north and south of the site identified the presence of petroleum-related volatile organic compounds (VOCs) at concentrations that exceed the regulatory criteria for unrestricted use. Semi-volatile organic compounds (SVOCs) and metals were also present in one or more soil samples at concentrations greater than the regulatory criteria for unrestricted use. The concentrations of SVOCs are attributed to the presence of historic fill. Although the detected metals are generally constituents of historic fill, their concentrations in one or more samples indicate that subsurface soil may have been impacted by historical site use. The lead concentrations in two samples met regulatory criteria for classification as a hazardous waste.

Sediment sample results identified the presence of SVOCs at concentrations greater than the regulatory criteria as a result of a petroleum release within the

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vault. Additionally, metals attributable to historical site operations were detected in sediment samples collected from catch basins.

Chlorinated solvent- and petroleum-related VOCs were detected in groundwater at concentrations greater than State standards. Field indications of a petroleum release (i.e., petroleum-related staining, odors, measureable product) were evident in groundwater beneath the sidewalks north and south of the site. The New York State Department of Environmental Conservation (NYSDEC) was notified of a petroleum release on July 12, 2011 and Spill No. 11-04018 was assigned. Based on the calculated groundwater flow direction and because there was no evidence of a petroleum release in the vadose zone, it is evident that the release originates from an off-site source to the west of the site. The source of the chlorinated solvent-related VOCs was not identified. Selected metals were detected in groundwater at concentrations greater than their applicable regulatory criteria and are indicative of the general quality of the aquifer.

Various chlorinated- and petroleum-related VOCs were detected in soil vapor at concentrations above anticipated background levels. Additionally, tetrachloroethene (PCE) and trichloroethene (TCE) were detected in soil vapor at concentrations that are greater than the New York State Department of Health Air Guideline Values. The source of the chlorinated solvent-related VOCs was not identified.

The proposed project would not result in impacts from contaminated media and building materials. The SCA would, as part of the proposed project, pursue closure of the spill case with the NYSDEC and any dewatering required during construction would be minimized to mitigate potential influx of contaminated water from off-site sources toward the site. Treatment of any dewatering effluent would be conducted as required prior to discharge to the municipal sewer. As a preventative measure, a soil vapor barrier and active sub-slab depressurization system would be incorporated into the new school design to prevent potential migration of organic vapors into the proposed school building. Prior to construction, an additional investigation would be performed to further characterize soil and groundwater conditions. Soil and water generated during building construction would be properly characterized and managed in accordance with all applicable local, State and Federal regulations. All known and suspected USTs, along with any associated petroleum-impacted soil, would be removed and transported to an appropriately permitted off-site disposal facility.

Any suspect ACM, LBP, and PCB-containing materials affected by the proposed development of the Site would be identified and properly managed during construction activities. For areas of the site where exposed soil may exist (i.e., landscaped areas), a 24-inch thick layer of environmentally clean fill would be

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placed over the soil. To minimize the potential for construction workers' exposure, standard industry practices, including appropriate health and safety measures, would be utilized. In addition a Community Air Monitoring Program would be implemented during all excavation activities.

The proposed project would have the beneficial impact of providing approximately 1,100 additional seats of permanent public school capacity at the primary level in Community School District No. 24.

For further information contact:

Contact: Ross J. Holden
Executive Vice President and General Counsel

Address: New York City School Construction Authority
30-30 Thomson Avenue
Long Island City, New York 11101-3045

Telephone: (718) 472-8220

Ross J. Holden
Executive Vice President & General Counsel

July 20, 2011
Date

617.20
Appendix A
State Environmental Quality Review
FULL ENVIRONMENTAL ASSESSMENT FORM

Purpose: The full EAF is designed to help applicants and agencies determine, in an orderly manner, whether a project or action may be significant. The question of whether an action may be significant is not always easy to answer. Frequently, there are aspects of a project that are subjective or unmeasurable. It is also understood that those who determine significance may have little or no formal knowledge of the environment or may not be technically expert in environmental analysis. In addition, many who have knowledge in one particular area may not be aware of the broader concerns affecting the question of significance.

The full EAF is intended to provide a method whereby applicants and agencies can be assured that the determination process has been orderly, comprehensive in nature, yet flexible enough to allow introduction of information to fit a project or action.

Full EAF Components: The full EAF is comprised of three parts:

Part 1: Provides objective data and information about a given project and its site. By identifying basic project data, it assists a reviewer in the analysis that takes place in Parts 2 and 3.

Part 2: Focuses on identifying the range of possible impacts that may occur from a project or action. It provides guidance as to whether an impact is likely to be considered small to moderate or whether it is a potentially-large impact. The form also identifies whether an impact can be mitigated or reduced.

Part 3: If any impact in Part 2 is identified as potentially-large, then Part 3 is used to evaluate whether or not the impact is actually important.

DETERMINATION OF SIGNIFICANCE — Type 1 and Unlisted Actions

Identify the Portions of EAF completed for this project: ☒ Part 1 ☒ Part 2 ☐ Part 3

Upon review of the information recorded on this EAF (Parts 1 and 2 and 3 if appropriate), and any other supporting information, and considering both the magnitude and importance of each impact, it is reasonably determined by the lead agency that:

☒ A. The project will not result in any large and important impact(s) and, therefore, is one which **will not** have a significant impact on the environment, therefore **a negative declaration will be prepared.**

☐ B. Although the project could have a significant effect on the environment, there will not be a significant effect for this Unlisted Action because the mitigation measures described in PART 3 have been required, therefore **a CONDITIONED negative declaration will be prepared.***

☐ C. The project may result in one or more large and important impacts that may have a significant impact on the environment, therefore **a positive declaration will be prepared.**

* A Conditioned Negative Declaration is only valid for Unlisted Actions.

P.S. 315 (Q315) at 96-18 43rd Avenue
Name of Action

New York City School Construction Authority
Name of Lead Agency

Kenrick Ou
Print or Type Name of Responsible Officer in Lead Agency

Director, Real Estate Services
Title of Responsible Officer

Signature of Responsible Officer in Lead Agency

Signature of Preparer (if different from responsible officer)

July 20, 2011
Date

PART I — PROJECT INFORMATION

Prepared by Project Sponsor

NOTICE: This document is designed to assist in determining whether the action proposed may have a significant effect on the environment. Please complete the entire form, Parts A through E. Answers to these questions will be considered as part of the application for approval and may be subject to further verification and public review. Provide any additional information you believe will be needed to complete Parts 2 and 3.

It is expected that completion of the full EAF will be dependent on information currently available and will not involve new studies, research or investigation. If information requiring such additional work is unavailable, so indicate and specify each instance.

NAME OF ACTION P.S. Q315 at 96-18 43rd Avenue		
LOCATION OF ACTION (INCLUDE STREET ADDRESS, MUNICIPALITY AND COUNTY) 96-18 43rd Avenue (Block 1613, Lot 17) Corona, Queens		
NAME OF APPLICANT/SPONSOR New York City School Construction Authority	**BUSINESS TELEPHONE** (718) 472-8000	
ADDRESS 30-30 Thomson Avenue		
CITY/PO Long Island City	**STATE** NY	**ZIP CODE** 11101
NAME OF OWNER (IF DIFFERENT) Montague-Lee Limited	**BUSINESS TELEPHONE**	
ADDRESS 69-49 Ingram Street		
CITY/PO Forest Hills	**STATE** NY	**ZIP CODE** 11375
DESCRIPTION OF ACTION The applicant seeks to acquire the site and construct an approximately 1,110-seat primary school facility on Block 1613, Lot 17 in Corona, Queens.		

Please Complete Each Question—Indicate N.A. if not applicable

A. Site Description

Physical setting of overall project, both developed and undeveloped areas.

1. Present Land Use: ☒ Urban ☒ Industrial ☐ Commercial ☐ Residential (suburban) ☐ Rural (non-farm)
   ☐ Forest ☐ Agriculture ☐ Other _____

2. Total acreage of project area: 1.26 acres.

APPROXIMATE ACREAGE	PRESENTLY		AFTER COMPLETION	
Meadow or Brushland (Non-agricultural)	_____	acres	_____	acres
Forested	_____	acres	_____	acres
Agricultural (Includes orchards, cropland, pasture, etc.)	_____	acres	_____	acres
Wetland (Freshwater or tidal as per Articles 24, 25 of ECL)	_____	acres	_____	acres
Water Surface Area	_____	acres	_____	acres
Unvegetated (Rock, earth or fill)	_____	acres	_____	acres
Roads, buildings and other paved surfaces	1.26	acres	1.26	acres
Other (Indicate type) _____	_____	acres	_____	acres

3. What is predominant soil type(s) on the project site? Urban fill (contains traces of brick, coal, wood, and concrete)

   a. Soil drainage: ☒ Well drained 100 % of site ☐ Moderately well drained _____ % of site.
   ☐ Poorly drained _____ % of site

   b. If any agricultural land is involved, how many acres of soil are classified within soil group 1 through 4 of the NYS Land Classification System? _____ Acres (see 1NYCRR 370)

4. Are there bedrock outcroppings on project site? ☐ Yes ☒ No

   What is the depth to bedrock? (in feet) Anticipated at 150 ft below surface

5. Approximate percentage of proposed project site with slopes: ☒ 0-10% 100 % ☐ 10-15% _____ %
   ☐ 15% or greater _____ %

6. Is project substantially contiguous to, or contain a building, site, or district, listed on the State or National Registers of Historic Places? ☐ Yes ☒ No

7. Is project substantially contiguous to a site listed on the Register of National Natural Landmarks? ☐ Yes ☒ No

8. What is the depth of the water table? 17-38 feet below surface (in feet)

9. Is site located over a primary, principal, or sole source aquifer? ☒ Yes ☐ No

10. Do hunting, fishing or shell fishing opportunities presently exist in the project area? ☐ Yes ☒ No

11. Does project site contain any species of plant or animal life that is identified as threatened or endangered? ☐ Yes ☒ No

According to: _____

Identify each species: _____

12. Are there any unique or unusual land forms on the project site? (i.e., cliffs, dunes or other geological formations? ☐ Yes ☒ No

Describe: _____

13. Is the project site presently used by the community or neighborhood as an open space or recreation area? ☐ Yes ☒ No

If yes, explain:

14. Does the present site include scenic views known to be important to the community? ☐ Yes ☒ No

15. Streams within or contiguous to project area? None.

a. Name of Stream and name of River to which it is tributary: _____

16. Lakes, ponds, wetland areas within or contiguous to project area: None.

a. Name: _____

b. Size (in acres): _____

17. Is the site served by existing public utilities? ☒ Yes ☐ No

a. If YES, does sufficient capacity exist to allow connection? ☒ Yes ☐ No

b. If YES, will improvements be necessary to allow connection? ☐ Yes ☒ No

18. Is the site located in an agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐ Yes ☒ No

19. Is the site located in or substantially contiguous to a Critical Environmental Area designated pursuant to Article 8 of the ECL, and 6 NYCRR 617? ☐ Yes ☒ No

20. Has the site ever been used for the disposal of solid or hazardous waste? ☐ Yes ☒ No

B. Project Description

1. Physical dimensions and scale of project (fill in dimensions as appropriate).

a. Total contiguous acreage owned or controlled by project sponsor 0 acres.

b. Project acreage to be developed: 1.26 acres initially; 1.26 acres ultimately.

c. Project acreage to remain undeveloped 0 acres.

d. Length of project, in miles: N/A (If appropriate)

e. If the project is an expansion, indicate percent of expansion proposed 0 %

f. Number of off-street parking spaces existing NA ; proposed None.

g. Maximum vehicular trips generated per hour 210 (upon completion of project)?

h. If residential: Number and type of housing units? N/A

	One Family	Two Family	Multiple Family	Condominium
Initially				
Ultimately				

i. Dimensions (in feet) of largest proposed structure Approx. 71' height; Approx. 200' width; Approx. 275' length.

j. Linear feet of frontage along a public thoroughfare project will occupy is? 275' on 43rd and 44th Avenues; 200' on 97th Place

2. How much natural material (i.e., rock, earth, etc.) will be removed from the site? TBD tons/cubic yards.
3. Will disturbed areas be reclaimed? ☒ N/A ☐ Yes ☐ No
   a. If yes, for what intended purpose is the site being reclaimed? _____
   b. Will topsoil be stockpiled for reclamation? ☐ Yes ☒ No
   c. Will upper subsoil be stockpiled for reclamation? ☐ Yes ☒ No
4. How many acres of vegetation (trees, shrubs, ground covers) will be removed from site? 0 acres.
5. Will any mature forest (over 100 years old) or other locally-important vegetation be removed by this project? ☐ Yes ☒ No
6. If single phase project: Anticipated period of construction 30 months, (including demolition)
7. If multi-phased: N/A
   a. Total number of phases anticipated _____ (number)
   b. Anticipated date of commencement phase 1 _____ month _____ year, including (demolition)
   c. Approximate completion date of final phase _____ month _____ year.
   d. Is phase 1 functionally dependent of subsequent phases? ☐ Yes ☐ No
8. Will blasting occur during construction? ☐ Yes ☒ No
9. Number of jobs generated: during construction TBD ; after project is complete Approx. 85
10. Number of jobs eliminated by this project 0
11. Will project require relocation of any projects or facilities? ☐ Yes ☒ No
    If yes, explain: _____
12. Is surface liquid waste disposal involved? ☒ Yes ☐ No
    a. If yes, indicate type of waste (sewage, industrial, etc) and amount sewage; 11,100 gallons per day[1]
    b. Name of water body into which effluent will be discharged Sewage would be discharged into the City sewage system.
13. Is subsurface liquid waste disposal involved? Type _____ ☐ Yes ☒ No
14. Will surface area of an existing water body increase or decrease by proposal? ☐ Yes ☒ No
    If yes, explain: _____
15. Is project or any portion of project located in a 100 year flood plain? ☐ Yes ☒ No
16. Will the project generate solid waste? ☒ Yes ☐ No
    a. If yes, what is the amount per month? 6.7[2] tons
    b. If yes, will an existing solid waste facility be used? ☒ Yes ☐ No
    c. If yes, give name TBD ; location All waste is collected and sent to a designated disposal facility by the Department of Sanitation.
    d. Will any wastes not go into a sewage disposal system or into a sanitary landfill? ☒ Yes ☐ No
    e. If yes, explain: Recyclable materials collected at schools would be taken to a recycling facility for processing.
17. Will the project involve the disposal of solid waste? ☐ Yes ☒ No
    a. If yes, what is the anticipated rate of disposal? _____ tons/month
    b. If yes, what is the anticipated site life? _____ years
18. Will project use herbicides or pesticides? ☐ Yes ☒ No
19. Will project routinely produce odors (more than one hour per day)? ☐ Yes ☒ No
20. Will project produce operating noise exceeding the local ambient noise levels? ☐ Yes ☒ No
21. Will project result in an increase in energy use? ☒ Yes ☐ No
    If yes, indicate type(s): Electric
22. If water supply is from wells, indicate pumping capacity N/A gallons/minute

[1] 1,110 students x 10 gallons per day (gpd) = 11,100 gallons.

[2] 1,110 students x 3 pounds per week (ppw) = 3,330 x 4 weeks = 13,320 pounds.

23. Total anticipated water usage per day 28,100[1] gallons/day

24. Does project involve Local, State, or Federal funding? ☒ Yes ☐ No

If yes, explain: Acquisition, design, and construction costs will be funded by the New York City Department of Education's Five Year Capital Plan for Fiscal Years 2010 to 2014.

25. Approvals Required:

			Type	Submittal Date
City, Town, Village Board	☐ Yes	☒ No		
City, Town, Village Planning Board	☐ Yes	☒ No		
City, Town, Village Zoning Board	☐ Yes	☒ No		
City, County Health Department	☐ Yes	☒ No		
Other Local Agencies	☐ Yes	☒ No		
Other Regional Agencies	☐ Yes	☒ No		
State Agencies	☐ Yes	☒ No		
Federal Agencies	☐ Yes	☒ No		

C. Zoning and Planning Information

1. Does proposed action involve a planning or zoning decision? ☒ Yes ☐ No
If Yes, indicate decision required:

☐ Zoning amendment ☐ Zoning variance ☐ New/revision of master plan ☐ Subdivision

☐ Site plan ☐ Special use permit ☐ Resource management plan ☒ Other Project would require zoning override from the Deputy Mayor for Economic Development

2. What is the zoning classification(s) of the site? M1-1

3. What is the maximum potential development of the site if developed as permitted by the present zoning?
55,000 sf x 2.4 FAR (community facility use) = 132,000 sf

4. What is the proposed zoning of the site? No change to the existing zoning is proposed.

5. What is the maximum potential development of the site if developed as permitted by the proposed zoning?
NA

6. Is the proposed action consistent with the recommended uses in adopted local land use plans? ☒ Yes ☐ No

7. What are the predominant land use(s) and zoning classifications within a ¼-mile radius of proposed action?
Land Use: Residential, institutional, manufacturing, commercial
Zoning: M1-1, M3-1, R4, R4B, R4-1, R5, R6B, C1-4, C2-2, C2-3, C2-4

8. Is the proposed action compatible with adjoining/surrounding land uses with a ¼ mile? ☒ Yes ☐ No

9. If the proposed action is the subdivision of land, how many lots are proposed? N/A

a. What is the minimum lot size proposed?

10. Will the proposed action require authorization(s) for the formation of sewer of water districts? ☐ Yes ☒ No

11. Will the proposed action create a demand for any community provided services (recreation, education, police, fire protection)? ☒ Yes ☐ No

a. If yes, is existing capacity sufficient to handle projected demand? ☒ Yes ☐ No

12. Will the proposed action result in the generation of traffic significantly above present levels? ☒ Yes ☐ No

a. If yes, is the existing road network adequate to handle the additional traffic? ☒ Yes ☐ No

[1] 1,1 10 students x 10 gpd = 11,100 + (0.17 x 100,000 sf for air conditioning) = 28,100 gallons

D. Informational Details

Attach any additional information as may be needed to clarify your project. If there are or may be an adverse impacts associated with your proposal, please discuss such impacts and the measures which you proposed to mitigate or avoid them.

E. Verification

I certify that the information provided above is true to the best of my knowledge.

Applicant/Sponsor Name **Alicia Wolff, AICP** Date 7/19/11

Signature Alicia D Wolff Title **Senior Planner, AKRF**

If the action is in the Coastal Area, and you are a state agency, complete the Coastal Assessment Form before proceeding with this assessment.

Part 2 - PROJECT IMPACTS AND THEIR MAGNITUDE
Responsibility of Lead Agency

General Information (Read Carefully)

In completing the form the reviewer should be guided by the question: Have my responses and determinations been **reasonable**? The reviewer is not expected to be an expert environmental analyst.
The **Examples** provided are to assist the reviewer by showing types of impacts and wherever possible the threshold of magnitude that would trigger a response in column 2. The examples are generally applicable throughout the State and for most situations. But, for any specific project or site other examples and/or lower thresholds may be appropriate for a Potential Large Impact response, thus requiring evaluation in Part 3.
The impacts of each project, on each site, in each locality, will vary. Therefore, the examples are illustrative and have been offered as guidance. They do not constitute an exhaustive list of impacts and thresholds to answer each question.
The number of examples per question does not indicate the importance of each question.
In identifying impacts, consider long term, short term and cumulative effects.

Instructions (Read Carefully)

a. Answer each of the 20 questions in PART 2. Answer **Yes** if there will be **any** impact.
b. **Maybe** answers should be considered as **Yes** answers.
c. If answering **Yes** to a question, then check the appropriate box (column 1 or 2) to indicate the potential size of the impact. If impact threshold equals or exceeds any example provided, check column 2. If impact will occur but threshold is lower than example, check column 1.
d. Identifying that an Impact will be potentially large (column 2) does not mean that it is also necessarily **significant**. Any large impact must be evaluated in PART 3 to determine significance. Identifying an impact in column 2 simply asks that it be looked at further.
e. If a reviewer has doubt about size of the impact then consider the impact as potentially large and proceed to PART 3.
f. If a potentially large impact checked in column 2 can be mitigated by change(s) in the project to a small to moderate impact, also check the **Yes** box in column 3. A **No** response indicates that such a reduction is not possible. This must be explained in PART 3.

IMPACT ON LAND	1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact be Mitigated by Project Change
1. Will the Proposed Action result in a physical change to the project site? ☐ NO ■ YES			
Examples that would apply to column 2			
Any construction on slopes of 15% or greater, (15 foot rise per 100 foot of length), or where the general slopes in the project area exceed 10%.	☐	☐	☐ YES ☐ NO
Construction on land where the depth to the water table is less than 3 feet.	☐	☐	☐ YES ☐ NO
Construction of paved parking area for 1,000 or more vehicles.	☐	☐	☐ YES ☐ NO
Construction on land where bedrock is exposed or generally within 3 feet of existing ground surface.	☐	☐	☐ YES ☐ NO
Construction that will continue for more than 1 year or involve more than one phase or stage.	■	☐	☐ YES ☐ NO
Excavation for mining purposes that would remove more than 1,000 tons of natural material (i.e., rock or soil) per year.	☐	☐	☐ YES ☐ NO
Construction or expansion of a sanitary landfill.	☐	☐	☐ YES ☐ NO
Construction in a designated floodway.	☐	☐	☐ YES ☐ NO
Other impacts	☐	☐	☐ YES ☐ NO
2. Will there be an effect to any unique or unusual land forms found on the site? (i.e., cliffs, dunes, geological) ■ NO ☐ YES			
Other impacts	☐	☐	☐ YES ☐ NO

IMPACT ON WATER	1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact be Mitigated by Project Change
3. Will Proposed Action affect any water body designated? (Under Articles 15, 24, 25 of the Environmental Conservation Law, ECL) ■ NO ☐ YES			
Examples that would apply to column 2			
Developable area of site contains a protected water body.	☐	☐	☐ YES ☐ NO
Dredging more than 100 cubic yards of material from channel of a protected stream.	☐	☐	☐ YES ☐ NO
Extension of utility distribution facilities through a protected water body.	☐	☐	☐ YES ☐ NO
Construction in a designated freshwater or tidal wetland.	☐	☐	☐ YES ☐ NO
Other impacts _____	☐	☐	☐ YES ☐ NO
4. Will Proposed Action affect any non-protected existing or new body of water? ■ NO ☐ YES			
Examples that would apply to column 2			
A 10% increase or decrease in the surface area of any body of water or more than a 10-acre increase or decrease.	☐	☐	☐ YES ☐ NO
Construction of a body of water that exceeds 10 acres of surface area.	☐	☐	☐ YES ☐ NO
Other impacts _____	☐	☐	☐ YES ☐ NO
5. Will Proposed Action affect surface or ground water quality or quantity? ☐ NO ■ YES			
Examples that would apply to column 2			
Proposed Action will require a discharge permit.	☐	☐	☐ YES ☐ NO
Proposed Action requires use of a source of water that does not have approval to serve proposed (project) action.	☐	☐	☐ YES ☐ NO
Proposed Action requires water supply from wells with greater than 45 gallons per minute pumping capacity.	☐	☐	☐ YES ☐ NO
Construction or operation causing any contamination of a water supply system.	☐	☐	☐ YES ☐ NO
Proposed Action will adversely affect groundwater.	☐	☐	☐ YES ☐ NO
Liquid effluent will be conveyed off the site to facilities which presently do not exist or have inadequate capacity.	☐	☐	☐ YES ☐ NO
Proposed Action would use water in excess of 20,000 gallons per day.	■	☐	☐ YES ☐ NO
Proposed Action will likely cause siltation or other discharge into an existing body of water to the extent that there will be an obvious visual contrast to natural conditions.	☐	☐	☐ YES ☐ NO
Proposed Action will require the storage of petroleum or chemical products greater than 1,100 gallons.	☐	☐	☐ YES ☐ NO
Proposed Action will allow residential uses in areas without water and/or sewer services.	☐	☐	☐ YES ☐ NO
Proposed Action locates commercial and/or industrial uses which may require new or expansion of existing waste treatment and/or storage facilities.	☐	☐	☐ YES ☐ NO
Other impacts _____	☐	☐	☐ YES ☐ NO

	1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact be Mitigated by Project Change
6. Will Proposed Action alter drainage flow or patterns, or surface water runoff? ■ NO ☐ YES			
Examples that would apply to column 2			
Proposed Action would change flood water flows.	☐	☐	☐ YES ☐ NO
Proposed Action may cause substantial erosion.	☐	☐	☐ YES ☐ NO
Proposed Action is incompatible with existing drainage patterns.	☐	☐	☐ YES ☐ NO
Proposed Action will allow development in a designated floodway.	☐	☐	☐ YES ☐ NO
Other impacts _____	☐	☐	☐ YES ☐ NO
IMPACT ON AIR			
7. Will Proposed Action affect air quality? **See Chapter 6, "Air Quality."** ■ NO ☐ YES			
Examples that would apply to column 2			
Proposed Action will induce 1,000 or more vehicle trips in any given hour.	☐	☐	☐ YES ☐ NO
Proposed Action will result in the incineration of more than 1 ton of refuse per hour.	☐	☐	☐ YES ☐ NO
Emission rate of total contaminants will exceed 5 lbs. Per hour or a heat source producing more than 10 million BTU's per hour.	☐	☐	☐ YES ☐ NO
Proposed Action will allow an increase in the amount of land committed to industrial use.	☐	☐	☐ YES ☐ NO
Proposed Action will allow an increase in the density of industrial development within existing industrial areas.	☐	☐	☐ YES ☐ NO
Other impacts _____	☐	☐	☐ YES ☐ NO
IMPACT ON PLANTS AND ANIMALS			
8. Will Proposed Action affect threatened or endangered species? ■ NO ☐ YES			
Examples that would apply to column 2			
Reduction of one or more species listed on the New York or Federal list, using the site, over or near the site, or found on the site.	☐	☐	☐ YES ☐ NO
Removal or any portion of a critical or significant wildlife habitat.	☐	☐	☐ YES ☐ NO
Application of pesticide or herbicide more than twice a year, other than for agricultural purposes.	☐	☐	☐ YES ☐ NO
Other impacts _____	☐	☐	☐ YES ☐ NO
9. Will Proposed Action substantially affect non-threatened or non-endangered species? ■ NO ☐ YES			
Examples that would apply to column 2			
Proposed Action would substantially interfere with any resident or migratory fish, shellfish, or wildlife species.	☐	☐	☐ YES ☐ NO
Proposed Action requires the removal or more than 10 acres of mature forest (over 100 years of age) or other locally important vegetation.	☐	☐	☐ YES ☐ NO
Other impacts _____	☐	☐	☐ YES ☐ NO
IMPACT ON AGRICULTURAL LAND RESOURCES			
10. Will Proposed Action affect agricultural land resources? ■ NO ☐ YES			
Examples that would apply to column 2			
The Proposed Action would sever, cross or limit access to agricultural land (includes cropland, hayfields, pasture, vineyard, orchard, etc.)	☐	☐	☐ YES ☐ NO
Construction activity would excavate or compact the soil profile of agricultural land.	☐	☐	☐ YES ☐ NO
The Proposed Action would irreversibly convert more than 10 acres of agricultural land or, if located in an Agricultural District, more than 2.5 acres of agricultural land.	☐	☐	☐ YES ☐ NO
The Proposed Action would disrupt or prevent installation of agricultural land management systems (e.g. subsurface drain lines, outlet ditches, strip cropping) or create a need for such measures (e.g. cause a farm field to drain poorly due to increased runoff).	☐	☐	☐ YES ☐ NO
Other impacts _____	☐	☐	☐ YES ☐ NO

	1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact be Mitigated by Project Change
IMPACT ON AESTHETIC RESOURCES			
11. Will Proposed Action affect aesthetic resources? (If necessary, use the Visual EAR Addendum Section 617.20, Appendix B.) ■ NO ☐ YES			
Examples that would apply to column 2			
Proposed land uses, or project components obviously different from or in sharp contrast to current surrounding land use patterns, whether man-made or natural.	☐	☐	☐ YES ☐ NO
Proposed land uses, project components visible to users of aesthetic resources which will eliminate or significantly reduce their enjoyment of the aesthetic qualities of that resource.	☐	☐	☐ YES ☐ NO
Project components that will result in the elimination or significant screening of scenic views known to be important to the area.	☐	☐	☐ YES ☐ NO
Other impacts	☐	☐	☐ YES ☐ NO
IMPACT ON HISTORIC AND ARCHEOLOGICAL RESOURCES			
12. Will Proposed Action impact any site or structure of historic, prehistoric or paleontological importance? ☐ NO ■ YES **See Chapter 3, "Historic and Cultural Resources."**			
Examples that would apply to column 2			
Proposed Action occurring wholly or partially within or substantially contiguous to any facility or site listed on the State or National Register of Historic places.	☐	☐	☐ YES ☐ NO
Any impact to an archeological site or fossil bed located within the project site.	☐	☐	☐ YES ☐ NO
Proposed Action will occur in an area designated as sensitive for archeological sites on the NYS Site Inventory.	☐	☐	☐ YES ☐ NO
Other impacts: **Proposed project would involve demolition of a structure determined to be eligible for inclusion on the State and National Registers of Historic Places.**	■	☐	☐ YES ☐ NO
IMPACT ON OPEN SPACE AND RECREATION			
13. Will Proposed Action affect the quantity or quality of existing or future open spaces or recreational opportunities? ■ NO ☐ YES			
Examples that would apply to column 2			
The permanent foreclosure of a future recreational opportunity.	☐	☐	☐ YES ☐ NO
A major reduction of an open space important to the community.	☐	☐	☐ YES ☐ NO
Other impacts	☐	☐	☐ YES ☐ NO

IMPACT ON CRITICAL ENVIRONMENTAL AREAS

14. Will Proposed Action impact the exceptional or unique characteristics of a critical environmental area (CEA) established pursuant to subdivision 6NYCRR 617.14(g)? ■ NO ☐ YES

List the environmental characteristics that caused the designation of the CEA

Examples that would apply to column 2			
Proposed Action to locate within the CEA?	☐	☐	☐ YES ☐ NO
Proposed Action will result in a reduction in the quantity of the resource?	☐	☐	☐ YES ☐ NO
Proposed Action will result in a reduction in the quality of the resource?	☐	☐	☐ YES ☐ NO
Proposed Action will impact the use, function or enjoyment of the resource?	☐	☐	☐ YES ☐ NO
Other impacts _____	☐	☐	☐ YES ☐ NO

IMPACT ON TRANSPORTATION

15. Will there be an effect to existing transportation systems? ■ NO ☐ YES

See Chapter 5, "Transportation."

Examples that would apply to column 2			
Alteration of present patterns of movement of people and/or goods.	☐	☐	☐ YES ☐ NO
Proposed Action would result in major traffic problems.	☐	☐	☐ YES ☐ NO
Other impacts _____	☐	☐	☐ YES ☐ NO

IMPACT ON ENERGY

16. Will Proposed Action affect the community's sources of fuel or energy supply? ■ NO ☐ YES

Examples that would apply to column 2			
Proposed Action will cause a greater than 5% increase in the use of any form of energy in the municipality.	☐	☐	☐ YES ☐ NO
Proposed Action will require the creation or extension of an energy transmission or supply system to serve more than 50 single or two family residences or to serve a major commercial or industrial use.	☐	☐	☐ YES ☐ NO
Other impacts _____	☐	☐	☐ YES ☐ NO

NOISE AND ODOR IMPACT

17. Will there be objectionable odors, noise, or vibration as a result of the Proposed Action? ■ NO ☐ YES

See Chapter 7, "Noise."

Examples that would apply to column 2			
Blasting within 1,500 feet of a hospital, school or other sensitive facility.	☐	☐	☐ YES ☐ NO
Odors will occur routinely (more than one hour per day).	☐	☐	☐ YES ☐ NO
Proposed Action will produce operating noise exceeding the local ambient noise levels for noise outside of structures.	☐	☐	☐ YES ☐ NO
Proposed Action will remove natural barriers that would act as a noise screen.	☐	☐	☐ YES ☐ NO
Other impacts _____	☐	☐	☐ YES ☐ NO

IMPACT ON PUBLIC HEALTH			
18. Will Proposed Action affect public health and safety? ■ NO ☐ YES **Examples** that would apply to column 2			
Proposed Action may cause a risk of explosion or release of hazardous substances (i.e. oil, pesticides, chemicals, radiation, etc.) in the event of accident or upset conditions, or there may be a chronic low level discharge or emission.	☐	☐	☐ YES ☐ NO
Proposed Action may result in the burial of "hazardous wastes" in any form (i.e. toxic, poisonous, highly reactive, radioactive, irritating, infectious, etc.)	☐	☐	☐ YES ☐ NO
Storage facilities for one million or more gallons of liquefied natural gas or other flammable liquids.	☐	☐	☐ YES ☐ NO
Proposed Action may result in the excavation or other disturbance within 2,000 feet of a site used for the disposal of solid or hazardous waste.	☐	☐	☐ YES ☐ NO
Other impacts _____			
IMPACT ON GROWTH AND CHARACTER OF COMMUNITY OR NEIGHBORHOOD			
19. Will Proposed Action affect the character of the existing community? ■ NO ☐ YES **Examples** that would apply to column 2			
The permanent population of the city, town or village in which the project is located is likely to grow by more than 5%.	☐	☐	☐ YES ☐ NO
The municipal budget for capital expenditures or operating services will increase by more than 5% per year as a result of this project.	☐	☐	☐ YES ☐ NO
Proposed Action will conflict with officially adopted plans or goals.	☐	☐	☐ YES ☐ NO
Proposed Action will cause a change in the density of land use.	☐	☐	☐ YES ☐ NO
Proposed Action will replace or eliminate existing facilities, structures or areas of historic importance to the community.	☐	☐	☐ YES ☐ NO
Development will create a demand for additional community services (e.g. schools, police and fire, etc.)	☐	☐	☐ YES ☐ NO
Proposed Action will set an important precedent for future projects.	☐	☐	☐ YES ☐ NO
Proposed Action will create or eliminate employment.	☐	☐	☐ YES ☐ NO
Other impacts _____			

20 Is there, or is there likely to be, public controversy related to potential adverse environmental impacts? ■NO ☐YES

If Any Action in Part 2 is identified as a Potential Large Impact or If you Cannot Determine the Magnitude of Impact, Proceed to Part 3

A. INTRODUCTION

The New York City School Construction Authority (SCA) proposes the site selection, acquisition, acceptance of construction funding, and construction of a new Primary School (P.S.) facility with the capacity of approximately 1,110 seats in the Corona section of Queens. The proposed school would serve Community School District (CSD) 24 and would accommodate children in pre-kindergarten through fifth grade, as well as District 75 special education students. The project site is an approximately 55,000-square-foot (sf) lot located at 96-18 43rd Avenue, between 97th Place and Junction Boulevard (Block 1613, Lot 17), and currently contains a one- to three-story complex of buildings occupied by live poultry market and industrial tenants.

Although design plans for the new building have not been finalized, it is expected that the proposed school building would contain approximately 131,500 gross square feet (gsf) and would be five stories and up to 71 feet in height (up to 85 feet to the top of the mechanical space). An approximately 14,500-sf outdoor playground area would be located in the northern portion of the site along 43rd Avenue.

The proposed project is located within an M1-1 zoning district; schools are not permitted as-of-right in manufacturing districts as per Section 42-00 of the Zoning Resolution. Therefore, the project would require a zoning use override from the Deputy Mayor for Economic Development. While the design of the school is not yet final, preliminary plans show that the project could result in zoning bulk non-compliances with respect to height and setback and yard requirements, which would require zoning bulk overrides. SCA is currently coordinating with the New York City Department of Transportation and the New York City Department of City Planning to demap the portion of the street within the project site boundary that is currently mapped as an extension of the existing street bed of 44th Avenue. The SCA will undertake the New York City Uniform Land Use Review Procedure (ULURP) for the change to a New York City map upon completion of the City Environmental Quality Review (CEQR) process. Funding for acquisition, design and construction of this project would be provided in the New York City Department of Education's Capital Plan for Fiscal Years 2010 to 2014.

For the purpose of this environmental review that follows the guidelines of the *City Environmental Quality Review (CEQR) Technical Manual*, it is assumed that construction of the proposed project would begin in 2012 and the student occupancy would begin in September 2015. Accordingly, 2015 has been selected as the Build Year for which the environmental assessment areas have been analyzed. It is assumed that if the proposed project does not proceed, the project site would remain in its current state (the "No Action," or "No Build" scenario).

Independent of this proposed project, the SCA has also proposed to develop a new 785-seat Intermediate School (I.S.) at 97-36 43rd Avenue (Q311), one block east of the proposed project. If approved, the new I.S. at 97-36 43rd Avenue is currently anticipated to be completed by the proposed project's Build Year, 2015. However, in the event that the new I.S. is not constructed

by 2015, this environmental analysis considers two analysis scenarios for the future without the proposed project—Scenario One includes construction of the 785-seat I.S. by 2015, and Scenario Two assumes that the new I.S. is not constructed by 2015.

B. PROBABLE IMPACTS OF THE PROPOSED PROJECT

LAND USE

The proposed school would improve land use conditions in the study area and enliven the project block by providing a new educational facility on a site that currently has industrial uses and contains a warehouse. At up to five stories in height, the proposed facility would be slightly taller than but generally consistent with the height of other structures in the study area. The proposed school would be compatible with the mix of uses currently found in the study area, including the residential, commercial, and community facility uses. The proposed school would also be compatible with the new 785-seat I.S. at 97-36 43rd Avenue, one block east of the proposed project, in the event that it is constructed by 2015 (Scenario One).

The project site is also adjacent to industrial and community facility uses, including light industrial/manufacturing, auto related uses, and a firehouse. While the proposed school would be adjacent to existing industrial and transportation uses—as well as residential and commercial uses, the school's outdoor facilities, including courtyard and playground areas, would be buffered from adjacent uses by fencing and other built enclosures. Therefore, the development of the proposed school facility is not expected to affect adjacent land uses. Furthermore, the proposed project would not result in any impacts to land use, zoning, or community character under Scenario Two, in which the existing industrial use remains at 96-18 43rd Avenue by 2015.

ZONING AND PUBLIC POLICY

The proposed project would replace an industrial use with a community facility that is allowed in M1-1 zoning districts by Special Permit from the Board of Standards and Appeals pursuant to Section 42-31 of the New York City Zoning Resolution. Instead of a Special Permit, the SCA would seek approval of a zoning use override from the Deputy Mayor for Economic Development to permit the project to proceed. While the design of the school is not yet final, preliminary plans show that the project could result in zoning bulk non-compliances with respect to height and setback and yard requirements, which would require zoning bulk overrides.

As described above, the project site also contains a portion of a mapped street along 44th Avenue, which is currently being used by the existing warehouse as a driveway and loading area. SCA is currently coordinating with the New York City Department of Transportation (NYCDOT) and the New York City Department of City Planning (DCP) to demap the portion of the street within the project site boundary that is currently mapped as an extension of the existing street bed of 44th Avenue. The SCA will undertake ULURP demapping for the change to a New York City map upon completion of the CEQR process. If the zoning overrides are granted, it would apply only to the project site and would have no impact on neighboring zoning or property. Therefore, the proposed project would have no significant adverse impacts to local zoning.

COMMUNITY CHARACTER

The complex of industrial buildings currently on the site would be replaced with a new school that would be slightly taller than the existing and surrounding buildings, but would be compatible with the mix of residential, industrial, commercial, and community facility uses in the surrounding area. The increase in traffic volumes with the proposed project is not expected to result in any significant adverse impacts to the character of the community.

COMMUNITY FACILITIES

The new school would provide additional community resources for area residents, and is expected to relieve overcrowding in nearby elementary schools. The Police and Fire Departments monitor conditions to determine how their personnel are deployed. Decisions to alter existing deployment patterns would be made only in response to a demonstrated change in demand. Police and fire services would be adjusted as deemed necessary by both agencies, and no significant adverse impacts to police or fire services are expected to result from the proposed project.

HISTORIC AND CULTURAL RESOURCES

ARCHAEOLOGICAL RESOURCES

AKRF prepared a disturbance memorandum/preliminary archaeological assessment for the project site in December 2010. The memorandum was reviewed by the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP). Since the project site has been determined to have low sensitivity for precontact and historic period archaeological resources, the proposed project would have no adverse impacts on such resources and no further analysis is required.

ARCHITECTURAL RESOURCES

The former Tiffany Studios Complex—the building complex that occupies the current project site—is the remaining portion of Tiffany's Corona factory complex. The demolition of the former Tiffany Studios Complex, a known architectural resource, would constitute an adverse impact under Section 14.09 of the New York State Historic Preservation Law. As such, SCA is consulting with OPRHP regarding the proposed project and specific measures that would be included as part of the proposed project to mitigate the adverse impacts. These measures would be established in a Letter of Resolution (LOR) between the SCA and OPRHP before construction begins and would include documenting and commemorating the former Tiffany Studios Complex through HABS Level II documentation, and the installation of a commemorative plaque on the new school building identifying the site of the former Tiffany Studios Complex and its history in the neighborhood.

In terms of the project's effect the surrounding area, the removal of the former Tiffany Studios Complex would not adversely impact the area's cultural and historic resources because the complex has no meaningful visual or contextual relationship with Fire Engine Company 289/Ladder Company 138, an architectural resource located approximately 310 feet from the project site. The fire station is separated from the project site by a number of intervening buildings that preclude a visual relationship. As such, the proposed project would not affect views to this architectural resource or otherwise affect its visual prominence. Further, the Fire Engine Company 289/Ladder Company 138 building is at too great a distance from the project site to be adversely affected by inadvertent construction-related impacts from the proposed

project. Therefore, the proposed project would not adversely impact cultural and historic resources in the study area.

URBAN DESIGN AND VISUAL RESOURCES

URBAN DESIGN

Although the proposed project would change the height, use, bulk, and lot coverage of the building on the project site, these changes would not be considered adverse, as the proposed school would be constructed in an area characterized by a variety of building types, heights, sizes, and uses. While the proposed project would not comply with certain aspects of the zoning regulations, the anticipated changes to the pedestrian experience would not be considered likely to disturb the vitality, walkability, or visual character of the project site. Overall, the new school building would be expected to positively affect the character of the adjacent streetscape by replacing the one- to three-story brick industrial building complex with a new school building and playgrounds. The school would enliven the area by introducing new pedestrian activity to the project site and surrounding area. In addition, like the planned I.S. 311 at 97-36 43rd Avenue that will be built in the No Action condition (Scenario One), and the Fire Engine Company 289/Ladder Company 138, the proposed project would add another institutional building to the area. It would be taller than most other nearby buildings, but similar in height to the planned I.S. 311. However, study area buildings range in height from one to five stories. Therefore, there would be no impacts to these urban design features as a result of the proposed project. Finally, because the proposed school building would be constructed on an existing block and would not alter street patterns or block shapes in the study area, there would be no impacts to natural features as a result of the proposed project. The new school building would also not be expected to adversely affect wind or sunlight conditions in the surrounding area.

It is therefore concluded that the proposed project would not have significant adverse impacts on urban design.

VISUAL RESOURCES

As there are no visual resources on the project site and there are no visual resources in the study are visible from the project site, the proposed project would have no adverse impacts on such resources. Views to the fire station would remain available from existing vantage points along the sidewalk near the fire station. The new school would not adversely affect these views. The proposed school would also not obstruct views in the study area. Views to the fire station on 43rd Avenue and 97th Place would be maintained from existing vantage points, with views of its principal façade on 43rd Avenue remaining unchanged. Therefore, the proposed project would not adversely affect this visual resource. There are no significant view corridors and no other visual resources in the study area. Therefore, there would be no adverse impacts with the proposed project.

TRANSPORTATION

TRAFFIC

Traffic impacts for both signalized and unsignalized intersections are considered significant and require examination of improvements if they result in an increase of 5 or more seconds of delay in a lane group over No Build levels beyond mid-level of service (LOS) D. For No Build LOS E,

a 4-second increase in delay is considered significant. For No Build LOS F, a 3-second increase in delay is considered significant. Impacts are also considered significant if levels of service decrease from acceptable LOS A, B, or C in the No Build condition to marginally unacceptable LOS D, or unacceptable LOS E or F in the future Build condition. In the event of such impacts, potential improvement measures will be examined. In addition, the 2010 *CEQR Technical Manual* states that for the minor approach to trigger significant impacts at an unsignalized intersection, a total of 90 passenger car equivalents (PCEs) must be identified in the future Build condition in any peak hour.

Scenario One

For the streets around the site, capacities at most of the approaches would be sufficient to accommodate these increases. However, based on the impact criteria discussed earlier, the proposed project could cause significant adverse impacts at the following signalized intersection approaches/lane-groups during the two peak hours analyzed:

- The northbound and southbound approaches at the intersection of Roosevelt Avenue and Junction Boulevard during the AM and PM peak periods; and
- The southbound approach at the intersection of 43rd Avenue and Junction Boulevard during the AM and PM peak periods.

The proposed project could cause significant adverse impacts at the following unsignalized intersection approaches/lane-groups during the two peak hours analyzed:

- The westbound approach at the intersection of 44th Avenue and Junction Boulevard during the AM and PM peak periods;
- The westbound approach at the intersection of 44th Avenue and National Street during the PM peak period; and
- The eastbound approach at the intersection of 45th Avenue and National Street during the AM and PM peak periods.

Scenario Two

For the streets around the site, capacities at most of the approaches would be sufficient to accommodate these increases. However, based on the impact criteria discussed earlier, the proposed project could cause significant adverse impacts at the following signalized intersection approaches/lane-groups during the two peak hours analyzed:

- The northbound and southbound approaches at the intersection of Roosevelt Avenue and Junction Boulevard during the AM and PM peak periods; and
- The southbound approach at the intersection of 43rd Avenue and Junction Boulevard during the AM and PM peak periods.

The proposed project could cause significant adverse impacts at the following signalized intersection approaches/lane-groups during the two peak hours analyzed:

- The westbound approach at the intersection of 44th Avenue and Junction Boulevard during the AM and PM peak periods;
- The westbound approach at the intersection of 44th Avenue and National Street during the PM peak period; and
- The eastbound approach at the intersection of 45th Avenue and National Street during the AM and PM peak period.

Traffic Improvements

In Scenario One, five of the intersections in the study area would experience significant traffic impacts in the Scenario One Build condition as a result of the project-generated traffic. However, with the recommended traffic improvement measures—consisting of signal timing modifications, approach daylighting (prohibiting parking at the approach for approximately 100-feet), and installation of new traffic signals—all of the impacted intersection approaches/lane groups would operate at the same or at better service conditions than the No Build conditions. All of these improvement measures are subject to review and approval by the New York City Department of Transportation (NYCDOT).

In Scenario Two, five of the intersections in the study area would experience significant traffic impacts in the 2015 Scenario Two Build condition as a result of the project-generated traffic. However, with the recommended traffic improvement measures—consisting of signal timing modifications, approach daylighting (prohibiting parking at the approach for approximately 100-feet), and installation of new traffic signals—all of the impacted intersection approaches/lane groups would operate at the same or at better service conditions than the No Build conditions. All of these improvement measures are subject to review and approval by NYCDOT.

TRANSIT OPERATIONS

The project site is served by Junction Boulevard and 103rd Street-Corona Plaza stations (No. 7 subway line) which are operated by New York City Transit (NYCT). The No. 7 train operates between Times Square-42nd Street in Manhattan and Flushing-Main Street in Queens. Based on the travel demand estimates, it was determined that approximately 17 of the project-generated subway trips during each of the AM and PM peak 15-minute periods will be spread across several station elements at the Junction Boulevard and 103rd Street-Corona Plaza Stations. As specified by the 2010 *CEQR Technical Manual*, if the proposed project is considered unlikely to create any noticeable constraints on any subway station elements or to produce a significant transit impact, a quantitative analysis is not required. Consequently, the proposed project is not expected to create any operational constraints on transit.

Based on the travel demand estimates and the availability of Q23, Q58, and Q72 bus routes near the project site, it was determined that no individual bus route would experience 50 or more peak hour bus trips in one direction—the CEQR recommended threshold for undertaking quantified bus analysis. Consequently, it is expected that the project would not create a noticeable constraint on bus capacity; therefore, a quantitative bus analysis is not warranted.

PEDESTRIAN OPERATIONS

Based on CEQR criteria, the analyzed pedestrian elements (crosswalks, corner reservoirs, and sidewalks) would operate at acceptable levels under both the 2015 Scenario One and Scenario Two Build conditions. Therefore, the proposed project would not result in any significant adverse pedestrian impacts under either scenario.

PARKING

The proposed school would not provide any on-site parking spaces and would generate a demand of approximately 38 parking spaces by faculty/staff commuting by auto. Since the on-street parking utilization in the study area during the AM peak hour is expected to be 94 percent in the 2015 Scenario One No Build condition, and 93 percent in the 2015 Scenario Two No Build condition, parking demand generated by the proposed project would be accommodated by

the available on-street parking spaces within the ¼-mile radius of the project site. This would result in an overall on-street parking utilization rate of approximately 96 or 95 percent, respectively, for Scenario One or Two, in the ¼ -mile study area in the 2015 Build conditions.

Therefore, the proposed project would not result in significant adverse impacts to the supply and demand of on-street parking in the study area.

PEDESTRIAN SAFETY

The *CEQR Technical Manual* considers a location to be a high-pedestrian-accident location if it has five or more pedestrian-related accidents in any year of the most recent three-year period for which data are available. Data on traffic accidents at study area intersections were obtained from the New York State Department of Transportation (NYSDOT) for the period between March 31, 2007 and March 31, 2010. During this period, a total of 97 reportable accidents (including 30 pedestrian-related accidents) occurred at the study area intersections. A rolling total of accident data identified the intersections of Junction Boulevard and Roosevelt Avenue and Junction Boulevard and 43rd Avenue as high pedestrian accident locations. At the intersection of Junction Boulevard and Roosevelt Avenue, nearly half of the pedestrian-related accidents were related to vehicles making left or right turning movements while pedestrians were crossing with the signal. The remaining accidents involved vehicles going straight and entering a parked position. With respect to geometric conditions, the intersection of Junction Boulevard and Roosevelt Avenue is signalized and provides three regular crosswalks and one high-visibility (school) crosswalk. In addition, "School Advance" signs are posted at all approaches at this intersection. At the intersection of Junction Boulevard and 43rd Avenue, two of the pedestrian-related accidents were related to vehicle making left or right turning movements while pedestrians were crossing with the signal, two involved vehicles going straight, and two were listed with causes unknown. With respect to geometric conditions, this intersection is signalized and provides three high-visibility (school) crosswalks and one regular crosswalk. In addition, "School Crosswalk" signs are posted at all approaches at this intersection.

With the proposed project, the intersection of Junction Boulevard and Roosevelt Avenue would experience modest increases in vehicular and pedestrian traffic. Measures to increase pedestrian safety at this intersection could include the installation of pedestrian safety sign such as "Turning Vehicles Yield to Pedestrians" on all approaches, repainting the one existing high-visibility (school) crosswalk, and replacing the three approaches with regular crosswalks with high-visibility (school) crosswalks. With these measures in place, the projected increases in vehicular and pedestrian levels at the intersection of Junction Boulevard and Roosevelt Avenue are not expected to result in any significant adverse pedestrian safety impacts.

With the proposed project, the intersection of Junction Boulevard and 43rd Avenue would experience noticeable increases in vehicular and pedestrian traffic. Measures to increase pedestrian safety at this intersection could include the repainting of all three high-visibility (school) crosswalks, painting the one regular crosswalk with a high visibility crosswalk, and the installation of pedestrian safety signs such as "Turning Vehicles Yield to Pedestrians" on all the approaches. In addition, it is anticipated that NYCDOT would coordinate with the relevant agencies regarding school crossing guards to facilitate pedestrians crossing at this intersection during the school related morning and afternoon peak periods. With these measures in place, the projected increases in vehicular and pedestrian levels at the intersection of Junction Boulevard and 43rd Avenue are not anticipated to exacerbate any of the current causes of pedestrian-related accidents.

AIR QUALITY

MOBILE SOURCE ANALYSIS

The results of the carbon monoxide (CO) analysis indicate that the cumulative impact of the proposed project along with the planned I.S. 311 nearby would not result in any violations of the 8-hour CO standard. In addition, the incremental increases in 8-hour average CO concentrations are very small, and consequently would not exceed the *de minimis* CO criteria.

The results of the particulate matter (PM) analyses show that the annual and daily (24-hour) $PM_{2.5}$ cumulative increments are predicted to be well below the interim guidance criteria and, therefore, the proposed project and the planned I.S. 311 would not result in significant adverse impacts from mobile sources.

Therefore, the proposed project and the planned I.S. 311 nearby would not result in significant adverse impacts from mobile sources.

HEAT AND HOT WATER SYSTEM SCREENING ANALYSIS

A screening analysis was performed to assess the potential for air quality impacts from the proposed school's heat and hot water system. The analysis was based on the use of natural gas, the total square footage of the proposed school and assumed height of the exhaust pipe. The nearest distance to an existing building of a similar or greater height was determined to be beyond 400 feet. However, the planned I.S. approximately 220 feet east at 97-36 43rd Avenue would be taller than the proposed project. Therefore, a distance of 220 feet was conservatively used to assess the potential for impacts from both Scenario One and Scenario Two. The use of natural gas would not result in any significant stationary source air quality impacts because the proposed school would be below the maximum permitted size guideline as stated in the 2010 *CEQR Technical Manual.*

INDUSTRIAL SOURCE SCREENING ANALYSIS

A field survey was conducted to determine whether there are any industrial sources in the project study area and to identify potential sites that might have New York City Department of Environmental Protection (NYCDEP) permits. As part of that assessment, which included the 400 foot perimeter of concern for the proposed project, information was requested from NYCDEP on a business found to be operating within the study area that in the past had a permit with the New York State Department of Environmental Conservation (NYSDEC), according to the Envirofacts database. NYCDEP indicated that the business did not have or require any air emissions permits because it no longer engaged in activities that would result in emissions of concern. A follow-up site survey was conducted on January 13, 2011 to identify any new sources of concern that may have moved near the proposed site. No new sources of concern were observed. Therefore, no further analysis is required and there would be no potential for significant adverse impacts from existing manufacturing district businesses on the proposed school. The conclusions of this assessment are applicable to both Scenario One and Scenario Two.

NOISE

The principal impacts of the proposed school on ambient noise levels would result from the use of the school's playground, which is expected to be located along 43rd Avenue at the northern portion

of the project site. The closest noise sensitive receptors to the proposed playground would be the existing residences immediately across 43rd Avenue and the existing residences immediately across 97th Place. The boundary of the proposed playground is approximately 60 feet south of the residences across 43rd Avenue and 40 feet west of the residences across 97th Place.

At the closest sensitive noise receptor sites, the analysis determined that the maximum increase in noise levels with the proposed playground would be approximately 3 dBA. This increase would be barely perceptible, and would not represent a significant impact according to SCA impact criteria.

To aid in noise attenuation in the proposed school interior, its building façade design would include double-glazed windows. It would also include an alternate means of ventilation (i.e., air conditioning). The proposed building's facades, should be designed to provide a composite Outdoor-Indoor Transmission Class (OITC) rating which is designed to evaluate building elements by their ability to reduce the overall loudness of ground or air transportation noise. By adhering to these design requirements, the proposed development's building facades would provide sufficient attenuation to achieve the CEQR interior noise level guideline of 45 dBA L_{10} for classroom uses.

Based upon the $L_{10(1)}$ values measured at the proposed development site, designing the proposed development based on the measures outlined in this report would provide sufficient attenuation to achieve the CEQR interior noise level requirements.

In addition, the building mechanical systems (i.e., heating, ventilation, and air conditioning systems) would be designed to meet all applicable noise regulations and to avoid producing levels that would result in any significant increase in ambient noise levels.

SOIL AND GROUNDWATER CONDITIONS

A Phase I Environmental Site Assessment (ESA), a Phase II Environmental Site Investigation (ESI), and a Supplemental Phase II ESI were completed for the project site in July 2010, October 2010, and July 2011, respectively, to evaluate the environmental conditions.

The Phase I ESA identified on-site recognized environmental conditions (RECs) related to dry wells; suspect buried structures; evidence of a petroleum storage tank; and, historic and on-going manufacturing operations. On-site environmental concerns include the potential presence of asbestos-containing material (ACM), lead-based paint (LBP), and polychlorinated biphenyls (PCBs) in building materials. The Phase I ESA identified off-site RECs including suspect petroleum storage tanks, evidence of an environmental investigation, historic manufacturing and repair facilities, and the presence of volatile organic compounds (VOCs) in groundwater and soil vapor at a nearby property. Based on the results of the Phase I ESA, Phase II ESI activities were completed at the site and included the performance of a geophysical survey, the advancement of soil borings, installation of soil vapor points and temporary groundwater monitoring wells, and the collection of soil, sediment, groundwater and soil gas samples for laboratory analyses.The Supplemental Phase II ESI was conducted to further assess environmental conditions identified in the Phase II ESI.

Analytical data for soil samples identified the presence of petroleum-related volatile organic compounds (VOCs) at concentrations that exceed the regulatory criteria for unrestricted use. Semi-volatile organic compounds (SVOCs) and metals were also present in one or more soil samples at concentrations greater than the regulatory criteria for unrestricted use. Although the detected metals and SVOCs are generally constituents of historic fill, their concentrations in one or more samples indicate that subsurface soil may have been impacted by historical site use.

Chlorinated solvent- and petroleum-related VOCs were detected in groundwater at concentrations greater than State standards. Field indications of a petroleum release (i.e., petroleum-related staining, odors, measureable product) were evident in groundwater beneath the sidewalks north and south of the site. The New York State Department of Environmental Conservation (NYSDEC) was notified of a petroleum release on July 12, 2011 and Spill No. 11-04018 was assigned. It is evident that the release originates from an off-site source to the west of the site.

Various chlorinated- and petroleum-related VOCs were detected in soil vapor at concentrations above anticipated background levels. Additionally, tetrachloroethene (PCE) and trichloroethene (TCE) were detected in soil vapor at concentrations that are greater than the New York State Department of Health Air Guideline Values. The source of the chlorinated solvent-related VOCs was not identified.

The proposed project would not result in impacts from contaminated media and building materials. Prior to construction, an additional investigation would be performed to further characterize soil and groundwater conditions. To minimize the potential for construction workers' exposure, standard industry practices, including appropriate health and safety measures, would be utilized. In addition, a Community Air Monitoring Program would be implemented during all excavation activities.

Soil and water generated during building construction would be properly characterized and managed in accordance with all applicable local, State and Federal regulations. All known and suspected USTs, along with any associated petroleum-impacted soil, would be removed and transported to an appropriately permitted off-site disposal facility. Any suspect ACM, LBP, and PCB-containing materials affected by the proposed development of the site would be identified and properly managed during construction activities. Spill case closure would be pursued with the NYSDEC and any dewatering required during construction would be minimized to mitigate potential influx of contaminated water from off-site sources toward the site. Treatment of any dewatering effluent would be conducted as required prior to discharge to the municipal sewer.

As a preventative measure, a soil vapor barrier and active sub-slab depressurization system would be incorporated into the design of the proposed school to prevent potential migration of organic vapors into the proposed school building. For areas of the project site where exposed soil may exist (i.e., landscaped areas), a 24-inch thick layer of environmentally clean fill would be placed over the soil.

CONSTRUCTION IMPACTS

It is anticipated that construction of the proposed project would require a total of approximately 36 months to complete, although the major external construction activities are expected to be completed within approximately 30 months. Based on current plans, construction would begin in 2012 and be completed in 2015.

Construction would begin with the fencing and screening of the site followed by site demolition, excavation and grading. First any economically salvageable materials are removed. Then the building is deconstructed using large equipment. Typical demolition requires solid temporary walls around the building to prevent accidental dispersal of building materials into areas accessible to the general public. As the building is being deconstructed, bulldozers and front-end loaders would be used to load materials into dump trucks. The demolition debris would be sorted prior to being disposed at landfills to maximize recycling opportunities. Soil would be excavated

from the project site and removed by truck to a licensed landfill or recycling facility. If soil containing petroleum or other contaminated materials is discovered during excavation activities, it would be segregated and disposed of in accordance with all applicable Federal, State, and local regulations and guidelines. Additionally, all material that needs to be removed from the site would be disposed of in accordance with applicable requirements. Piles would be driven, as necessary, to support the building, and pile caps would be formed and concrete poured to build the foundations for the building. Next, the project's structural frame and exterior façade would be erected. Construction of the exterior enclosure, or "shell" of the building would include construction of the building's framework (installation of beams and columns), floor decks, facade (exterior walls and cladding), and roof construction. In the final one to two years of construction, interior finishing would proceed, including electrical work, plumbing, wall and ceiling construction, painting, floorwork, and other finishing items along with the completion of the remaining exterior work, such as utility and façade work. During this time, most work would occur inside, and operation of heavy on-site equipment would be infrequent. As construction nears completion on the interior of the project, final site work would commence and would include construction of the outdoor courtyard and play areas and any landscaping.

The estimated average number of workers on site by phase would be: 40 workers for mobilization, demolition, excavation and foundation; 60 workers for superstructure and exterior work; 120 workers for interior construction and fit-out; and 40 workers for exterior finishing and landscaping. The majority of construction activities would take place Monday through Friday, although if necessary, the delivery or installation of certain equipment could occur on weekend days. Hours of construction are regulated by the New York City Department of Buildings (DOB) and apply in all areas of the City.

Typical equipment used for demolition, excavation, and foundation work would include excavators, bulldozers, backhoes, compaction equipment, tractors, jackhammers, and concrete pumping trucks. Other equipment that would be used include hoist complexes, dump trucks and loaders, concrete trucks, and back hoes. Trucks would deliver concrete and other building materials, and remove excavated material as well as demolition and construction debris. The construction equipment likely to be used during erection of the superstructure would include compressors, cranes, derricks, hoists, bending jigs, and welding machines. During facade and roof construction, hoists may continue to be used. Trucks would remain in use for material supply and construction waste removal. Interior and finishing work would employ a large number of construction workers, and a wide variety of fixtures and supplies would have to be delivered to the site. It is anticipated that trucks would access the project site from 43rd Avenue (if accessing the project area from Junction Boulevard) and 44th Avenue (if accessing the project area from National Street).

Much of the proposed project's construction staging would occur within the project site, thereby limiting any effects on surrounding roadways and pedestrian elements. However, certain construction activities may require the temporary closing, narrowing, or otherwise impeding of 44th Avenue, the sidewalk along 44th Avenue, as well as the sidewalk and parking lane immediately adjacent to the project site along 43rd Avenue and 97th Place.

Under Scenario One, construction of the new I.S. at 97-36 43rd Avenue would proceed along the same timeframe with the construction schedule of the proposed project. It is assumed that while the major external construction activities associated with the two projects would occur at similar times, they would be short-term in nature (lasting less than two years). SCA would coordinate construction activities of the two projects to ensure that access is provided to nearby residences, businesses, and community facilities at all times.

Under Scenario Two, construction of the new I.S. at 97-36 43rd Avenue would proceed at some point in the future. While the construction timetable for the I.S. is unknown under this scenario, it is unlikely that the major external construction activities associated with the two projects would overlap (i.e. last longer than two consecutive years). Furthermore, as described below, the construction activities for both projects will be subject to New York City Local Law 77, which would require the use of best available technology for equipment at the time of construction. Therefore, once one of the planned schools is operational, no construction–related impacts associated with the other planned school would occur with these measures in place.

As with most development in New York City, construction of the proposed project may be disruptive to the surrounding area for limited periods of time throughout the construction period. The following analyses describe the proposed project's temporary effects on transportation systems, air quality, noise, historic resources, hazardous materials, natural resources, land use and neighborhood character, socioeconomic conditions, community facilities, open space, and infrastructure, as well as the economic benefits associated with the construction. The analysis concluded that the proposed project would not result in extensive construction-related effects with respect to any of the analysis areas of concern. Therefore, no significant adverse impacts are expected to occur as a result of construction. ✳

A. INTRODUCTION

The New York City School Construction Authority (SCA) proposes the site selection, acquisition, acceptance of construction funding, and construction of a new Primary School (P.S.) facility with the capacity of approximately 1,110 seats in the Corona section of Queens (see **Figure 1-1**). The proposed school would serve Community School District (CSD) 24 and would accommodate children in pre-kindergarten through fifth grade, as well as District 75 special education students. The project site is an approximately 55,000-square-foot (sf) lot located at 96-18 43rd Avenue, between 97th Place and Junction Boulevard (Block 1613, Lot 17) (see **Figure 1-2**), and currently contains a one- to three-story complex of buildings occupied by a live poultry market and industrial tenants.

Although design plans for the new building have not been finalized, it is expected that the proposed school building would contain approximately 131,500 gross square feet (gsf) and would be five stories and up to 71 feet in height (85 feet to the top of the mechanical space). An approximately 14,500-sf outdoor playground area would be located in the northern portion of the site along 43rd Avenue (see **Figure 1-3**).

The proposed project is located within an M1-1 zoning district; schools are not permitted as-of-right in manufacturing districts as per Section 42-00 of the Zoning Resolution. Therefore, the project would require a zoning use override from the Deputy Mayor for Economic Development. While the design of the school is not yet final, preliminary plans show that the project could result in zoning bulk non-compliances with respect to height and setback and yard requirements, which would require zoning bulk overrides. SCA is currently coordinating with the New York City Department of Transportation and the New York City Department of City Planning to demap the portion of the street within the project site boundary that is currently mapped as an extension of the existing street bed of 44th Avenue. The SCA will undertake the New York City Uniform Land Use Review Procedure (ULURP) for the change to a New York City map upon completion of the City Environmental Quality Review (CEQR) process. Funding for acquisition, design and construction of this project would be provided in the New York City Department of Education's Capital Plan for Fiscal Years 2010 to 2014.

B. PURPOSE AND NEED

Construction of the new school facility has been proposed to provide additional public primary school capacity in CSD 24. According to the latest DOE school utilization profile for 2009 to 2010, primary schools in CSD 24 are operating at 100 percent capacity, with a district-wide capacity of 27,835 and a district-wide enrollment of 27,887. Three primary schools are located near the project site, including P.S. 307/Pioneer Academy, located approximately 0.2 miles from the project site at 40-20 100th Street, P.S. 16, located approximately 0.3 miles from the project site at 41-15 104th Street, and P.S. 19, located approximately 285 feet from the project site at

98-02 Roosevelt Avenue. The 2009 – 2010 enrollment and utilization profile for these schools is shown in Table 1-1, below.

Table 1-1
2009 – 2010 School Utilization

	Capacity[1]	Enrollment	Utilization (%)
P.S. 307/Pioneer Academy[2]	974	531	55
P.S. 16	1,312	1,483	113
P.S. 19	1,348	1,451	108
P.S. 19 mini-school	280	296	106
P.S. 19 transportable unit	184	235	128
CSD 24 (primary schools)	*27,835*	*27,887*	*100*

Notes: 1 Historical Method data is shown.
2 P.S. 307 recently opened and enrollment is increasing annually. Thus, the enrollment and utilization rate for P.S. 307 does not reflect full grade range.

Sources: *Enrollment, Capacity and Utilization Report, 2009 – 2010*, New York City Department of Education, September 2010.

It should be noted that P.S. 307 recently opened and enrollment is increasing annually; therefore, the enrollment and utilization rate for P.S. 307 does not reflect full grade range. In addition, P.S. 16 temporarily placed students at P.S. 307 for the 2010-2011 year and will be annexed to P.S. 269 for the 2011-2012 year.

C. ANALYSIS FRAMEWORK

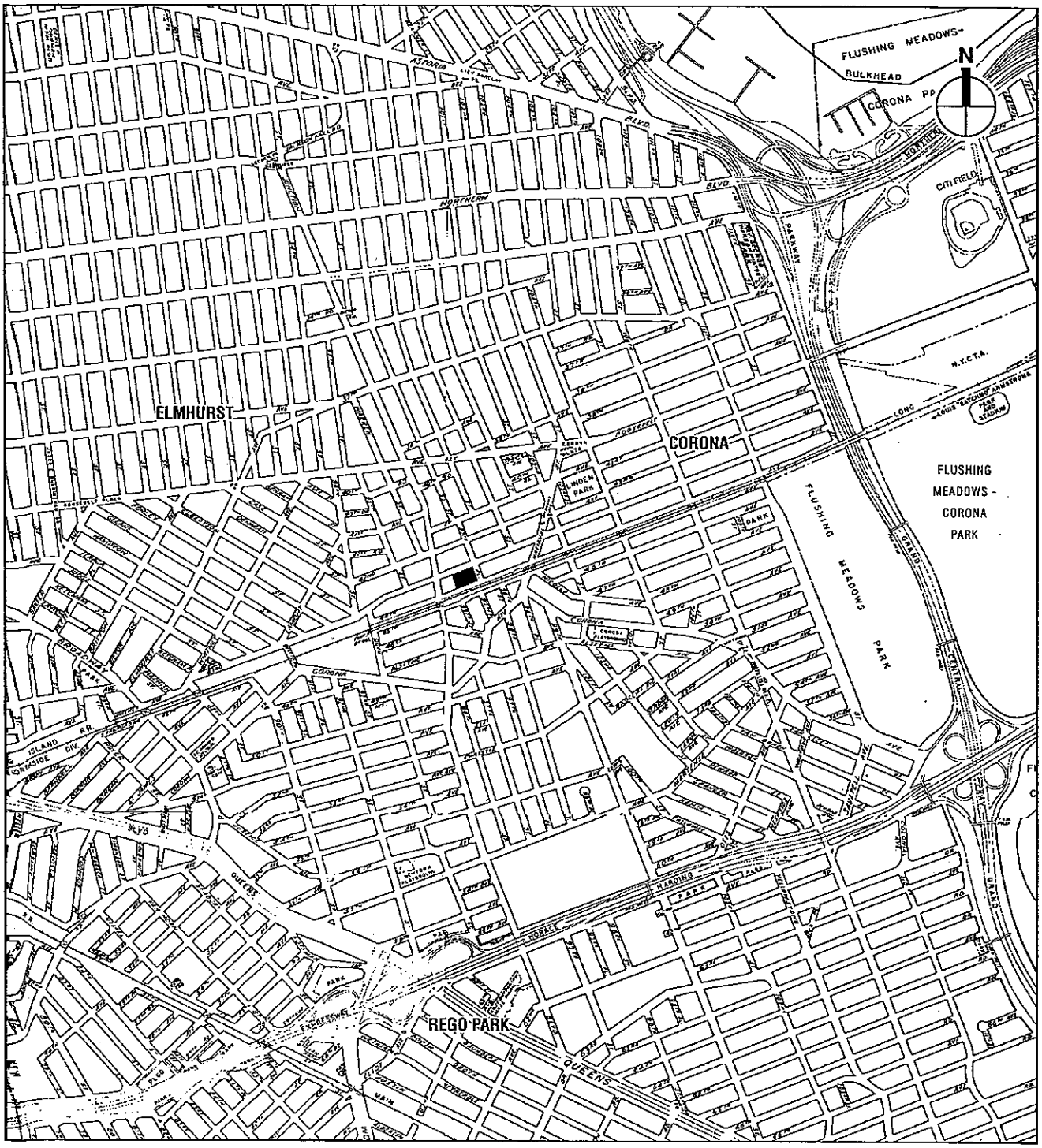
For the purpose of this environmental review, it is assumed that construction of the proposed project would begin in 2012 and the student occupancy would begin in September 2015. Accordingly, 2015 has been selected as the Build Year for which the environmental assessment areas have been analyzed. It is assumed that if the proposed project does not proceed, the project site would remain in its current state (the "No Action" scenario).

SCA is currently pursuing plans to develop a new 785-seat Intermediate School (I.S.) at 97-36 43rd Avenue (Q311), one block east of the proposed project. The new I.S. at 97-36 43rd Avenue is currently anticipated to be completed by the proposed project's Build Year, 2015. However, in the event that the new I.S. 311 is not constructed by 2015, this environmental analysis considers two analysis scenarios for the future without the proposed project—Scenario One includes construction of the 785-seat I.S. by 2015, and Scenario Two assumes that the new I.S. is not constructed by 2015.

D. PROJECT SITE AND PROPOSED SCHOOL

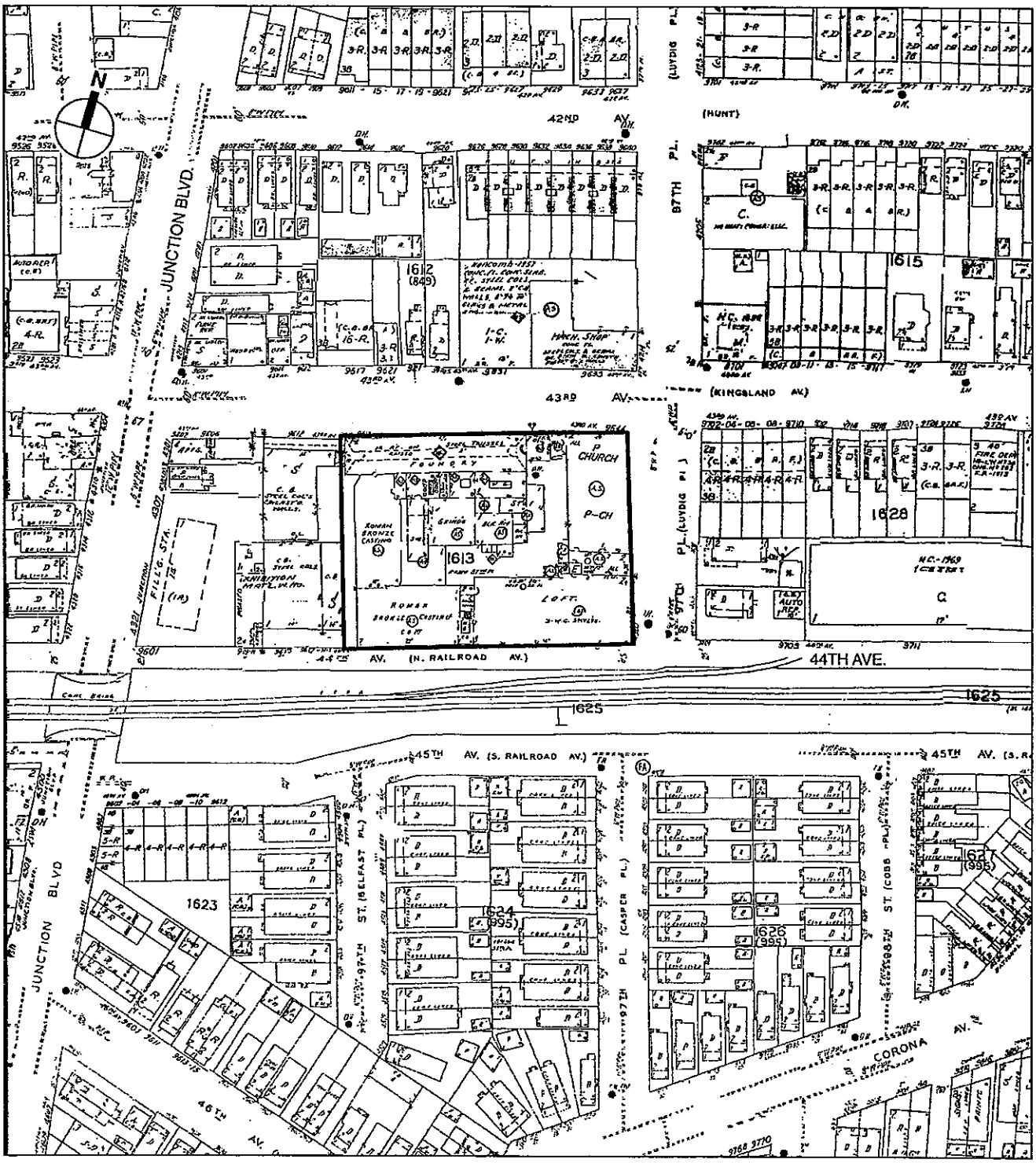
The approximately 55,000-sf project site is located in the Corona section of Queens. The site, consisting of Block 1613, Lot 17, is a through-lot located on the east end of the block bounded by 44th Avenue to the south, 43rd Avenue to the north, 97th Place to the east, and Junction Boulevard to the west. The project site currently contains a one- to three-story, 76,805 square foot (sf) complex of buildings occupied by a live poultry market and industrial tenants. These tenants would vacate the property upon transfer of property ownership to the SCA.

The project site is adjacent to the Long Island Rail Road/Port Washington branch railroad tracks, which extend between and parallel to 44th and 45th Avenues. The site is located in a



SCA P.S. 315 (Q315)

Project Location
Figure 1-1



SCA P.S. 315 (Q315)

Sanborn Map
Figure 1-2

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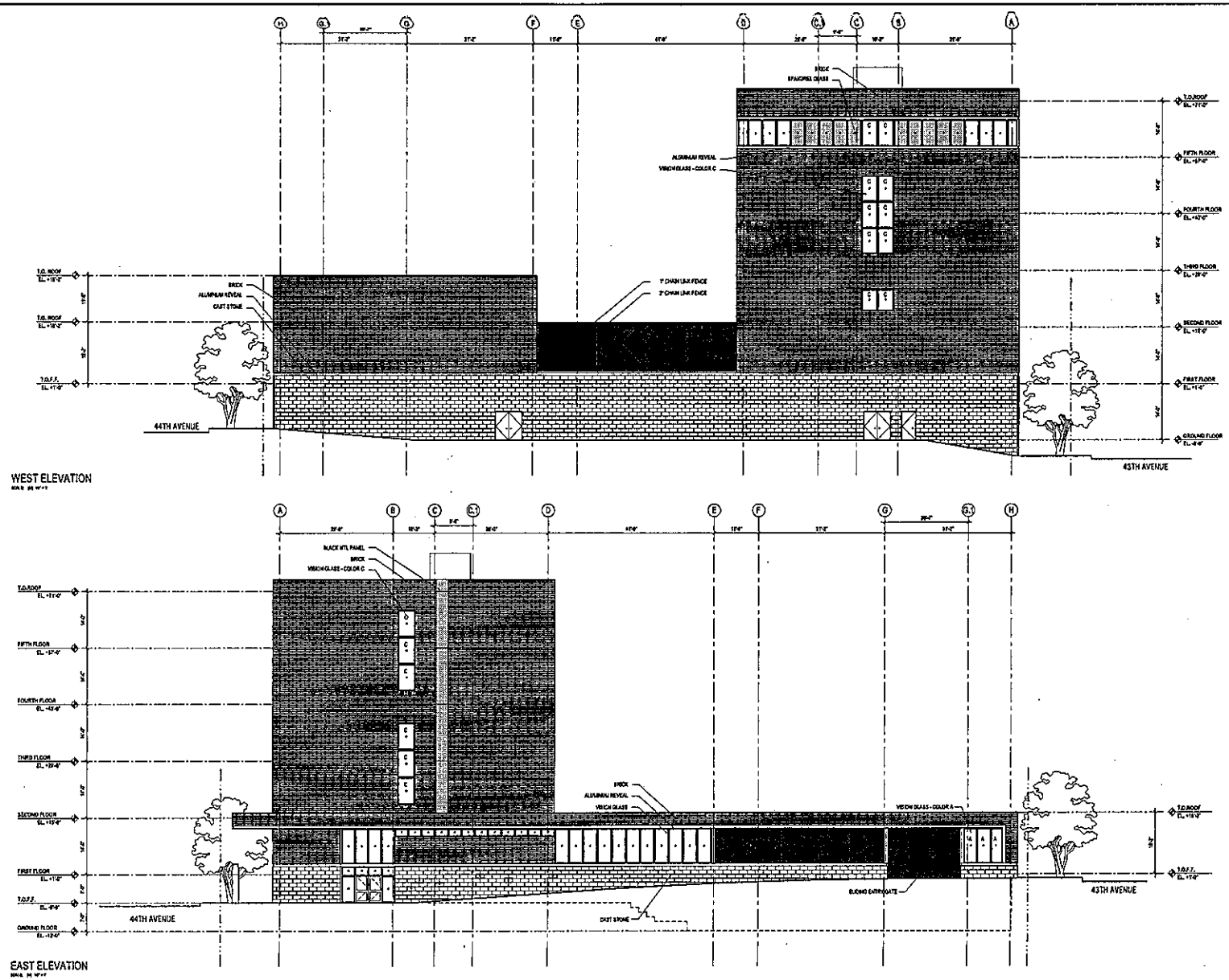


For Illustrative Purposes

SCA P.S. 315 (Q315)

Proposed Project - Elevations

Figure 1-3

predominantly residential area, though there are also a number of industrial uses along 44th Avenue and 97th Place within the study area.

With the proposed project, the existing industrial structures on the project site would be removed. As mentioned above, design plans for the proposed project are not yet finalized; however, it is expected that the proposed school building would contain approximately 131,500 gsf and would be five stories and up to 71 feet in height (85 feet to the top of the mechanical space). The main entrance to the school would be located on the corner of 97th Place and 44th Avenue. An approximately 14,500-sf outdoor playground area would be located in the northern portion of the site along 43rd Avenue.

The new school facility would contain approximately 1,110 seats for students in pre-kindergarten through fifth grade, including approximately 96 seats for special education students, and would contain classrooms, administrative spaces, a gymnasium, library, cafeteria, and kitchen facilities. The new school would employ approximately 85 teachers, administrators, and support staff. The school would operate during normal school hours, likely between 8:00 AM to 3:30 PM between September and June. ✳

A. INTRODUCTION

This chapter considers the effects of the proposed project on land use, zoning, and community character. The proposed project would entail demolition of a one- to three-story complex of buildings and the construction of a new five-story (plus cellar), approximately 1,110-seat Primary School (P.S.) facility for students in pre-kindergarten through fifth grade in Corona, Queens. Land use issues associated with the proposed project include potential changes in local land uses and neighborhood land use patterns. Zoning and public policy issues include the compatibility of the proposed project with public policies and zoning requirements.

As described below, this analysis concludes that construction of the proposed project would be compatible with, and supportive of, existing land uses and ongoing land use trends in the study area, and would not result in any significant adverse impacts to land use, zoning, or community character.

B. METHODOLOGY

The approximately 400-foot land use study area roughly extends to 41st Avenue to the north, 46th Avenue and Corona Avenue to the south, 95th Street to the west, and 100th Street to the east (see **Figure 2-1**). This analysis identifies anticipated changes in land use, zoning, and community character that are expected to occur independently of the proposed project by 2015, the project's build year, and assesses any potential adverse impacts to land use, zoning, and community character that would occur as a result of the proposed project.

C. EXISTING CONDITIONS

Existing land use patterns and trends are described below for the project site and the study area. This is followed by a discussion of zoning and community character for both areas.

LAND USE

PROJECT SITE

The project site is located at 96-18 43rd Avenue in Corona, Queens (Block 1613, Lot 17). The site has a total lot area of approximately 55,000 square feet (sf), and is bounded by 44th Avenue to the south, 43rd Avenue to the north, 97th Place to the east, and Junction Boulevard to the west. It is currently developed with a one- to three-story, 76,805-sf complex of buildings occupied by a live poultry market and industrial uses.

STUDY AREA

The study area, generally defined as the 400-foot area surrounding the project site, contains a mix of uses, the most predominant of which are residential, with several manufacturing and institutional uses located nearby. The project site is adjacent to the Long Island Railroad/Port Washington branch railroad tracks, which extend along 44th and 45th Avenues.

Residential buildings in the study area primarily consist of single-family detached and semi-detached homes, as well as multi-family homes and small- to medium-sized apartment buildings, and range in height from two to four stories. Along National Street, east of the project site, many of the residential buildings contain ground-floor commercial spaces with neighborhood retail uses such as laundromats, florists, restaurants, and beauty salons.

Industrial uses in the study area include a one-story 27,560-sf warehouse building located one block east of the project site, and several warehousing and shipping companies. Other industrial uses in the area include auto-related uses, such as auto body garages and gas stations. Commercial uses are primarily located along Junction Boulevard, National Street and Corona Avenue and include supermarkets as well as other neighborhood-oriented retail such as video stores, restaurants, and laundromats.

There are several community facility uses in the study area. The 110th Police Precinct is located west of the project site on 43rd Avenue. Fire response services in the study area are provided by Engine 289, Ladder 138, Battalion 46, located at 97-28 43rd Ave, which is one block east of the project site. Religious uses near the study area include a church, an Islamic Mosque, a Buddhist Temple, and a Jehovah's Witness Kingdom Hall, all of which are located on the east side of National Avenue between 41st Avenue and 44th Avenue. Another church is located on 43rd Avenue between 99th Street and National Street.

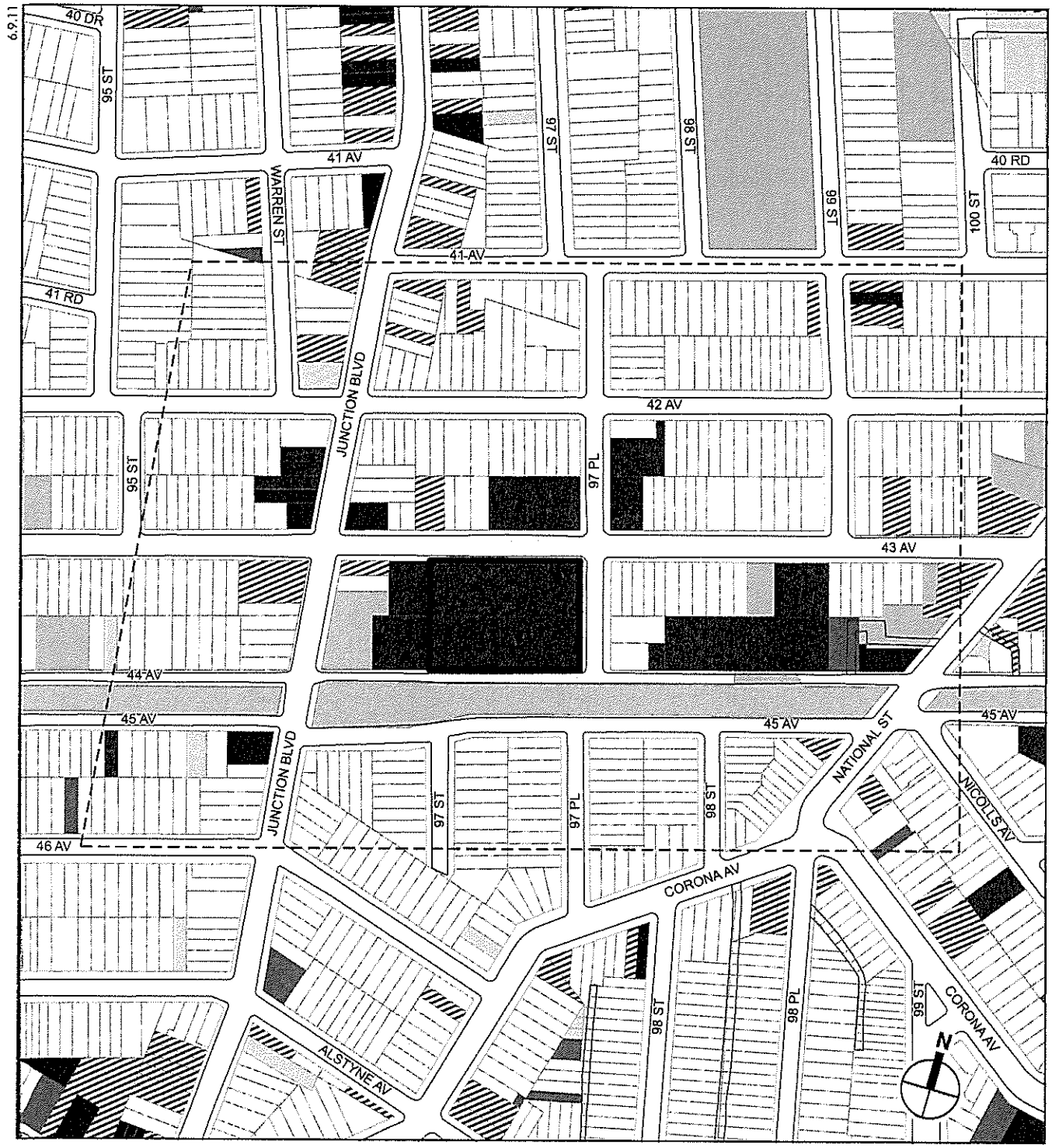
ZONING AND PUBLIC POLICY

PROJECT SITE

The project site is located in an M1-1 manufacturing zoning district (see **Figure 2-2**). M1-1 districts permit light manufacturing uses that must meet stringent performance standards and are often located adjacent to residential and commercial districts. M1-1 zoning districts have a maximum allowable floor area ratio (FAR) of 1.0 for manufacturing and commercial uses, and a maximum FAR of 2.4 for community facility uses. Schools are not allowed as-of-right in M1 zones.

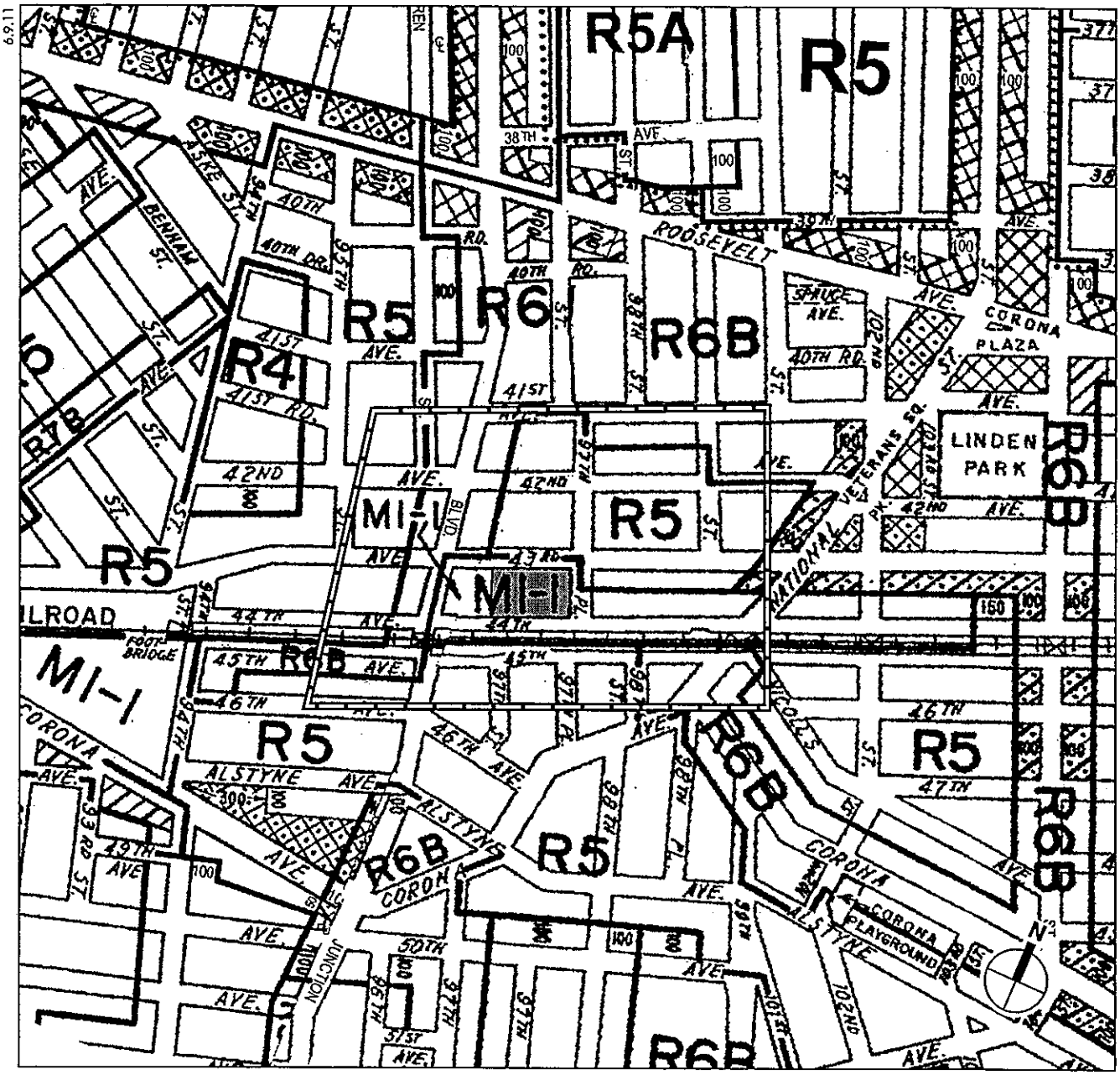
STUDY AREA

The central portion of the study area, to the north of the Long Island Railroad tracks, is within the M1-1 district, described above. The northern and southern portions of the study area contain residential R5 and R6B districts. R5 zoning districts are medium-density residential districts that are typified by small apartment buildings and three-story attached houses. R5 districts often provide a transition between lower- and higher-density neighborhoods, and have a maximum FAR of 1.25 for residential uses and a maximum community facility FAR of 2.0. R6B districts generally contain four-story attached row houses, many of which are set back from the street by stoops or front yards, and allow a maximum FAR of 2.0. Schools can be built as-of-right in R5 and R6B zoning districts.



SCA P.S. 315 (Q315)

Land Use
Figure 2-1



SCA P.S. 315 (Q315)

Zoning
Figure 2-2

The R6B District contains commercial overlays along National Street. Within the study area, a C2-3 commercial overlay is mapped on the west side of National Street from 41st Avenue to just south of 43rd Avenue and on the east side of National Street just south of 43rd Avenue. A C2-2 commercial overlay is mapped along the east side of National Street between 42nd and 43rd Avenues. Within these overlay districts, the maximum commercial FAR is 2.0.

COMMUNITY CHARACTER

Community character is defined as the combination of a number of traits, including land use, urban design and visual resources, traffic, and noise. These elements are considered together to create a sense of the neighborhood in which a project is proposed, so that the compatibility of the project within its community setting can be presented and assessed.

PROJECT SITE AND STUDY AREA

The community character of the Corona section of Queens is generally that of a medium-density residential area and also includes a mix of commercial, industrial, and community facility uses. The Long Island Railroad/Port Washington line railroad tracks, which are located above grade and run in an east-west direction, bisect the study area.

Junction Boulevard and National Street are both busy, two-way streets that run north-south through the study area. Corona Avenue is a busy, two-way street that runs generally east-west through the study area. Each of these streets typically carries local traffic, with one travel lane in each direction and a parking lane on each side of the street. These streets are also retail corridors, with neighborhood retail located on the ground floor of many residential buildings. Other establishments, such as auto-related businesses and houses of worship, are also located along these streets. Roosevelt Avenue is also a busy, two-way street that runs east-west just outside of the study area to the north. Roosevelt Avenue is a major retail corridor, with neighborhood retail located on the ground floor of many residential buildings.

The area immediately to the north of the Long Island Railroad/Port Washington branch railroad tracks, including the project site, contains several large industrial and commercial uses, while the remainder of the study area to the north and south of the project site is primarily residential. The residential character of the area is defined by a combination of detached houses, and two- to four-story semi-attached and attached brick and frame buildings. A variety of religious institutional uses, including churches, mosques, and temples are present in this area as well.

The neighborhood's pedestrian activity is mainly concentrated on National Street, Junction Boulevard, Corona Avenue, and Roosevelt Avenue. Pedestrian traffic is mainly to and from bus stops, as well as to the retail and service shops along the thoroughfares. The area is served by the Q23, Q58 and Q72 bus routes, which run along National Street, Corona Avenue, and Junction Boulevard, respectively. The #7 subway line runs elevated above Roosevelt Avenue. Two subway stations along Roosevelt Avenue at Junction Boulevard and 103rd Street are just outside of the study area limits.

COMMUNITY FACILITIES

A new school facility would provide additional community resources for area residents. The project is not expected to place additional demands on hospitals and other health care facilities, libraries, or public school or day care facilities. This section focuses, therefore, on police and fire protection services.

The project is served by the 110th Police Precinct. The precinct house is located at 94-41 43rd Avenue in the Elmhurst section of Queens, approximately ¼ mile west of the project site. The project site is served by Engine 289, Ladder 138, Battalion 46 located at 97-28 43rd Ave, which is a block away from the project site to the east.

D. THE FUTURE WITHOUT THE PROPOSED PROJECT

LAND USE

In the future without the project, the existing one- to-three story complex of buildings on the site is expected to remain in operation as a live poultry warehouse and industrial uses by 2015.

As described in Chapter 1, "Project Description," the School Construction Authority (SCA) is currently pursuing plans to develop a new 785-seat Intermediate School (I.S.) at 97-36 43rd Avenue, one block east of the proposed project. The new I.S. at 97-36 43rd Avenue is currently anticipated to be completed by the proposed project's Build Year, 2015. However, in the event that the new I.S. is not constructed by 2015, this environmental analysis considers two analysis scenarios for the future without the proposed project—Scenario One includes construction of the 785-seat I.S. by 2015, and Scenario Two assumes that the new I.S. is not constructed by 2015 and the existing industrial use remains on that site.

The only other project planned within the study area is a four-story residential building currently under construction at the northwest corner of the intersection of Junction Boulevard and 42nd Avenue.

ZONING AND PUBLIC POLICY

In the future without the proposed project, the zoning on the project site and within the study area is expected to remain unchanged.

COMMUNITY CHARACTER

In the future without the proposed project, it is anticipated that the general character of the community in which the proposed project is located would remain as it is today, with a mix of uses and low-rise character. Any new development that might occur in the study area is not expected to be substantially different from what currently exists, nor is it expected to introduce a significant new source of traffic or noise. Therefore, no change to the existing community character is expected in the future without the proposed project.

COMMUNITY FACILITIES

The Police Department has no known plans for any changes that will affect law enforcement services in this portion of the 110th Precinct. Similarly, there are no other projects or changes in fire protection services or equipment expected by the 2015 build year.

E. PROBABLE IMPACTS OF THE PROPOSED PROJECT

LAND USE

PROJECT SITE

With the proposed project, the existing complex of industrial buildings currently located on the project site would be demolished. The design plans for the proposed project are not yet finalized, however, it is expected that the proposed school building would contain approximately 131,500 gsf and would be five stories and up to 71 feet in height (85 feet to the top of the mechanical space). The main entrance to the school would be located on the corner of 97th Place and 44th Avenue. An approximately 14,500-sf outdoor playground area would be located at ground level in the northern portion of the site along its 43rd Avenue frontage.

STUDY AREA

The proposed school would improve land use conditions in the study area and enliven the project block by providing a new educational facility on a site that currently has industrial uses and contains a warehouse. At up to five stories in height, the proposed facility would be slightly taller but generally consistent with the height of other structures in the study area. The proposed school would be compatible with the mix of uses currently found in the study area, including the residential, commercial, and community facility uses. The proposed school would also be compatible with the new 785-seat I.S. at 97-36 43rd Avenue, one block east of the proposed project, in the event that it is constructed by 2015 (Scenario One).

The project site is also adjacent to industrial and community facility uses, including light industrial/manufacturing, auto related uses, and a firehouse. While the proposed school would be adjacent to existing industrial and transportation uses—as well as residential and commercial uses, the school's outdoor facilities, including courtyard and playground areas, would be buffered from adjacent uses by fencing and other built enclosures. Therefore, the development of the proposed school facility is not expected to affect adjacent land uses. Furthermore, the proposed project would not result in any impacts to land use, zoning, or community character under Scenario Two, in which the existing industrial use remains at 96-18 43rd Avenue.

ZONING AND PUBLIC POLICY

The proposed project would replace an industrial use with a community facility that is allowed in M1-1 zoning districts by Special Permit from the Board of Standards and Appeals pursuant to Section 42-31 of the New York City Zoning Resolution. Instead of a Special Permit, the SCA would seek approval of a zoning use override from the Deputy Mayor for Economic Development to permit the project to proceed. While the design of the school is not yet final, preliminary plans show that the project could result in zoning bulk non-compliances with respect to height and setback, parking, and yard requirements, which would require zoning bulk overrides. SCA is currently coordinating with the New York City Department of Transportation and the New York City Department of City Planning to demap the portion of the street within the project site boundary that is currently mapped as an extension of the existing street bed of 44th Avenue. The SCA will undertake the New York City Uniform Land Use Review Procedure (ULURP) for the change to a New York City map upon completion of the City Environmental Quality Review (CEQR) process.

If the zoning overrides are granted, it would apply only to the project site and would have no impact on neighboring zoning or property. The demapping of the unbuilt street bed extension would not affect zoning on the project site or in the study area. Therefore, the proposed project would have no significant adverse impacts to local zoning.

COMMUNITY CHARACTER

In the future with the proposed project, the existing complex of industrial buildings on the site would be replaced with a new school that would be slightly taller than the existing and surrounding buildings, but would be compatible with the mix of residential, industrial, commercial, and community facility uses in the surrounding area. The increase in traffic volumes with the proposed project is not expected to result in any significant adverse impacts to the character of the community.

COMMUNITY FACILITIES

The new school would provide additional community resources for area residents, and is expected to relieve overcrowding in nearby elementary schools. The Police and Fire Departments monitor conditions to determine how their personnel are deployed. Decisions to alter existing deployment patterns would be made only in response to a demonstrated change in demand. Police and fire services would be adjusted as deemed necessary by both agencies, and no significant adverse impacts to police or fire services are expected to result from the proposed project. ✳

A. INTRODUCTION

This chapter assesses the potential of the proposed project to affect historic and cultural resources. The project site (Block 1613, Lot 17), located at 96-18 43rd Avenue in the Corona section of Queens, occupies the eastern end of the block bounded by 43rd and 44th Avenues and 97th Place and Junction Boulevard (see **Figure 3-1**). The site currently contains a complex of attached one- to three-story industrial buildings—the former Tiffany Studios Complex—that have been determined eligible for listing on the State/National Registers of Historic Places (S/NR-eligible), as described below. This historic resource would be demolished under the proposed project.

Historic resources include both archaeological and architectural resources. The study area for archaeological resources is the project site, which is the area that would be disturbed by the project's construction. Study areas for architectural resources are determined based on the area of potential effect for construction-period impacts, such as ground-borne vibrations, and the area of potential effect for visual or contextual effects, which is usually a larger area. The architectural resources study area for this project is defined as being within an approximately 400-foot radius of the project site (see **Figure 3-1**).

For this analysis, known architectural resources include properties listed on the State and National Registers of Historic Places (S/NR) and properties determined eligible for S/NR listing, New York City Landmarks (NYCLs), and properties determined eligible for landmark status. Potential architectural resources are properties that may meet the criteria of eligibility for S/NR listing and/or NYCL designation.

B. BACKGROUND HISTORY

By the mid-19th century, the Corona section of Queens was predominantly used for agricultural purposes, and only a few major roads had been cut through the area, including what appear to be precursors of modern Junction Boulevard, Corona Avenue, and National Street. Historic maps dating to the 1840s and 1850s do not depict any structures or other developments within the project site, which at the time was located at the base of a large hill that rose to the west. By 1858, maps depict the rail line that runs along the southern side of the site.

During the second half of the 19th century, the Corona neighborhood experienced increasing development as the construction of new roads and rail lines made the once rural area more accessible to the more populated areas of Manhattan. The Beers map of 1873 continues to depict the project site (and the entire block on which it is situated) as undeveloped, although it identifies the property owner as J.P. Pratt. The still-undeveloped block was divided into lots by the 1890s.

The first development on the project site appears to have been a complex of structures occupied by Tiffany Studios, the company founded by artist Louis Comfort Tiffany, who purchased the

property at the beginning of the 20th century. Early 20th century maps identify the property as that of the Allied Arts Company, a company founded by Louis Comfort Tiffany, which became part of the Tiffany Studios in 1900. As seen on a 1902 Sanborn map, among the structures constructed as part of that complex were the interconnecting 2-story structures that currently line the eastern side and southeastern corner of the project site, although an earlier structure may have been built by Tiffany on the site before the map was produced.

The Tiffany Studios Complex was part of the Tiffany Furnaces, the first portion of Tiffany's Corona factory complex that opened in 1892 on the northwest corner of 43rd Avenue and 97th Place across 43rd Avenue from the project site. The Furnaces, known as the "Sturbridge Glass Works," was a business established by Louis Comfort Tiffany. The Furnaces were where Tiffany successfully developed opalescent glass that was marketed under the trademarked name "Favrile," meaning handmade. The Furnaces were demolished between 1931 and 1951. The former Tiffany Studios Complex—the building complex that occupies the current project site—is the remaining portion of Tiffany's Corona factory complex.

The 1902 Sanborn map indicates that the structures were used for brass spinning, buffing, plating, and finishing and for woodworking and varnishing. The map also depicts a driven well, a benzene vault, a coal bin, and a water closet in the yard adjacent to the structures. The map shows two structures in the center of the lot: an eastern, tin-clad structure that was used for storage, water closets, and boiler rooms, and, to the west, a brass foundry that the map notes was under construction. The eastern structure appears to have been incorporated into the current complex of buildings. The western building may never have been constructed as depicted on the maps, as a map published by Hugo Ullitz in 1903 and all subsequent maps later depict the foundry as a wood frame structure along the northern side of the site.

The 1903 Ullitz map is the first to identify the lot as the property of Tiffany Studios and depicts the newly constructed foundry as well as the two brick structures previously seen on the 1902 Sanborn map. Louis Comfort Tiffany's factory complex in Corona included the Tiffany Furnaces, located opposite the project site at the northwest corner of 43rd Avenue and 97th Place, and the Tiffany Studios, which were situated on the project site. The Furnaces had been opened by 1892 as the "Sturbridge Glass Works," a business established by Louis Comfort Tiffany where Tiffany successfully developed opalescent glass that was marketed under the trademarked name *Favrile*.

The Tiffany company produced high volumes of glass, experimented in glass colors and pottery glazing, and perfected techniques of assembling stained glass windows and lamps at the Corona factory complex. Heavier work was also done at the Corona factory, including making and soldering glass, assembling lamps, and making bronze. The factory also produced decorative light fixtures, metal-work, enamelware, ceramics, and jewelry that were sold at the Tiffany showroom in Manhattan.

A Belcher-Hyde atlas published in 1913 reflects some changes to the structures on the project site. The wood foundry along the northern end of the site had been replaced by a brick structure, and a large wood frame shed or stable was built covering the western third of the site. These structures are more clearly depicted on the 1915 Sanborn map. That map does not depict the large wood frame shed on the western side of the site, but rather portrays building footprints that were nearly identical to those seen on the site today. Several small, attached 1-story structures were present within the interior portion of the lot, including on storage structure that was scheduled to be removed.

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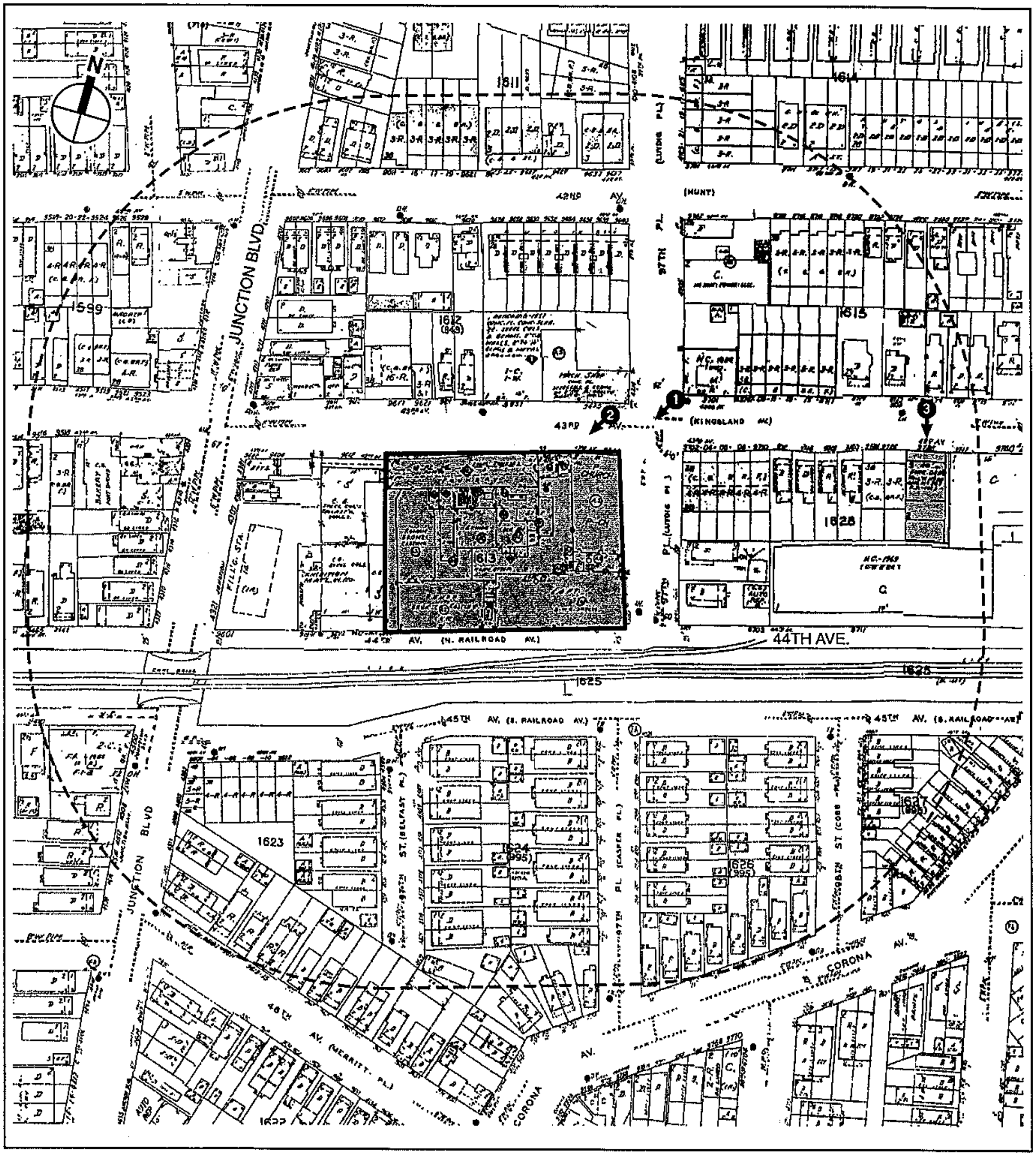


Project Site Boundary

Study Area Boundary (400-Foot Perimeter)

Known Architectural Resource

Photograph View Direction and Reference Number

0 100 200 FEET
SCALE

Historic and Cultural Resources
Project Location Map
Figure 3-1

SCA P.S. 315 (Q315)

The Tiffany Company was dissolved in the late 1920s as the stained glass and decorative items that the company produced went out of style. In 1928, two eminent bronze corporations merged to form the General Bronze Corporation and the company purchased the former Tiffany Studios Complex that year. The 1931 Sanborn map identifies that corporation as the site owner and depicts the complex of structures in a similar manner as the 1915 Sanborn map, although a connecting 1-story structure had been constructed within the western half of the interior courtyard to replace the prior storage structure. This structure is still present on the site today. The Tiffany Studios filed for bankruptcy in 1931 at which time the Tiffany Studios Complex was acquired by Roman Bronze Works, a company that had served as a subcontractor to Tiffany in prior years. Roman Bronze Works continued to use the Tiffany Studios Complex, producing such works as the statues of Prometheus and Atlas for Rockefeller Center. During World War II the foundry was used for defense work.

The former Tiffany Studios Complex has since been used by a variety of tenants, including electronics and garment businesses, a church, and a live poultry business. The 1951 Sanborn map depicts the last phase of construction on the project site, with the addition of two additional 1-story structures in the western half of the interior courtyard. The footprint of the complex as seen on that map is the same as it is today. Beginning in 1999, Sanborn maps begin to identify the structure at the northeast corner of the site as a church, although the building does not appear to be used in this capacity at the present time.

C. EXISTING CONDITIONS

ARCHAEOLOGICAL RESOURCES

AKRF prepared a disturbance memorandum/preliminary archaeological assessment for the project site in December 2010. The disturbance memorandum, the results of which are summarized below, concluded that the project site has low sensitivity for both precontact archaeological resources and historic period archaeological resources. The memorandum has been reviewed by the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP). (OPRHP's May 5, 2011 comment letter is provided in Appendix A.)

POTENTIAL ARCHAEOLOGICAL SENSITIVITY OF THE PROJECT SITE

Precontact Sensitivity

The precontact period refers to the time when Queens was inhabited by Native Americans, prior to the settlement of New York by European colonists. In general, Native American archaeological sites are characterized by close proximity to coastal areas, with access to marine resources, fresh water sources, and areas of high elevation. Because of the varied resources provided by nearby marshes, Flushing Creek, and Flushing Bay, the project site could have been utilized by Native Americans for the exploitation of natural resources. However, the project site was gently sloping and there were more level areas to the north. Further, the project site was at a great distance from water courses for a permanent settlement to have been located there. Therefore, it does not seem likely that a campsite or permanent settlement would have been located on the project site. Soil borings show that the ground surface of the project site is underlain by a layer of historic fill measuring between 6 and 16 feet in thickness. Historic USGS maps sug gest that the topography of the project site during the 1890s was not drastically different than that seen today. It therefore appears that the original ground surface was likely

disturbed as a result of the development of the project site in the 20th century. Therefore, the site is considered to have low sensitivity for precontact archaeological resources.

Historic Sensitivity

Historic maps depict the project site as vacant until the early 20th century. There is no record of domestic occupation of the site and the only development that appears to have occurred on the project site was industrial in nature. Many of the structures that currently occupy the site were among the first to have been constructed there. There is no record of any earlier development or occupation of the project site during the historic period. Therefore, the project site is determined to have low sensitivity for historic period archaeological resources. Further, because of the heavy industrial usage of the project site, groundwater and soils in portions of the project site have been identified as contaminated.

ARCHITECTURAL RESOURCES

PROJECT SITE

As described above, the project site is occupied by a complex of attached one- to three-story industrial buildings that were constructed between 1893 and 1915 and formerly housed the Tiffany Studios portion of Louis Comfort Tiffany's Corona factory complex. The former Tiffany Studios Complex was determined S/NR-eligible by OPRHP in April 2010 as part of an environmental review for a separate project. The building complex is currently used as a live poultry warehouse and for other industrial purposes.

The project site building complex comprises attached structures faced in red painted brick and cinder block (see Views 1 and 2 of **Figure 3-2**). The complex surrounds a paved courtyard used for parking that is accessed through a driveway on 43rd Avenue. Because of a gradual downward slope from north to south, the building complex's 43rd Avenue façades have two stories while the 44th Avenue façades have three stories.

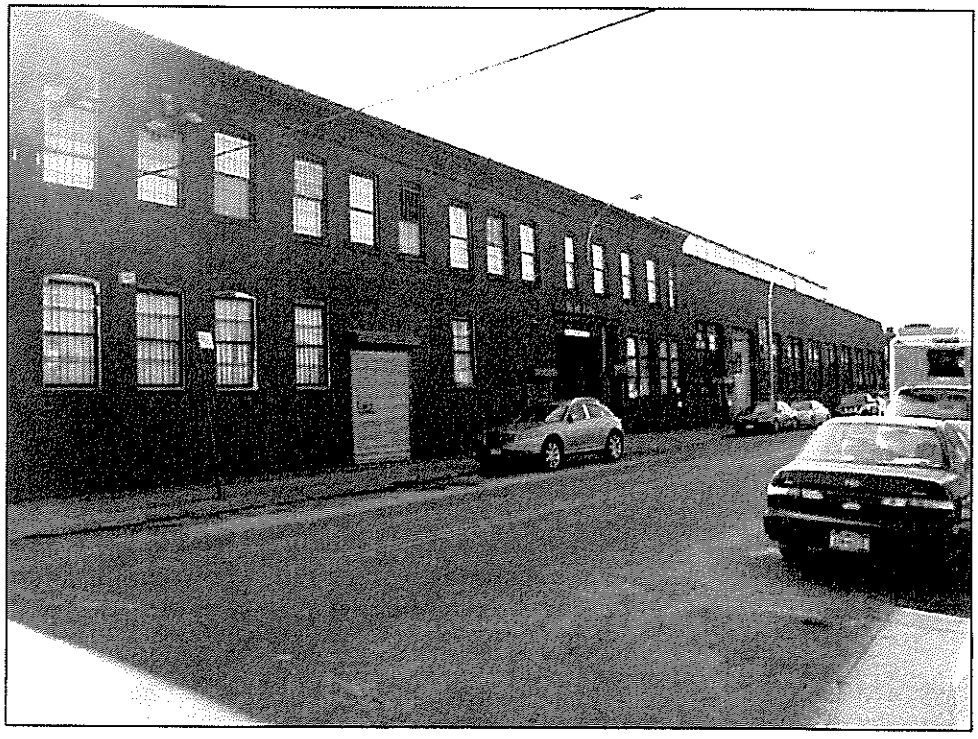
The buildings on the eastern end of the complex were built between 1893 and 1902. They have windows with brick segmental arch headers and lintels and a cornice with decorative brick corbelling and dentils. Some windows have been infilled with brick, door openings have been cut into the north façade, and metal security screens have been installed on most door openings. Several ground level windows have closed gray metal shutters. The western portion of the complex includes two buildings that were constructed by 1915. Facing 43rd Avenue is a one-story foundry, an east-west oriented building with a pitched roof along its length and a raised shed-like component at the ridge. The foundry's north façade has nine large rectangular window openings, with both horizontal pivot windows and fixed lights. A large vehicular entrance and a doorway also open from this façade, both of which have rolling metal security screens (see View 2 of **Figure 3-2**). The western portion of the complex's 44th Avenue frontage is a two-story utilitarian structure faced in brick and cinder block. It has two loading docks and five small window openings on the first floor, and 17 window bays on the second floor. The windows have metal screens and shutters.

STUDY AREA

Known Architectural Resources

There is one known architectural resource in the 400-foot study area.

Former Tiffany Studios Complex - Southwest corner of 43rd Avenue and 97th Place **1**



View southwest to the former Tiffany Studios Complex's 43rd Avenue facade **2**

Known Architectural Resource
Project Site
Figure 3-2

Fire Engine Company 289/Ladder Company 138 (S/NR, NYCL)

The fire station at 97-28 43rd Avenue is approximately 310 feet east of the project site. The building was designed by architects Satterlee & Boyd and built in 1912-1914. It is a three-story, red brick-faced French Renaissance-style building with a steeply pitched mansard roof. The building is faced in Stony Creek granite at its base with buff-colored Indiana limestone above, which is also used on the second and third floor window surrounds and the roof cornice. The building's design also incorporates brick, bronze, and marble medallions, and decorative ironwork. The fire station was built soon after the 1898 Consolidation of Greater New York as part of a campaign to bring professional fire service to Queens. It is one of the earliest fire stations designed during the automobile age and has two side-by-side bays specifically designed for motorized vehicles (see View 3 of **Figure 3-3**).

There are no potential architectural resources in the study area. Other than the fire station, buildings in the study area include a mix of older two- and three-story attached, detached, and semi-detached houses, most of which have been altered with vinyl siding, porch enclosures, and new windows. There are also both older and newer two- and three-story, brick-faced apartment buildings, a gas station, one- to three-story industrial buildings and warehouses, and one- to two-story commercial buildings, some of which have residential uses above. The buildings in the study area, apart from the one architectural resource described above, do not appear to meet the criteria for S/NR listing or NYCL designation.

D. THE FUTURE WITHOUT THE PROPOSED PROJECT

Architectural resources that are listed on the National Register or that have been found eligible for such listing are given a measure of protection from the effects of federally-sponsored or federally-assisted projects under Section 106 of the National Historic Preservation Act. Although preservation is not mandated, federal agencies must attempt to avoid adverse impacts on such resources through a notice, review, and construction process. Properties listed on the State Register are similarly protected against impacts resulting from state-sponsored or state-assisted projects under the State Historic Preservation Act. Private property owners using private funds can, however, alter or demolish their properties without such a review process.

PROJECT SITE

In the future without the proposed project, it is assumed that the project site's existing one- to-three story building complex will remain in its current condition and will continue to operate with a live poultry warehouse and industrial uses by 2015. It is possible that the former Tiffany Studios Complex could be listed on the S/NR or determined eligible or designated a NYCL.

STUDY AREA

As described in Chapter 1, Project Description," there are two analysis scenarios for the future without the proposed project. Scenario One includes two development projects planned in the study area by 2015—a new 785-seat intermediate school (I.S.) at 97-36 43rd Avenue known as I.S. 311, (approximately 160 feet east of the project site) and a four-story residential building currently under construction approximately 360 feet northwest of the project site at the northwest corner of Junction Boulevard and 42nd Avenue. With Scenario Two, the only No Build project is the four-story residential building currently under construction at the northwest corner of Junction Boulevard and 42nd Avenue. With either scenario, there is little or no visual

relationship between the project site and these No Build sites as there are several intervening buildings. Therefore, these No Build projects will not result in any adverse physical, visual, or contextual impacts on the former Tiffany Studios Complex.

E. PROBABLE IMPACTS OF THE PROPOSED PROJECT

ARCHAEOLOGICAL RESOURCES

Since the project site has been determined to have low sensitivity for precontact and historic period archaeological resources, the proposed project would have no adverse impacts on such resources and no further analysis is required.

ARCHITECTURAL RESOURCES

In general, potential impacts on architectural resources can include both direct physical impacts and indirect impacts. Direct impacts include demolition of a resource and alterations to a resource that cause it to become a different visual entity. A resource could also be damaged from vibration (i.e., from construction blasting or pile driving) 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 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 such as contextual impacts may include isolation of a historic resource from its setting or visual relationships with the streetscape, changes to a resource's visual prominence, elimination or screening of publicly accessible views of a historic resource, introduction of significant new shadows or significant lengthening of the duration of existing shadows on sun-sensitive historic resources, and introduction of incompatible visual, audible, or atmospheric elements to a resource's setting.

PROJECT SITE

With the proposed project, the existing former Tiffany Studios Complex on the project site would be demolished and removed from the project site to allow for the project site's redevelopment with a new primary school. The proposed school building would be five stories and up to approximately 71 feet in height (85 feet to the top of the mechanical space) and is expected to be faced in brick and stone. An outdoor play area would be located in the northeastern portion of the project site along 43rd Avenue. New street trees would be planted in the sidewalks adjacent to the project site.

The demolition of the former Tiffany Studios Complex, a known architectural resource, would constitute an adverse impact under Section 14.09 of the New York State Historic Preservation Law (see OPRHP's May 5, 2011 comment letter in Appendix A). As such, SCA has initiated and would continue consultation with OPRHP regarding the proposed project and specific measures that would be included as part of the proposed project to mitigate the adverse impacts.

[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 resulting from adjacent construction, defined as construction within a lateral distance of 90 feet from the historic resource.

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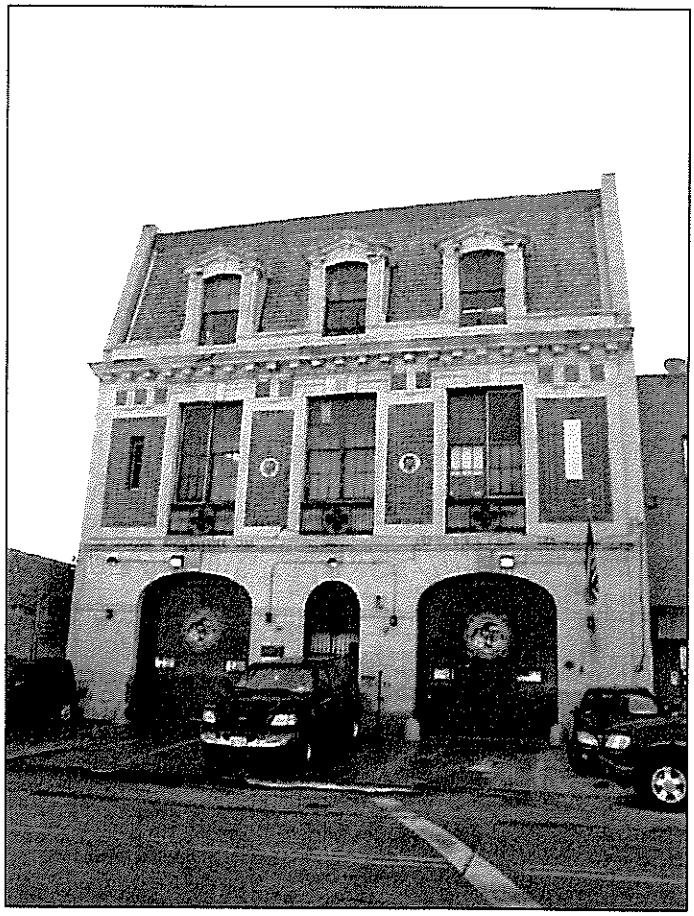


Fire Engine Company 289/Ladder Company 3
138 97-28 43rd Avenue

SCA P.S. 315 (Q315)

Known Architectural Resource
Study Area
Figure 3-3

These measures would be established in a Letter of Resolution (LOR) between the SCA and OPRHP before construction begins and would include documenting and commemorating the former Tiffany Studios Complex through HABS Level II documentation, and the installation of a commemorative plaque on the new school building identifying the site of the former Tiffany Studios Complex and its history in the neighborhood.

STUDY AREA

The proposed project would replace a one- to three-story industrial building complex with a new institutional building. It is expected that the new school would be faced in brick and stone like many nearby buildings, including Fire Engine Company 289/Ladder Company 138.

Although the proposed project would remove a historic building from the project site, the former Tiffany Studios Complex has no meaningful visual or contextual relationship with Fire Engine Company 289/Ladder Company 138, located approximately 310 feet from the project site. The fire station is separated from the project site by a number of intervening buildings that preclude a visual relationship. As such, the proposed project would not affect views to this architectural resource or otherwise affect its visual prominence. Further, the Fire Engine Company 289/Ladder Company 138 is at too great a distance from the project site to be adversely affected by inadvertent construction-related impacts from the proposed project. Therefore, the proposed project would not adversely impact historic and cultural resources in the study area. ✳

A. INTRODUCTION

This attachment considers the potential of the proposed project to affect urban design and visual resources. The project site (Block 1613, Lot 17), located at 96-18 43rd Avenue in the Corona section of Queens, occupies the eastern end of the block bounded by 43rd and 44th Avenues and 97th Place and Junction Boulevard (see **Figure 4-1**). As per the guidelines presented in the 2010 *New York City Environmental Quality Review (CEQR) Technical Manual*, the urban design and visual resources study area is consistent with the study area for the analysis of land use, zoning and public policy. The study area is roughly bounded by 41st Avenue to the north, 46th Avenue and Corona Avenue to the south, 95th Street to the west, and 100th Street to the east (see **Figures 4-1** and **4-2**). Views of the project site are generally not available beyond this distance.

The following preliminary assessment addresses urban design and visual resources for existing conditions and the future without and with the proposed actions for the year 2015, when the proposed project is expected to be completed. The basis for comparison is the No Action scenario which assumes that if the proposed project does not proceed, the project site would remain in its current condition.

As described below, the proposed project would replace the existing one- to three-story building complex on the project site with a new primary school building and playgrounds. The New York City School Construction Authority (SCA) has not yet finalized project plans for the proposed school; however, as currently contemplated, the new school building would be five stories and up to 71 feet in height (85 feet to the top of the mechanical space). An outdoor playground would be located in the northern portion of the project site along 43rd Avenue and an early childhood play area located in the central western part of the project site. The proposed school would be similar in bulk to existing apartment buildings and warehouses in the study area. It would also be similar in bulk and height to the new school building that may be completed by 2015 at 97-40 43rd Avenue and the more distant existing Public School 19, approximately 285 feet northeast of the study area. The new school would cover approximately 50 percent of the lot. It would not be expected to adversely affect wind or sunlight conditions in the surrounding area. The proposed project would not alter the street pattern, block shapes, or natural features of the study area, nor would it introduce an incompatible use. Although some views in the study area would be altered by the addition of a new building on the project site, as described below, no significant visual resources or view corridors would be obstructed.

This preliminary assessment concludes that in comparison to the No Action scenario, the proposed project would not be expected to result in any significant adverse impacts to urban design and visual resources on the project site or in the study area and does not require further analysis.

B. EXISTING CONDITIONS

PROJECT SITE

URBAN DESIGN

The project site contains a complex of late-19th and early-20th century attached one- to three-story (12- to 26-foot-tall) industrial buildings faced in red painted brick and cinder block (see Views 1 through 4 of **Figures 4-3** and **4-4**). Some windows have been infilled with brick, door openings have been cut into the north façade, and metal security screens have been installed on most door openings. Several ground level windows have closed gray metal shutters. Facing 43rd Avenue is a one-story east-west oriented building with a pitched roof along its length and a raised shed-like component at the ridge. This building's north façade has nine large rectangular window openings. A large vehicular entrance and a doorway also open from this façade, both of which have rolling metal security screens. The western portion of the complex's 44th Avenue frontage is a two-story utilitarian structure faced in brick and cinder block. It has two loading docks and five small window openings on the first floor, and 17 window bays on the second floor. The windows have metal screens and shutters. The attached buildings surround a paved courtyard used for parking that is accessed through a driveway on 43rd Avenue. Because of a gradual downward slope from north to south, the buildings' 43rd Avenue façades have two stories while the 44th Avenue façades have three stories.

The building complex contains approximately 76,800 square feet (sf), and is below the permitted maximum floor area ratio (FAR) for the project site (2.4 for community facility uses in an M1-1 Manufacturing Zoning District). The project site has a total lot area of approximately 55,000 square feet. Existing lot coverage is approximately 86 percent.

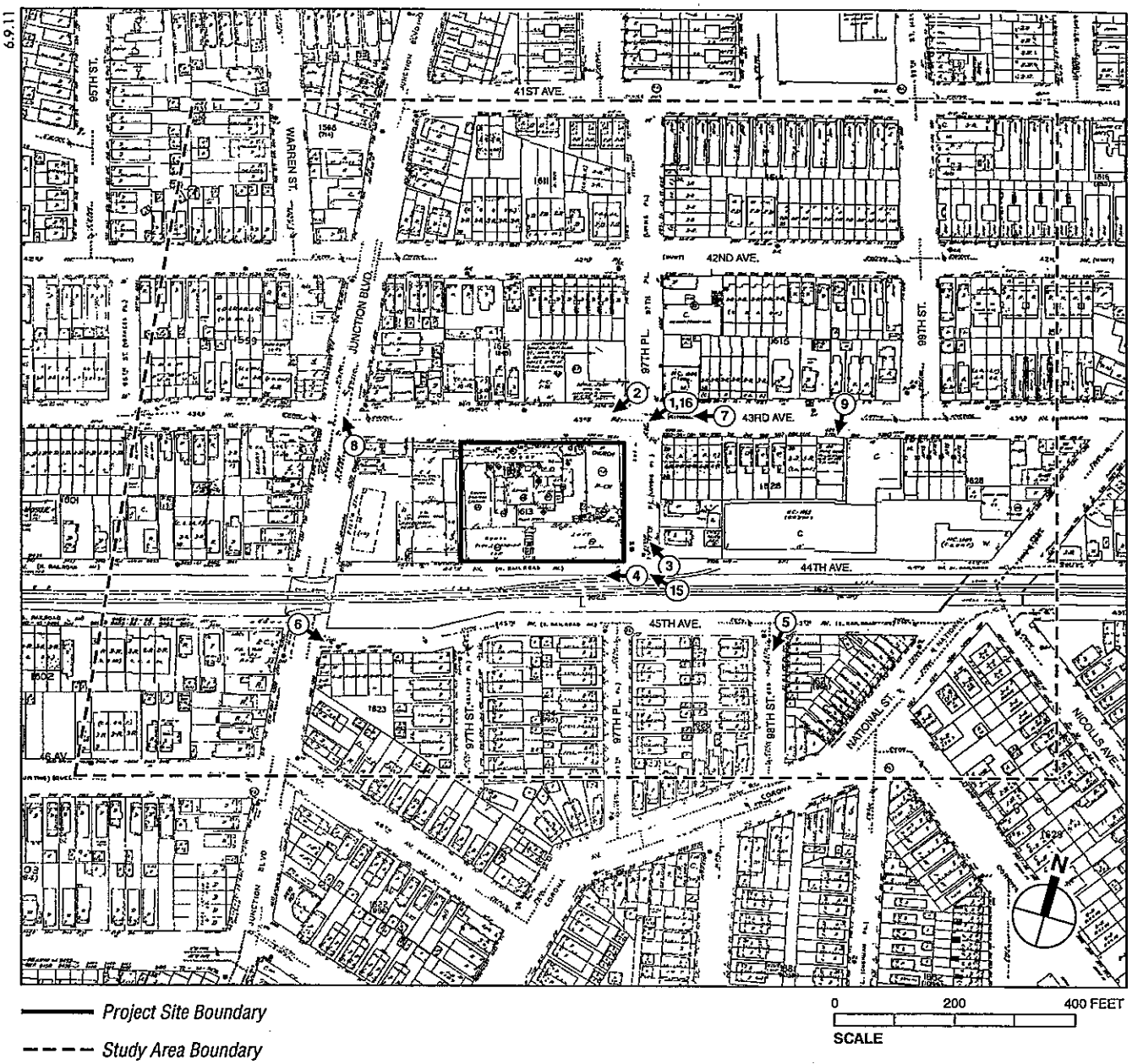
VISUAL RESOURCES

There are no visual resources on the project site and no visual resources in the study area are visible from the project site. Although the existing project site building is a known historic resource, as described in Attachment 3, "Historic and Cultural Resources." It is not visually prominent within the surrounding context.

STUDY AREA

URBAN DESIGN

The primary thoroughfare in the study area is Junction Boulevard, an approximately 70-foot-wide roadway that extends north-south through the western portion of the study area carrying two-way traffic (see **Figure 4-1**). Other streets in the study area include narrow (30-foot-wide) north-south streets east of Junction Boulevard and wider streets such as Corona Avenue and National Street that extend diagonally through the south and southeast portions of the study area. Streets and avenues north of the project site generally carry two-way traffic while the narrow streets south of the project site carry one-way traffic. Streets and avenues throughout the study area have curbside parking. Most blocks in the study area have irregular shapes and sizes due to the intersections of Junction Boulevard, Corona Avenue, and National Street with north-south and east-west streets. Most blocks have their skewed, short ends along Junction Boulevard or National Street. In general, smaller blocks are located south of the project site.



Urban Design and Visual Resources
Project Location and Study Area Map
Figure 4-1

Urban Design and Visual Resources
Aerial Photograph of the Project Site and Study Area
Figure 4-2

View southwest to the project site from 43rd Avenue and 97th Place **1**

View southwest on 43rd Avenue to the project site **2**

View northwest on 97th Place to the project site **3**

View northwest on 44th Avenue to the project site **4**

Urban Design and Visual Resources
Project Site
Figure 4-4

Most buildings in the study area are residential, including free-standing, semi-detached, and attached houses; small apartment buildings; and residential buildings, including tenements and houses with ground floor commercial uses. Most study area buildings do not cover their entire lots. Houses and residential buildings with ground floor commercial use generally have small rectangular or square footprints, while apartment buildings have larger footprints. Most houses are two to three stories, faced in brick or vinyl siding, and have gambrel or gable roofs. Many houses are set back from the sidewalk by small yards and have front stoops and front porches, some of which are enclosed (see View 5 of **Figure 4-5**). Most apartment buildings are older two- to three-story buildings, though there are also some newer apartment buildings in the study area (see View 6 of **Figure 4-5**). Residential buildings with ground floor commercial uses are smaller, older two- to three-story buildings located on Junction Boulevard and National Street. They are faced in brick or siding, and have large glass storefront windows. These structures on National Street are built to the sidewalk; some residential buildings on Junction Boulevard are also built to the sidewalk while others are set back.

Industrial and warehouse buildings in the study area are generally limited to buildings near the intersection of 43rd Avenue and 97th Place. These include a one-story brown brick warehouse at the northwest corner of 43rd Avenue and 97th Place and one- and two-story warehouses on the east side of 97th Place between 42nd and 43rd Avenues (see View 7 of **Figure 4-6**). A one-story L-shaped industrial building is located on a through block site mid-block between 97th Place and National Street with frontages on 43rd and 44th Avenues. These industrial and warehouse buildings are block-like in form and have large footprints compared to the smaller footprints of most residential buildings in the study area. A gas station is located at the northeast corner of Junction Boulevard and 44th Avenue. It is set back from both streets by a paved parking area and has a flat canopy structure spanning above a kiosk and gas pump islands. Other commercial buildings include small, one-story buildings on Junction Boulevard (see View 8 of **Figure 4-6**).

Three institutional buildings are located in the study area, all of which are located east of the project site. Fire Engine Company 289/Ladder Company 138 is a three-story fire station located at 97-28 43rd Avenue (see View 9 of **Figure 4-7**). Also on 43rd Avenue is the Faith Bible Church of Corona at 99-14 43rd Avenue, a three-story rectangular building that rises without setbacks and is faced in dark brown brick at its base and tan brick on the upper floors. Farther east of the project site at 43-10 National Street is a two-story, white brick-faced building occupied by the Fu Yen True Buddha Temple located. It is built to the sidewalk and has a yellow awning above its entrance (see View 10 of **Figure 4-7**).

The Long Island Rail Road (LIRR)'s concrete retaining walls and bridge are the most defining streetscape elements in the study area, as these structures visually and physically separate areas north and south of the rail line. The concrete retaining walls extend east-west through the study area on either side of the LIRR right-of-way, adjacent to 44th and 45th Avenues. The retaining walls are approximately 10 feet tall and are characterized by graffiti and are in poor repair in some locations. Above the retaining walls, the LIRR tracks are set at a higher elevation at the top of the embankment. Tall electrical poles and cables are also located above the LIRR tracks. 97th Street, 97th Place, and 98th Street terminate at the retaining walls and are not through-streets. A steel bridge carries the LIRR tracks over National Street, permitting through vehicular traffic. Billboards are affixed to the retaining walls near National Street (see Views 11 through 14 of **Figure 4-8**).

Other streetscape elements in the study area include standard cobra head street lamps; fire hydrants; mail boxes; telephone booths; bus stops on Junction Boulevard and Corona Avenue;

street trees; and telephone poles with overhead lines. Many houses and apartment buildings in the study area have curb cuts for driveways. Most houses and some apartment buildings also have decorative brick walls or metal fences with gates along the property line. Some newer apartment buildings have driveways in front of the buildings.

The topography of the study area is generally flat, however, there is a slight decline south on 97th Place and National Street toward the Long Island Railroad (LIRR) embankment and bridge and a decline west on 43rd and 44th Avenues west of 97th Place. Natural features in the study area are limited to small grassy yards with trees and shrubs on some residential properties. Most streets also have street trees, including several mature trees, although street trees on Junction Boulevard and National Street are limited in number.

The study area was field surveyed in the winter. No notable pedestrian wind conditions were experienced at that time. Most buildings in the study area are one to four stories in height and most streets are 50 to 70 feet wide. In general, these conditions allow sunlight to reach the study area streets throughout the day.

VISUAL RESOURCES

There are no notable view corridors in the study area. Views east and west on 41st, 42nd, and 43rd Avenues extend for long distances but are limited to views of adjacent buildings. The approximately 10-foot-tall LIRR embankment restricts views along 44th and 45th Avenues to those areas to the north and south of this structure, respectively. Many views on the north-south streets terminate at the LIRR embankment. There are longer views on Junction Boulevard and National Street due to their widths. However, the LIRR bridge obscures views on both streets where they cross 44th and 45th Avenues. Further, views north on Junction Boulevard are interrupted by the westward jog in the road north of 41st Avenue. Views in other parts of the study area are generally limited to buildings lining the street.

One visual resource is located in the study area—Fire Engine Company 289/Ladder Company 138 at 97-28 43rd Avenue. This historic, architecturally distinctive three-story (46-foot-tall) building is located approximately 310 feet east of the project site on 43rd Avenue. This early 20th century fire station is faced in red brick, limestone, and granite and has a mansard roof and two garage entrances (see View 9 of **Figure 4-7**). This architecturally distinctive building is visible in views east-west on 43rd Avenue and in views south on 97th Place and 99th Street. Because the fire station is located on the same side of the street as the project site beyond intervening buildings, it is not visible from the project site and there is not visual or contextual relationship between the project site and the fire station.

C. THE FUTURE WITHOUT THE PROPOSED PROJECT

PROJECT SITE

In the future without the proposed project, the project site is expected to remain unchanged by the 2015 build year. Therefore, the urban design character of the project site will not be altered.

OTHER FUTURE PROJECTS

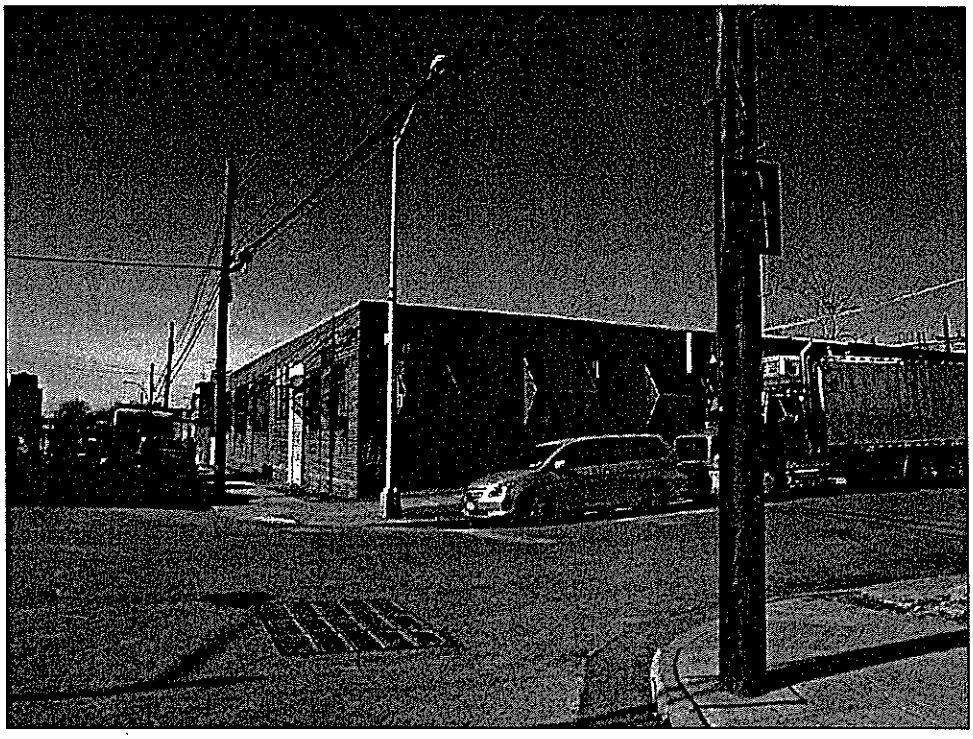
There are two analysis scenarios for the future without the proposed project. Scenario One includes two development projects planned in the study area by 2015—a new 785-seat intermediate school at 97-40 43rd Avenue known as Intermediate School (I.S.) 311,

6.9.11

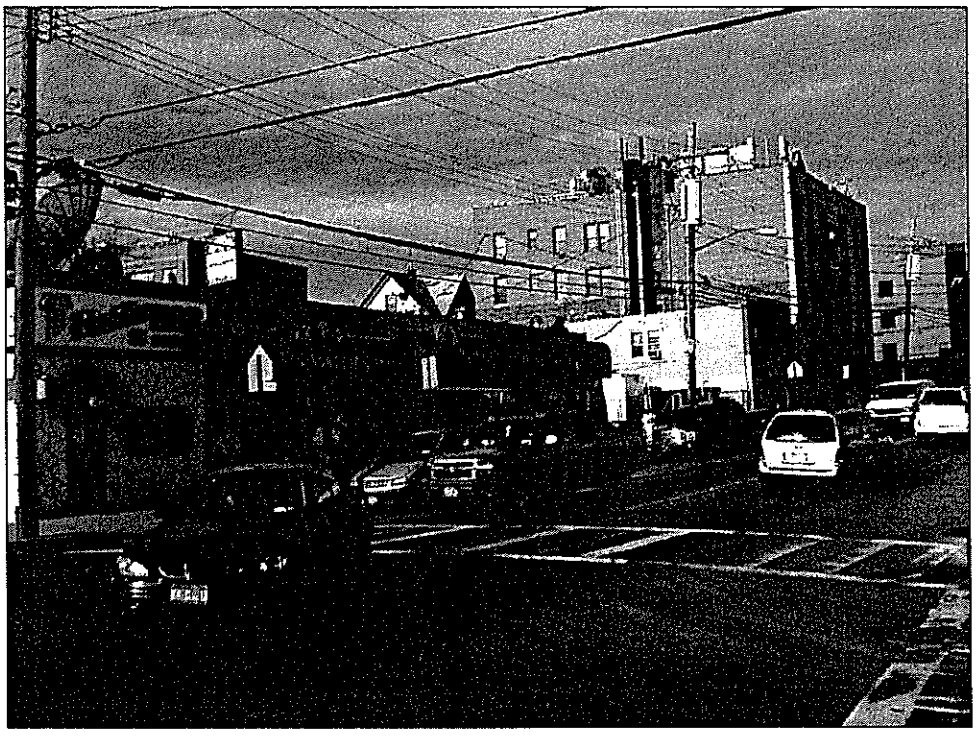
View southwest on 98th Street **5**

View southeast on 45th Avenue **6**

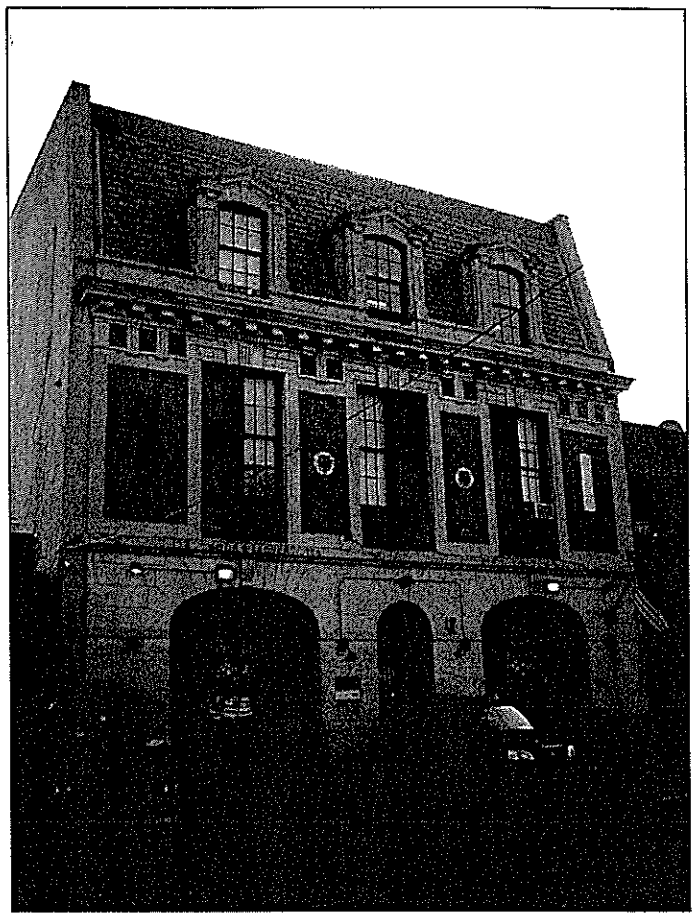
Urban Design and Visual Resources
Study Area
Figure 4-5



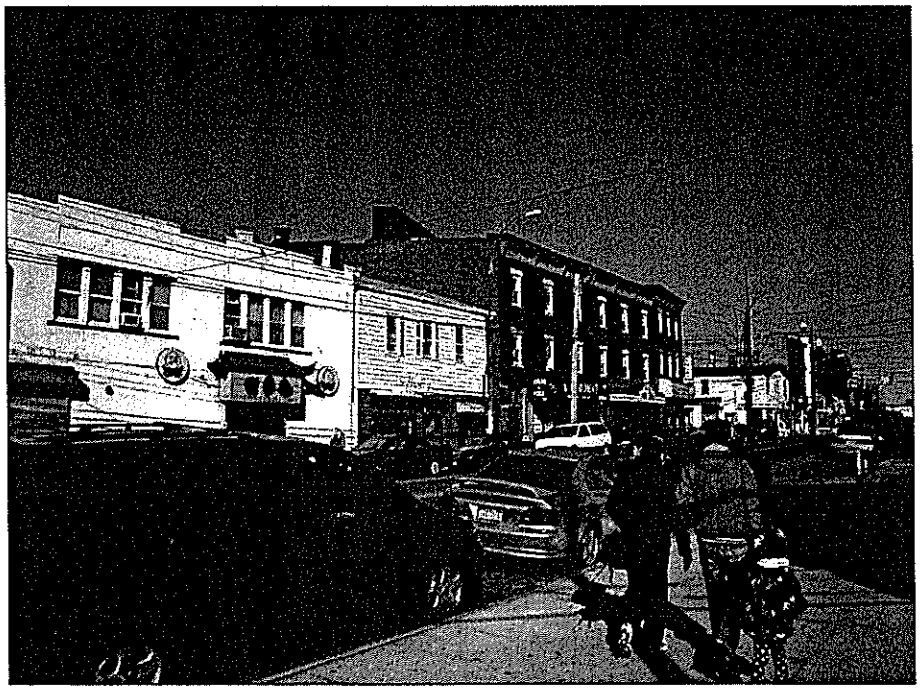
Warehouse building at the northwest corner of 97th Place and 43rd Avenue **7**



View northwest on Junction Boulevard from 43rd Avenue **8**

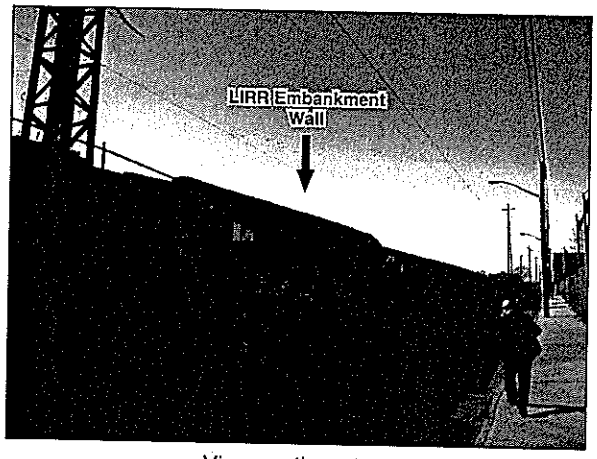


Fire Engine Company 289/Ladder Company 138, 97-28 43rd Avenue **9**

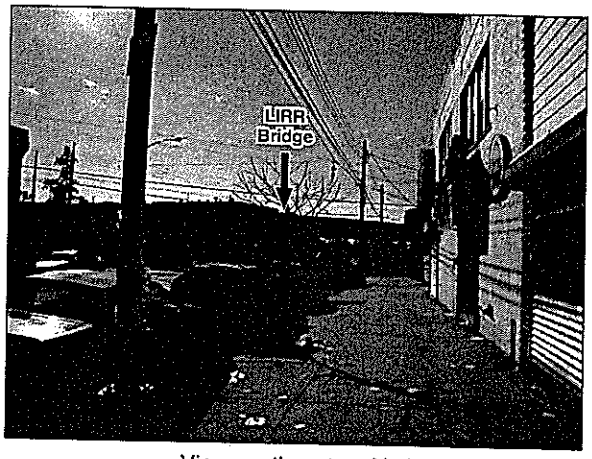


View northwest on National Street from 44th Avenue **10**

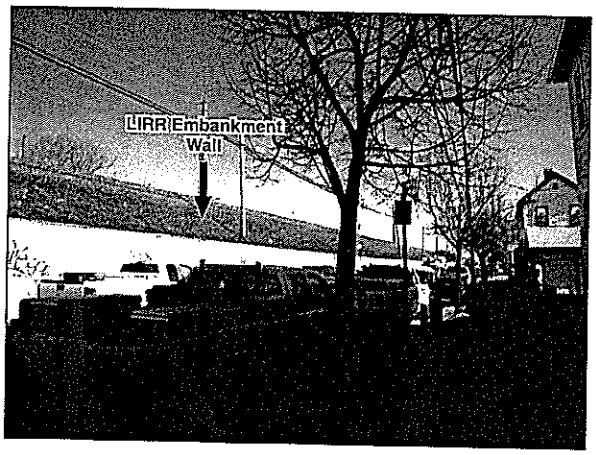
Urban Design and Visual Resources Study Area
Figure 4-7



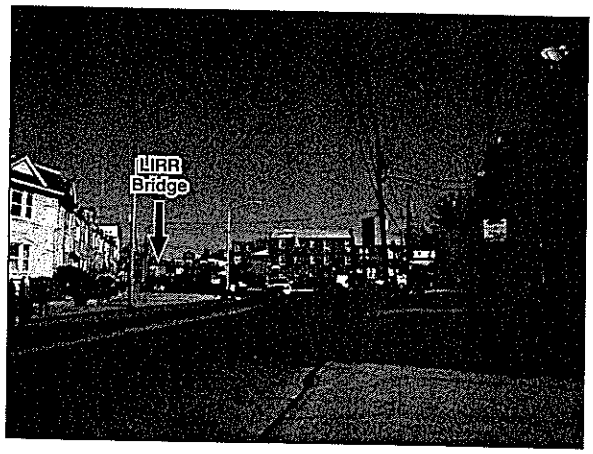
View southwest on 44th Avenue **11**



View southeast on National Street toward the LIRR bridge **12**

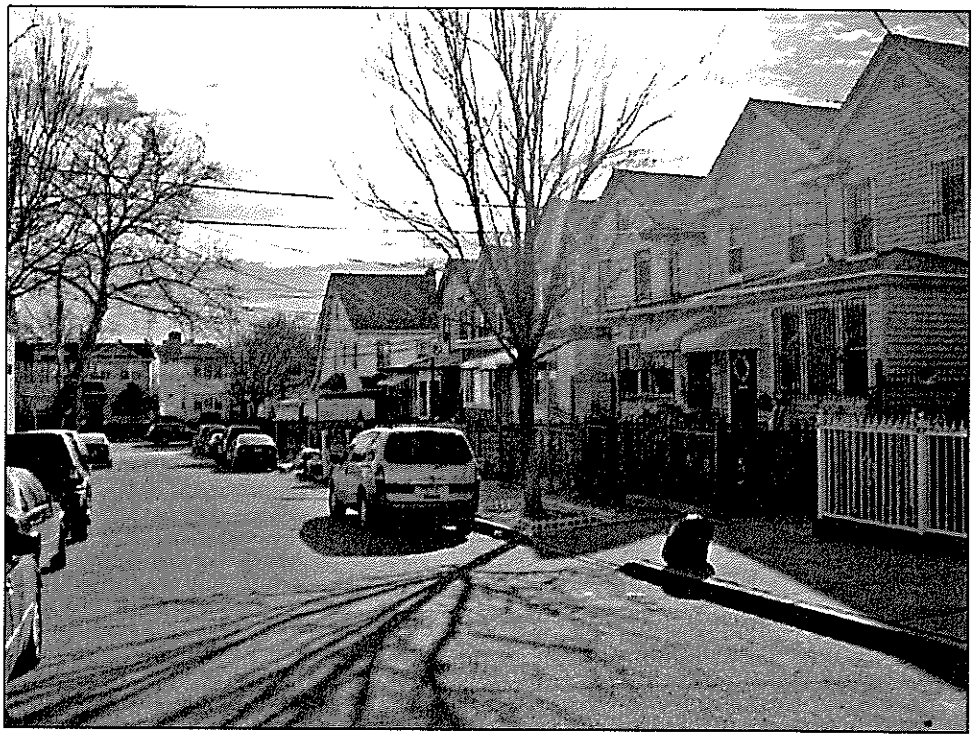


View northeast on 45th Avenue toward the LIRR embankment wall **13**



View northeast on Corona Avenue toward National Street **14**

6.9.11

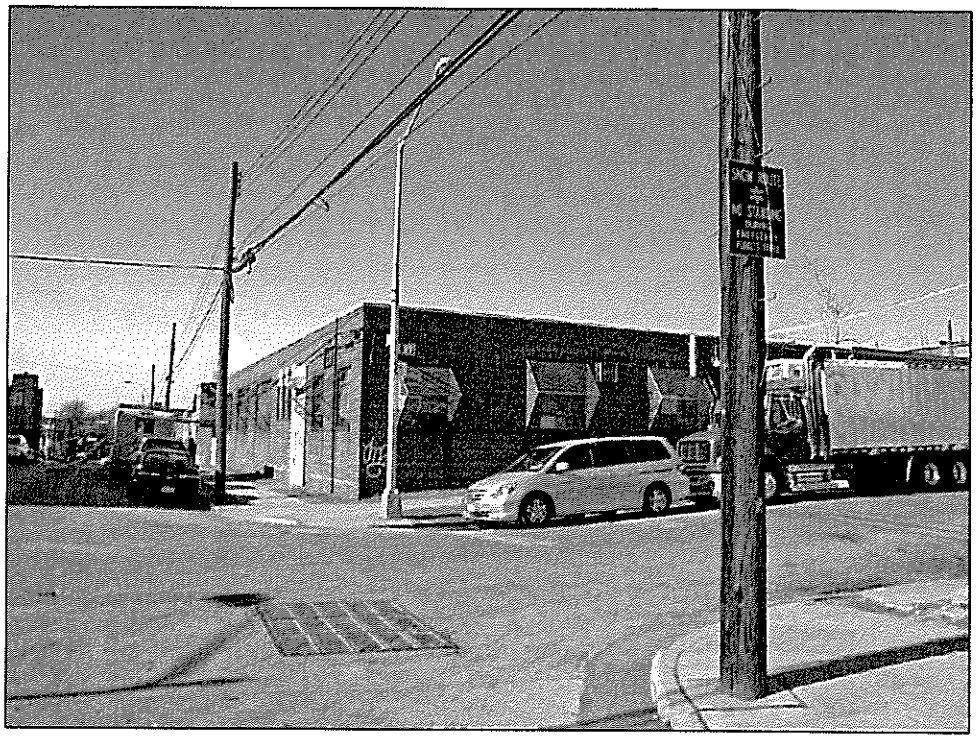


View southwest on 98th Street **5**

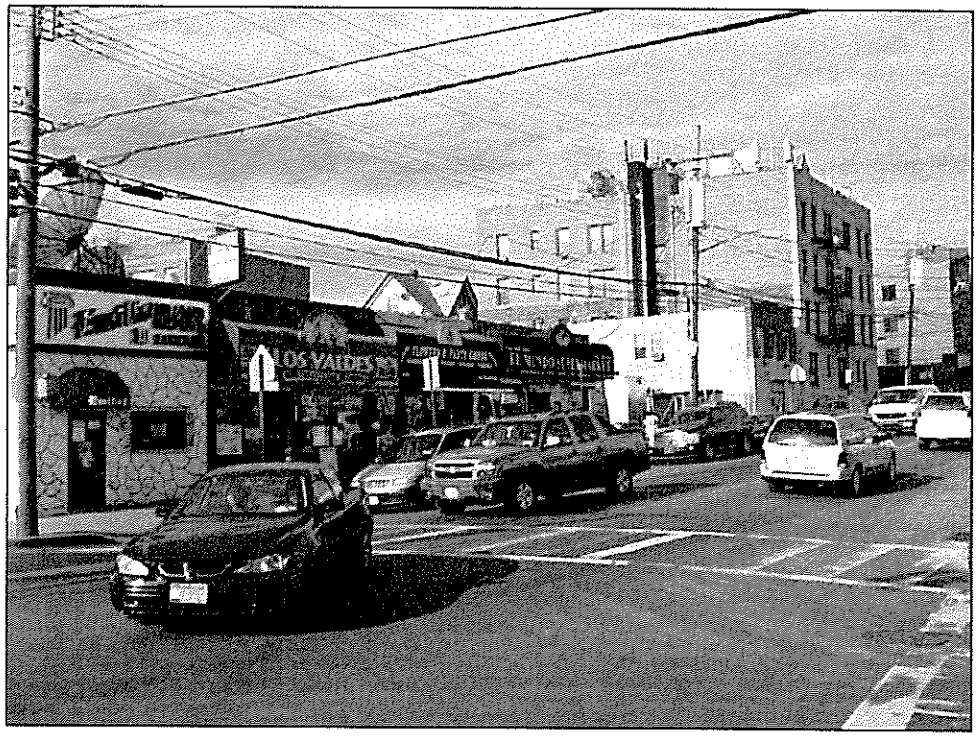
View southeast on 45th Avenue **6**

Urban Design and Visual Resources
Study Area
Figure 4-5

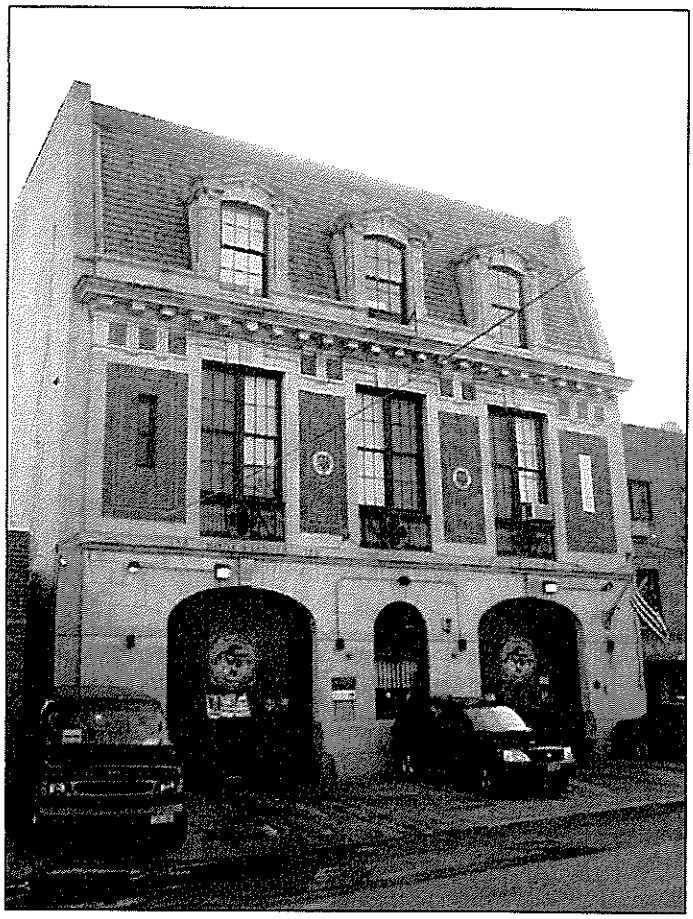
SCA P.S. 315 (Q315)



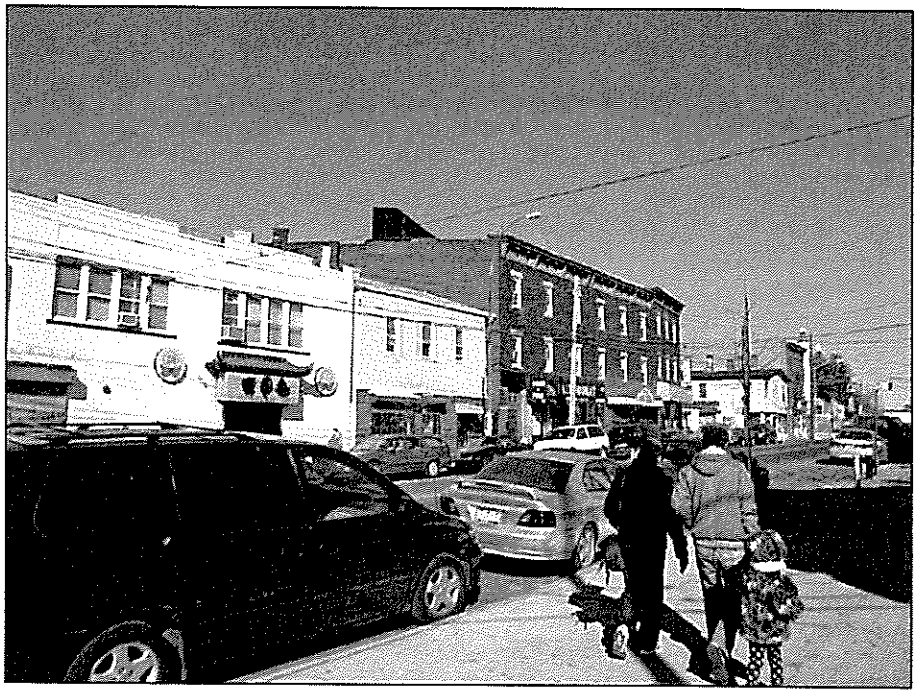
Warehouse building at the northwest corner of 97th Place and 43rd Avenue **7**



View northwest on Junction Boulevard from 43rd Avenue **8**

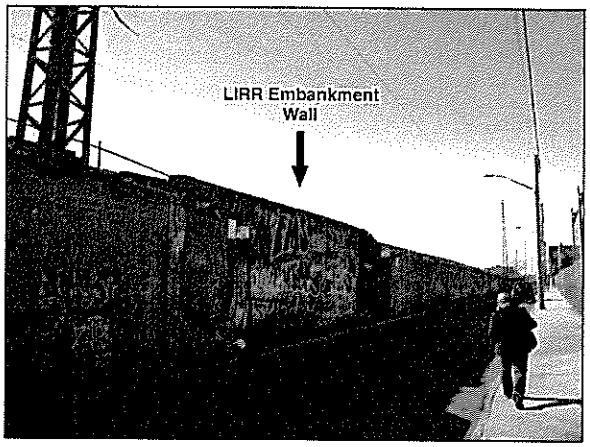


Fire Engine Company 289/Ladder Company 138, 97-28 43rd Avenue **9**

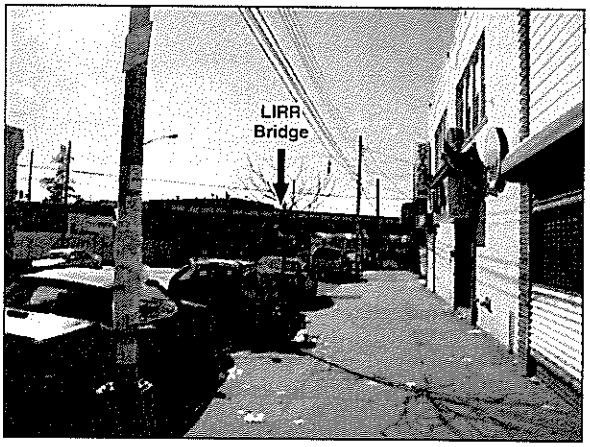


View northwest on National Street from 44th Avenue **10**

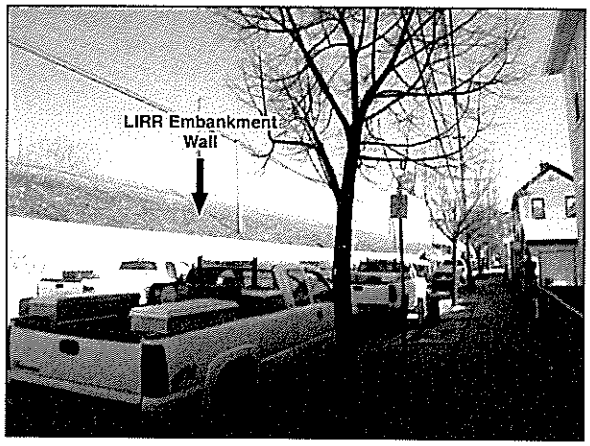
Urban Design and Visual Resources Study Area
Figure 4-7



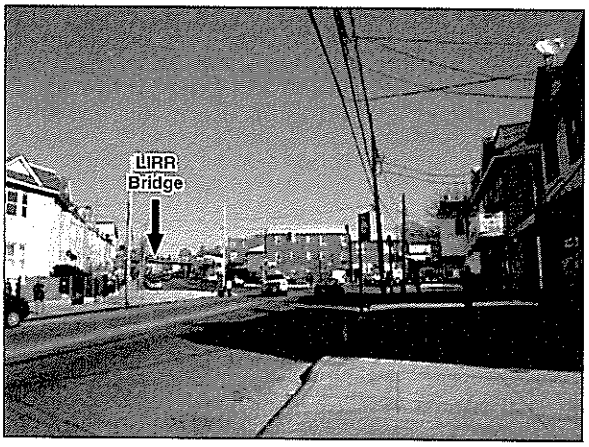
View southwest on 44th Avenue **11**



View southeast on National Street toward the LIRR bridge **12**



View northeast on 45th Avenue toward the LIRR embankment wall **13**



View northeast on Corona Avenue toward National Street **14**

SCA P.S. 315 (Q315)

Urban Design and Visual Resources
Study Area
Figure 4-8

(approximately 160 feet east of the project site) and a four-story residential building currently under construction approximately 360 feet northwest of the project site at the northwest corner of Junction Boulevard and 42nd Avenue. With Scenario Two, the only No Build project is the four-story residential building currently under construction at the northwest corner of Junction Boulevard and 42nd Avenue.

D. PROBABLE IMPACTS OF THE PROPOSED PROJECT

PROJECT SITE

URBAN DESIGN

As described above, plans for the proposed project are not yet finalized; however, as currently anticipated, the proposed project would remove the existing one- to three-story building complex from the project site and redevelop the site with a new, approximately 131,500-gross-square-foot (gsf) school building that would be five stories and up to 71 feet in height (85 feet to the top of the mechanical space). At the ground floor, the new school's rectangular slab structure would be oriented east-west and occupy the project site's southern portion, along 44th Avenue. The ground floor of the new school building on the northern portion of the project site would be occupied by a gym and library. Also fronting on 43rd Avenue would be an approximately 14,500-square-foot outdoor play area; an approximately 3,000-square-foot early childhood play area would be located on the west portion of the project site. A brick wall and fence would establish the building's north and east perimeters. The new building would be set back from the 43rd Avenue sidewalk by approximately 15 feet and from the 44th Avenue sidewalk by approximately 19 feet. The school's primary entrance would be from 97th Place near the corner of 44th Avenue. A secondary entrance would be located on 44th Avenue. New street trees would be planted along the sidewalks adjacent to the project site. The new school would be faced in gray brick and stone with groups of banded windows (**Figures 4-9** through **4-11**).

At 131,500 sf, the total square footage of the proposed building would be approximately 54,700 square feet greater than the existing building on the project site. The proposed school building would be approximately 46 feet taller than the existing project site building. It would have a smaller footprint than the No Action scenario building, as the new school building would occupy approximately 50 percent of the lot. As currently contemplated and shown in **Table 4-1**, the zoning floor area of the proposed project would be in compliance with existing applicable floor area requirements.

Table 4-1
Project Site Zoning

Zoning District	Maximum Allowable FAR	Area within Zoning District	Maximum Allowable ZFA	Proposed ZFA
M1-1	2.4 (community facility)	55,000	132,000	131,500
Sources: NYC School Construction Authority, Zoning Resolution of the City of New York				

The proposed project would replace an industrial use with a community facility that is allowed in M1-1 zoning districts by Special Permit from the Board of Standards and Appeals pursuant to Section 42-31 of the New York City Zoning Resolution. Instead of a Special Permit, the SCA would seek approval of a zoning use override from the Deputy Mayor for Economic Development

to permit the project to proceed. The proposed project would not comply with height and setback, parking, and yard requirements, which would require zoning bulk overrides that relate to the site. Therefore, zoning waivers from the Deputy Mayor for Economic Development may be required for height and setback, parking, and yard requirements. SCA is coordinating with the New York City Department of Transportation and the New York City Department of City Planning to demap the portion of the street within the project site boundary that is currently mapped as an extension of the existing street bed of 44th Avenue, as described in Chapter 2, "Land Use, Zoning, and Public Policy."

The proposed project, would be located on an existing block, and would not entail any changes to streets or street patterns, public open spaces, or natural features on the project site. The use on the project site would change from industrial in the No Action scenario to a public school with the proposed project. Although the proposed project would change the height, use, bulk, and lot coverage of the building on the project site, these changes would not be considered adverse, as the proposed school would be constructed in an area characterized by a variety of building types, heights, sizes, and uses (see discussion below and **Figures 4-12** through **4-13**).

The new school building would be expected to positively affect the character of the adjacent streetscape by replacing the one- to three-story brick industrial building complex with a new school building and playgrounds. The school would enliven the area by introducing new pedestrian activity to the project site and surrounding area. While the proposed project would not comply with certain aspects of the zoning regulations, it is anticipated that the proposed project would enhance the vitality, walkability, and visual character of the project site and surrounding area by positively contributing to the pedestrian experience of public space.

VISUAL RESOURCES

As there are no visual resources on the project site and there are no visual resources in the study are visible from the project site, the proposed project would have no adverse impacts on such resources. Views to the fire station would remain available from existing vantage points along the sidewalk near the fire station. The new school would not adversely affect these views.

STUDY AREA

URBAN DESIGN

The proposed school building would be constructed on an existing block and would not alter streets, street patterns, or block shapes in the study area. The proposed school would be consistent with the existing mix of uses in the study area.

As currently contemplated, the proposed school building would be similar in shape and form to the warehouses in the study area. The school would rise without setbacks and be faced in brick. Its footprint would be larger than the houses and apartment buildings in the study area, but would be comparable to the footprints of warehouses located in the study area north of 43rd Avenue. The new building's lot coverage would be similar to other study area buildings. Although the proposed school building would be five stories in height, approximately two stories taller than nearby study area buildings, this would not be perceived as a substantial difference in surrounding pedestrian views (see **Figures 4-12** and **4-13**). (For reference, **Figures 4-12** and **4-13** provide a three-dimensional representation of the No Action condition compared with the proposed project.) Further, because of the height of nearby buildings and because the school would be primarily oriented along 44th Avenue with a playground along 43rd Avenue,

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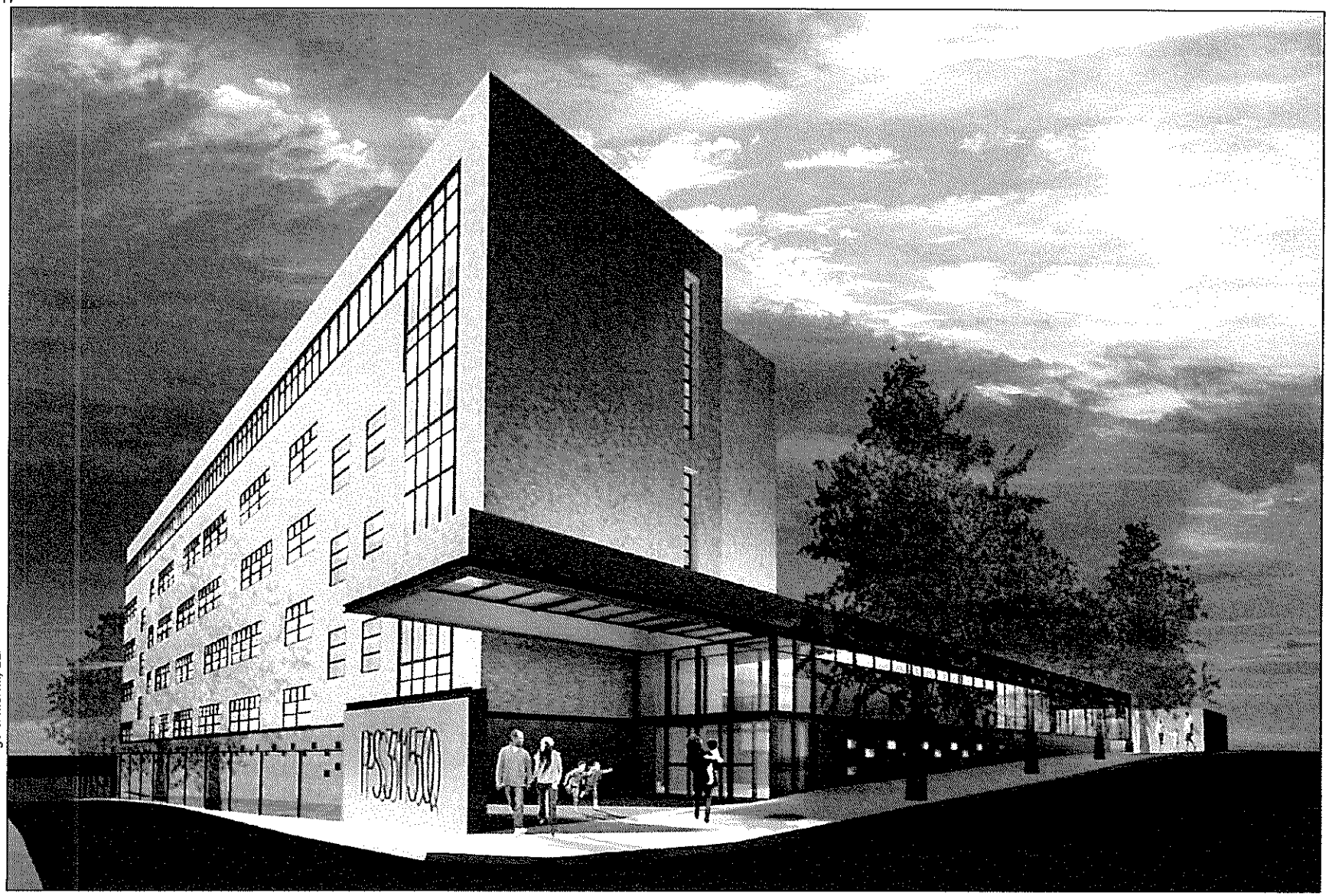


Source: Skidmore Owings & Merrill, LLP

Note: For Illustrative Purposes Only

View Northwest to Project Site

Figure 4-9

6.9.11

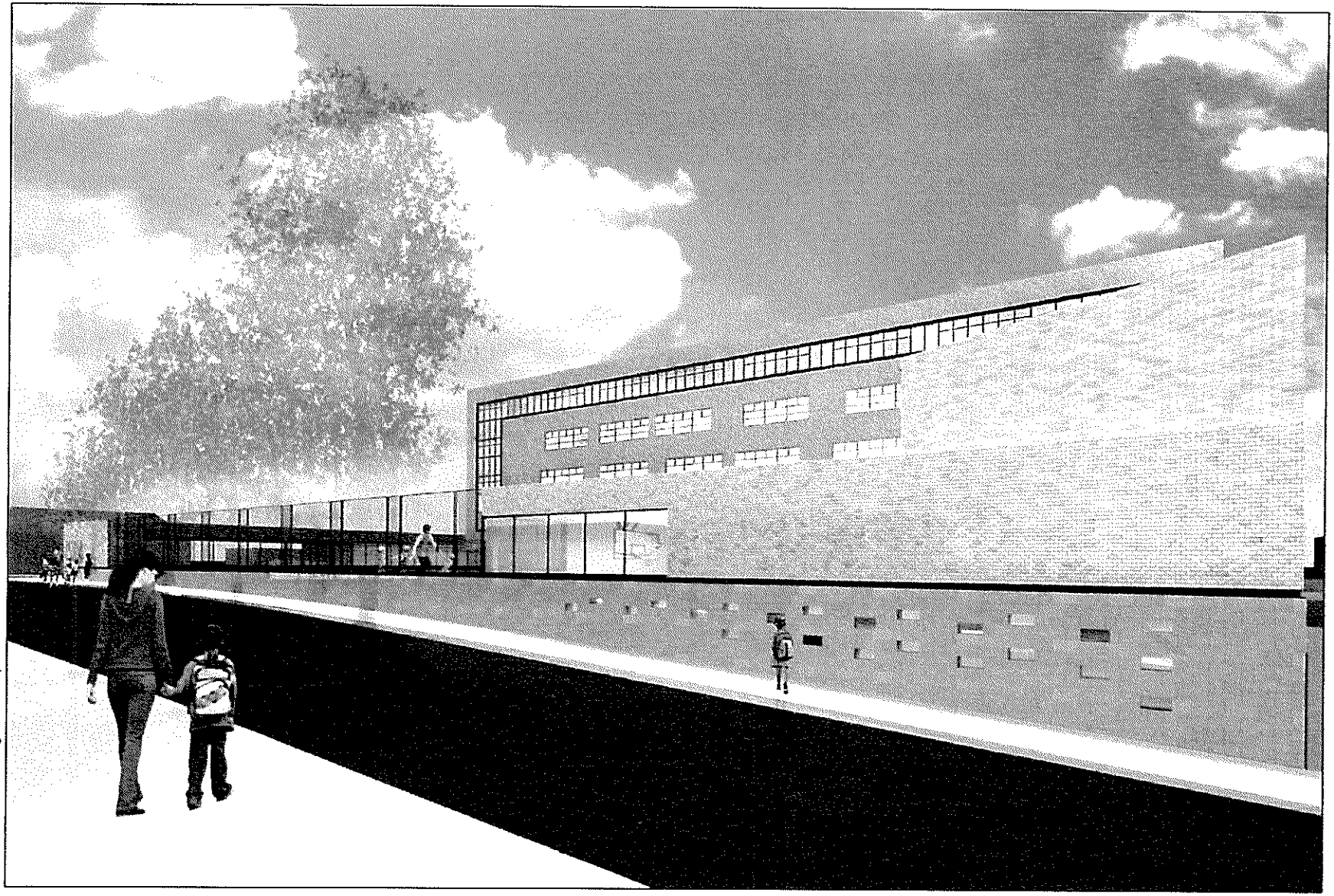
Source: Skidmore Owings & Merrill, LLP

Note: For Illustrative Purposes Only

View Southwest to Project Site

Figure 4-10

6.9.11



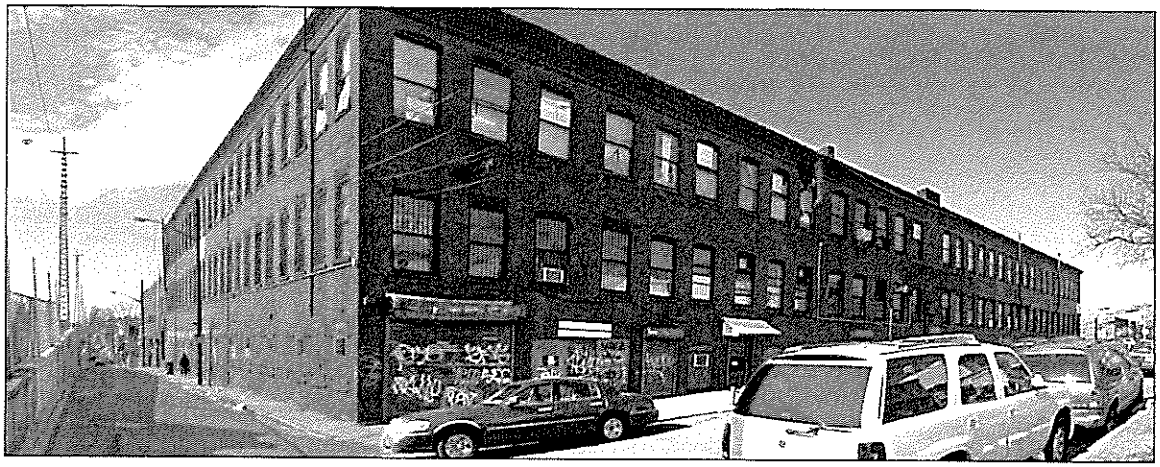
Source: Skidmore Owings & Merrill, LLP

Note: For Illustrative Purposes Only

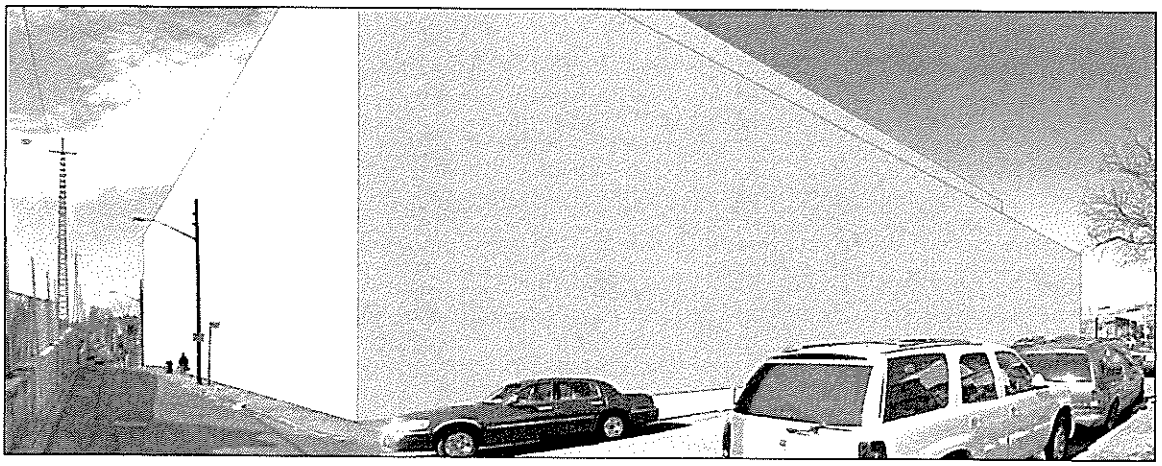
View Southeast to Project Site

Figure 4-11

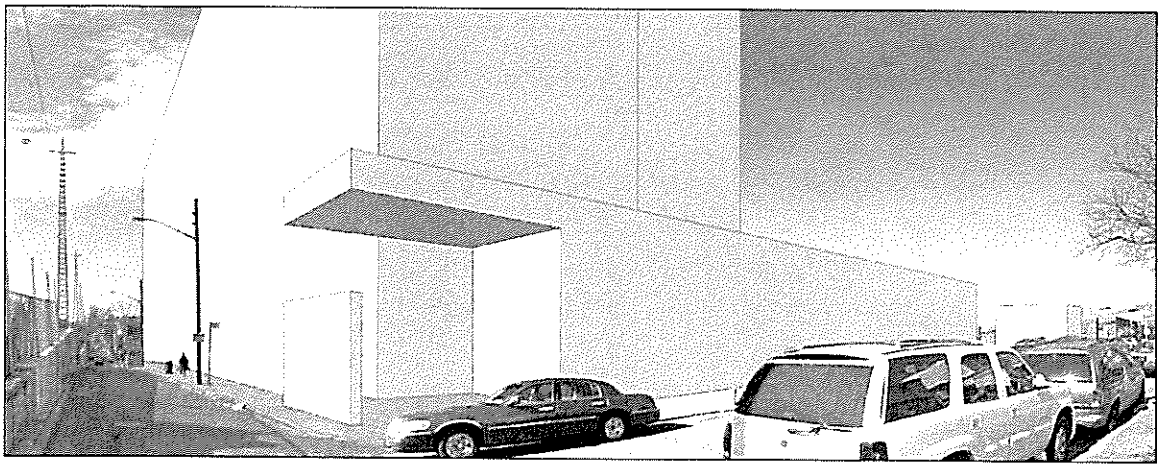
6.9.11



Existing Conditions **15a**



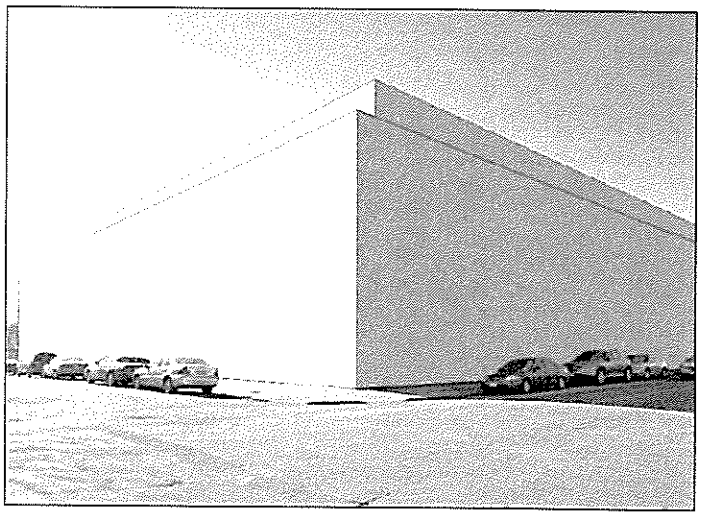
As-of-Right **15b**



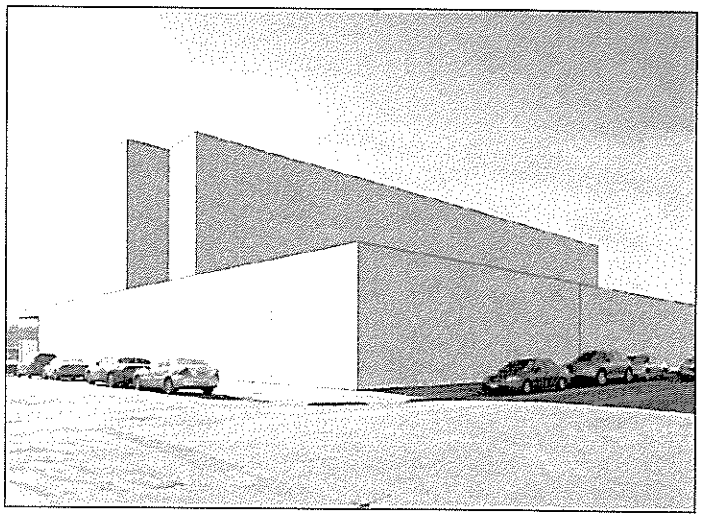
Proposed Project **15c**

Southeast Corner Views
Figure 4-12

Existing Conditions **16a**



As-of-Right **16b**



Proposed Project **16c**

Northeast Corner Views
Figure 4-13

the school's rectangular slab would not be visible from certain vantage points north of the project site on 43rd Avenue.

The proposed school would be built in an area characterized by a variety of building uses, shapes, and forms and would be located across 44th Avenue from the LIRR embankment, a tall structure in the study area. The new school building would be similar in height to Public School 19 located at 40-30 99th Street, immediately outside the study area on the north side of 41st Avenue. This school is a five-story, approximately 75-foot-tall building. It would also be compatible with the No Build intermediate school building at 97-36 43rd Avenue, one block east of the project site, that will be constructed by 2015 in Scenario One. Like the new school (I.S. 311) that will be built in Scenario One in the No Action condition and the Fire Engine Company 289/Ladder Company 138, the proposed school would add another institutional building to the area. It would also be taller than most other nearby buildings, but similar in height to I.S. 311. Since study area buildings range in height from one to five stories, there would be no adverse impacts to height, shape, form, or use as a result of the proposed project.

As described above, the proposed school would be setback from the 43rd Avenue sidewalk by approximately 15 feet and from the 44th Avenue sidewalk by approximately 19 feet. A new playground and brick walls consistent in design to the school building would be located at the project site's northern perimeter. The new school and playground would add active uses to the project site that would enliven the study area's streetscape.

As the proposed school building would be constructed on an existing block, there would be no impacts to natural features in the study area as a result of the proposed project. The new school building would also not be expected to adversely affect wind or sunlight conditions in the surrounding area.

VISUAL RESOURCES

The proposed school would not obstruct views to the fire station on 43rd Avenue and 97th Place. Views would be maintained from existing vantage points, with views of its principal façade on 43rd Avenue remaining unchanged. Therefore, the proposed project would not adversely impact this visual resource. There are no significant view corridors and no other visual resources in the study area. Therefore, there would be no adverse impacts with the proposed project.

Overall, this preliminary assessment concludes that the proposed project would not be expected to result in any significant adverse impacts to urban design and visual resources on the project site or in the study area and does not require further analysis. ✳

A. INTRODUCTION

The proposed school would generate new trips from students and staff traveling to and from the project site. This section examines the potential for impacts of the proposed school project on transportation—traffic, parking, transit and pedestrian—conditions in the Corona se ction of Queens. The proposed school, expected to be operational in 2015, would serve Community School District (CSD) 24 accommodating a total of 1,110 students in pre-kindergarten through fifth grade, including approximately 96 special education students. In terms of staff, the proposed school would employ approximately 85 teachers and administrative personnel.

Based on travel demand estimates, the proposed project would exceed the 2010 *City Environmental Quality Review (CEQR) Technical Manual* thresholds for undertaking quantified traffic, parking and pedestrian analyses. However, since the proposed project would not exceed the CEQR threshold for undertaking a quantified transit analyses—i.e. 200 peak hour transit riders at any given subway station element and/or bus route—it is not expected to result in significant adverse transit impacts in the study area. For informational purposes, this chapter provides a qualitative assessment of transit conditions in the study area.

B. METHODOLOGY

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

SIGNALIZED INTERSECTIONS

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

Table 5-1
LOS Criteria for Signalized Intersections

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

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

Although the HCM methodology calculates a volume-to-capacity (v/c) ratio, there is no strict relationship between v/c ratios and LOS as defined in the *HCM*. A high v/c ratio indicates substantial traffic passing through an intersection, but a high v/c ratio combined with low average delay actually represents the most efficient condition in terms of traffic engineering standards, where an approach or the whole intersection processes traffic close to its theoretical maximum capacity with minimal delay. However, very high v/c ratios—especially those approaching or greater than 1.0—are often correlated with a deteriorated LOS. Other important variables affecting delay include cycle length, progression, and green time. LOS A and B indicate good operating conditions with minimal delay. At LOS C, the number of vehicles stopping is higher, but congestion is still fairly light. LOS D describes a condition where congestion levels are more noticeable and individual cycle failures (a condition where motorists may have to wait for more than one green phase to clear the intersection) can occur. Conditions at LOS E and F reflect poor service levels, and cycle breakdowns are frequent. The *HCM* methodology also provides for a summary of the total intersection operating conditions. The analysis chooses the two critical movements (the worst case from each roadway) and calculates a summary critical v/c ratio. The overall intersection delay, which determines the intersection's LOS, is based on a weighted average of control delays of the individual lane groups. Within New York City, the midpoint of LOS D (45 seconds of delay) is generally considered as the threshold between acceptable and unacceptable operations.

SIGNIFICANT IMPACT CRITERIA

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

UNSIGNALIZED INTERSECTIONS

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

Table 5-2
LOS Criteria for Unsignalized Intersections

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

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

The LOS thresholds for unsignalized intersections are different from those for signalized intersections. The primary reason is that drivers expect different levels of performance from different types of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection; hence, the corresponding control delays are higher at a signalized intersection than at an unsignalized intersection for the same LOS. In addition, certain driver behavioral considerations combine to make delays at signalized intersections less onerous than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, whereas drivers on minor approaches to unsignalized intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized intersections. For these reasons, the corresponding delay thresholds for unsignalized intersections are lower than those of signalized intersections. As with signalized intersections, within New York City, the midpoint of LOS D (30 seconds of delay) is generally perceived as the threshold between acceptable and unacceptable operations.

SIGNIFICANT IMPACT CRITERIA

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

PARKING CONDITIONS ASSESSMENT

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

Outside of Manhattan, and areas in the South Bronx, Flushing, Jamaica, Long Island City/Astoria, Downtown Brooklyn, and Greenpoint/Williamsburg, a parking shortfall that exceeds more than half the available on-street and off-street parking spaces within ¼-mile of the project site may be considered significant. Additional factors, such as the availability and extent of transit in the area, proximity of the project to such transit, and patterns of automobile usage by area residents, could be considered to determine significance of the identified parking shortfall. In some cases, if there is adequate parking supply within ½-mile of the project site, the projected parking shortfall may also not necessarily be considered significant.

PEDESTRIAN OPERATIONS

The adequacy of the study area's sidewalks, crosswalks, and corner reservoir capacities in relation to the demand imposed on them is evaluated based on the methodologies presented in the 2000 *Highway Capacity Manual* (HCM), pursuant to procedures detailed in the *CEQR Technical Manual.*

Sidewalks are analyzed in terms of pedestrian flow. The calculation of the average pedestrians per minute per foot (PMF) of effective walkway width is the basis for a sidewalk level-of-service (LOS) analysis. The determination of walkway LOS is also dependent on whether the pedestrian flow being analyzed is best described as "non-platoon" or "platoon." Non-platoon flow occurs when pedestrian volume within the peak 15-minute period is relatively uniform, whereas, platoon flow occurs when pedestrian volumes vary significantly with the peak 15-minute period. Such variation typically occurs near bus stops, subway stations, and/or where adjacent crosswalks account for much of the walkway's pedestrian volume.

Crosswalks and street corners are not easily measured in terms of free pedestrian flow, as they are influenced by the effects of traffic signals. Street corners must be able to provide sufficient space for a mix of standing pedestrians (queued to cross a street) and circulating pedestrians (crossing the street or moving around the corner). The HCM methodologies apply a measure of time and space availability based on the area of the corner, the timing of the intersection signal, and the estimated space used by circulating pedestrians.

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

Crosswalk LOS is also a function of time and space. Similar to the street corner analysis, crosswalk conditions are first expressed as a measurement of the available area (the crosswalk width multiplied by the width of the street) and the permitted crossing time. This measure is expressed in square feet-second. The average time required for a pedestrian to cross the street is calculated based on the width of the street and an assumed walking speed. The ratio of time-space available in the crosswalk to the total crosswalk pedestrian occupancy time is the LOS measurement of available square feet per pedestrian. The LOS analysis also accounts for vehicular turning movements that traverse the crosswalk.

The LOS standards for sidewalks, corner reservoirs, and crosswalks are summarized as follows:

Table 5-3
Level of Service Criteria for Pedestrian Elements

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

Notes: PMF = pedestrians per minute per foot; SFP = square feet per pedestrian.
Source: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual* (May 2010).

The *CEQR Technical Manual* specifies that a mid-LOS D condition or better is considered reasonable for sidewalks, corner reservoirs, and crosswalks within Central Business District (CBD) areas, which include Midtown and Lower Manhattan, Downtown Brooklyn, Long Island

City, Downtown Flushing, and Downtown Jamaica, and other areas having CBD type characteristics, while acceptable LOS elsewhere in the city (non-CBD areas) is LOS C or better.

SIGNIFICANT IMPACT CRITERIA

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

Sidewalks

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

Table 5-4
Significant Impact Guidance for Sidewalks

Non-Platoon Flow				Platoon Flow			
Sliding Scale Formula: $Y \geq 3.5 - X/8.0$				Sliding Scale Formula: $Y \geq 3.0 - X/8.0$			
Non-CBD Areas		CBD Areas		Non-CBD Areas		CBD Areas	
No Action Ped. Flow (X, PMF)	Action Ped. Flow Incr. (Y, PMF)	No Action Ped. Flow (X, PMF)	Action Ped. Flow Incr. (Y, PMF)	No Action Ped. Flow (X, PMF)	Action Ped. Flow Incr. (Y, PMF)	No Action Ped. Flow (X, PMF)	Action Ped. Flow Incr. (Y, PMF)
7.4 to 7.8	≥ 2.6	–	–	3.4 to 3.8	≥ 2.6	–	–
7.9 to 8.6	≥ 2.5	–	–	3.9 to 4.6	≥ 2.5	–	–
8.7 to 9.4	≥ 2.4	–	–	4.7 to 5.4	≥ 2.4	–	–
9.5 to 10.2	≥ 2.3	–	–	5.5 to 6.2	≥ 2.3	–	–
10.3 to 11.0	≥ 2.2	10.3 to 11.0	≥ 2.2	6.3 to 7.0	≥ 2.2	6.3 to 7.0	≥ 2.2
11.1 to 11.8	≥ 2.1	11.1 to 11.8	≥ 2.1	7.1 to 7.8	≥ 2.1	7.1 to 7.8	≥ 2.1
11.9 to 12.6	≥ 2.0	11.9 to 12.6	≥ 2.0	7.9 to 8.6	≥ 2.0	7.9 to 8.6	≥ 2.0
12.7 to 13.4	≥ 1.9	12.7 to 13.4	≥ 1.9	8.7 to 9.4	≥ 1.9	8.7 to 9.4	≥ 1.9
13.5 to 14.2	≥ 1.8	13.5 to 14.2	≥ 1.8	9.5 to 10.2	≥ 1.8	9.5 to 10.2	≥ 1.8
14.3 to 15.0	≥ 1.7	14.3 to 15.0	≥ 1.7	10. to 11.0	≥ 1.7	10. to 11.0	≥ 1.7
15.1 to 15.8	≥ 1.6	15.1 to 15.8	≥ 1.6	11.1 to 11.8	≥ 1.6	11.1 to 11.8	≥ 1.6
15.9 to 16.6	≥ 1.5	15.9 to 16.6	≥ 1.5	11.9 to 12.6	≥ 1.5	11.9 to 12.6	≥ 1.5
16.7 to 17.4	≥ 1.4	16.7 to 17.4	≥ 1.4	12.7 to 13.4	≥ 1.4	12.7 to 13.4	≥ 1.4
17.5 to 18.2	≥ 1.3	17.5 to 18.2	≥ 1.3	13.5 to 14.2	≥ 1.3	13.5 to 14.2	≥ 1.3
18.3 to 19.0	≥ 1.2	18.3 to 19.0	≥ 1.2	14.3 to 15.0	≥ 1.2	14.3 to 15.0	≥ 1.2
19.1 to 19.8	≥ 1.1	19.1 to 19.8	≥ 1.1	15.1 to 15.8	≥ 1.1	15.1 to 15.8	≥ 1.1
19.9 to 20.6	≥ 1.0	19.9 to 20.6	≥ 1.0	15.9 to 16.6	≥ 1.0	15.9 to 16.6	≥ 1.0
20.7 to 21.4	≥ 0.9	20.7 to 21.4	≥ 0.9	16.7 to 17.4	≥ 0.9	16.7 to 17.4	≥ 0.9
21.5 to 22.2	≥ 0.8	21.5 to 22.2	≥ 0.8	17.5 to 18.2	≥ 0.8	17.5 to 18.2	≥ 0.8
22.3 to 23.0	≥ 0.7	22.3 to 23.0	≥ 0.7	18.3 to 19.0	≥ 0.7	18.3 to 19.0	≥ 0.7
> 23.0	≥ 0.6	> 23.0	≥ 0.6	> 19.0	≥ 0.6	> 19.0	≥ 0.6

Notes: PMF = pedestrians per minute per foot; Y = increase in average pedestrian flow rate in PMF; X = No Action pedestrian flow rate in PMF.
Sources: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual* (May 2010).

Corner Reservoirs and Crosswalks

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

Table 5-5

Significant Impact Guidance for Corners and Crosswalks

Sliding Scale Formula: $Y \geq X/9.0 - 0.3$			
Non-CBD Areas		**CBD Areas**	
No Action Pedestrian Space (X, SFP)	**Action Pedestrian Space Reduction (Y, SFP)**	**No Action Pedestrian Space (X, SFP)**	**Action Pedestrian Space Reduction (Y, SFP)**
25.8 to 26.6	≥ 2.6	–	–
24.9 to 25.7	≥ 2.5	–	–
24.0 to 24.8	≥ 2.4	–	–
23.1 to 23.9	≥ 2.3	–	–
22.2 to 23.0	≥ 2.2	–	–
21.3 to 22.1	≥ 2.1	21.3 to 21.6	≥ 2.1
20.4 to 21.2	≥ 2.0	20.4 to 21.2	≥ 2.0
19.5 to 20.3	≥ 1.9	19.5 to 20.3	≥ 1.9
18.6 to 19.4	≥ 1.8	18.6 to 19.4	≥ 1.8
17.7 to 18.5	≥ 1.7	17.7 to 18.5	≥ 1.7
16.8 to 17.6	≥ 1.6	16.8 to 17.6	≥ 1.6
15.9 to 16.7	≥ 1.5	15.9 to 16.7	≥ 1.5
15.0 to 15.8	≥ 1.4	15.0 to 15.8	≥ 1.4
14.1 to 14.9	≥ 1.3	14.1 to 14.9	≥ 1.3
13.2 to 14.0	≥ 1.2	13.2 to 14.0	≥ 1.2
12.3 to 13.1	≥ 1.1	12.3 to 13.1	≥ 1.1
11.4 to 12.2	≥ 1.0	11.4 to 12.2	≥ 1.0
10.5 to 11.3	≥ 0.9	10.5 to 11.3	≥ 0.9
9.6 to 10.4	≥ 0.8	9.6 to 10.4	≥ 0.8
8.7 to 9.5	≥ 0.7	8.7 to 9.5	≥ 0.7
7.8 to 8.6	≥ 0.6	7.8 to 8.6	≥ 0.6
6.9 to 7.7	≥ 0.5	6.9 to 7.7	≥ 0.5
6.0 to 6.8	≥ 0.4	6.0 to 6.8	≥ 0.4
5.1 to 5.9	≥ 0.3	5.1 to 5.9	≥ 0.3
< 5.1	≥ 0.2	< 5.1	≥ 0.2

Notes: SFP = square feet per pedestrian; Y = decrease in pedestrian space in SFP; X = No Action pedestrian space in SFP.
Sources: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual* (May 2010).

VEHICULAR AND PEDESTRIAN SAFETY EVALUATION

An evaluation of vehicular and pedestrian safety is necessary for locations within the traffic and pedestrian study areas that have been identified as high accident locations, where 48 or more total reportable and non-reportable crashes or five or more pedestrian/bicyclist injury crashes occurred in any consecutive 12 months of the most recent three-year period for which data are

available. For these locations, accident trends would be identified to determine whether projected vehicular and pedestrian traffic would further impact safety at these locations or whether existing unsafe conditions could adversely impact the flow of the projected new trips. The determination of potential significant safety impacts depends on the type of area where the project site is located, traffic volumes, accident types and severity, and other contributing factors. Where appropriate, measures to improve traffic and pedestrian safety should be identified and coordinated with the New York City Department of Transportation (NYCDOT).

C. TRAFFIC ANALYSES

EXISTING CONDITIONS

ROADWAY NETWORK

To assess the potential traffic impacts associated with the development of the project, nine key intersections were identified that would most likely be affected by the project-generated traffic (see **Figure 5-1**). These include three signalized and six unsignalized intersections. The signalized intersections are:

- Roosevelt Avenue and Junction Boulevard;
- 43rd Avenue and Junction Boulevard; and
- Corona Avenue and Junction Boulevard.

The unsignalized intersections are:

- 44th Avenue and Junction Boulevard;
- 45th Avenue and Junction Boulevard;
- 44th Avenue and 97th Place;
- 44th Avenue and National Street;
- 45th Avenue and National Street; and
- 43rd Avenue and 97th Place.

Major roadways in the study area are discussed as follows:

- Roosevelt Avenue is a major two-way east-west roadway that operates with one effective moving lane in each direction and provides curbside (mostly metered) parking on both sides.
- Junction Boulevard is a major two-way north-south roadway that operates with one effective moving lane in each direction. Curbside parking is generally permitted on both sides of Junction Boulevard in the study area, specifically along the segments between Roosevelt Avenue and 43 Avenue.
- 43rd Avenue is a local two-way east-west street that operates with one effective moving lane in each direction and provides curbside parking on both sides.
- 44th Avenue is a local one-way westbound street providing a connection between 114th Street in the east and 94th Street in the west. Within the study area, it operates with one effective moving lane and provides curbside parking on the north side of the street.

- 45th Avenue is a local one-way eastbound street providing a connection between 94th Street in the west and 111th Street in the east. Within the study area, it operates with one effective moving lane and provides curbside parking on the south side of the street.
- Corona Avenue is a major two-way east-west roadway that operates with one effective moving lane in each direction and provides curbside parking on both sides of the street.
- 97th Place is a local two-way north-south street providing a connection between 44th Avenue in the south and 41st Avenue in the north. It operates with one effective moving lane in each direction and provides curbside parking on both sides of the street.
- National Street is a two-way north-south street that operates with one effective moving lane in each direction and provides curbside parking on both sides of the street.

TRAFFIC CONDITIONS

Existing traffic volumes for the study area intersections were primarily established based on field counts conducted in January 2010. In addition to the January 2010 field counts, traffic data was collected in November 2010 at the intersection of 43rd Avenue and 97th Place, which directly borders the proposed project site. Furthermore, to determine any changes in the study area traffic levels that my have occurred since January 2010, updated Automatic Traffic Recorder (ATR) counts were conducted at key locations to record any variations in peak hour traffic levels.

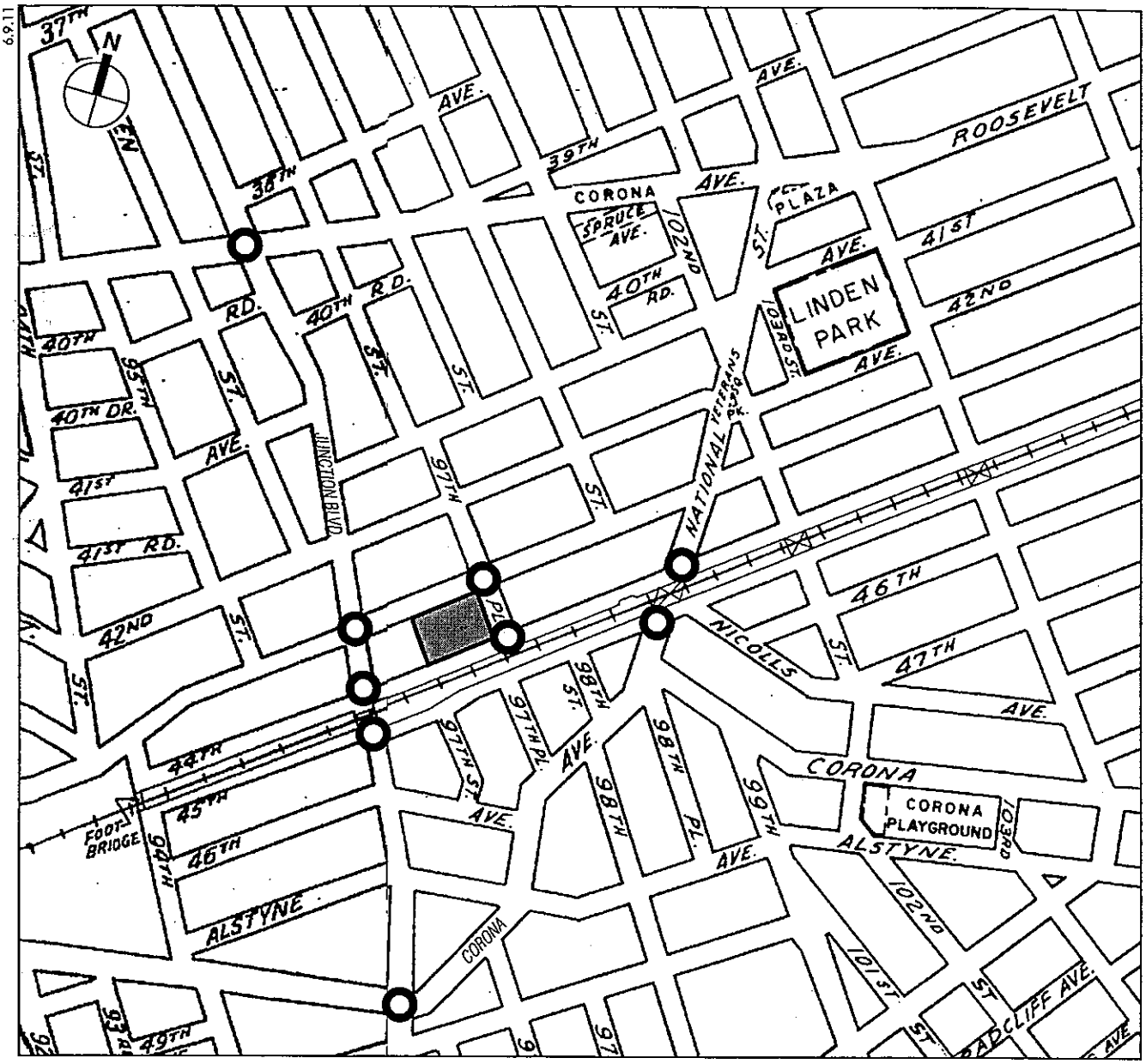
To supplement the field data, inventories of roadway geometry, traffic controls, bus stops, and parking regulations/activities were also recorded to provide appropriate inputs for the operational analyses. In addition, official signal timings obtained from New York City Department of Transportation (NYCDOT) were used in the analysis for all of the signalized intersections. **Figures 5-2** and **5-3** show the existing traffic volumes for the AM and PM peak hours, which were determined to take place from 7:45 to 8:45 AM and 2:30 to 3:30 PM, respectively.

Junction Boulevard carries the heaviest traffic volumes in the study area, ranging from approximately 765 to 980 vehicles per hour (vph) in both directions during the AM and PM peak hours. Two-way peak hour traffic volumes on Roosevelt Avenue are in the range of approximately 775 to 835 vph, while the two-way peak hour traffic volumes on Corona Avenue range from approximately 440 to 775 vph during the AM and PM peak hours. National Street carries two-way peak hour traffic volumes ranging from approximately 610 to 720 vph during the AM and PM peak hours. Two-way peak hour traffic volumes on 43rd Avenue range from approximately 240 to 455 vph. Other local streets in the study area—including 44th and 45th Avenues, and 97th Place—carry up to approximately 155 vph during the two peak hours.

LEVELS OF SERVICE

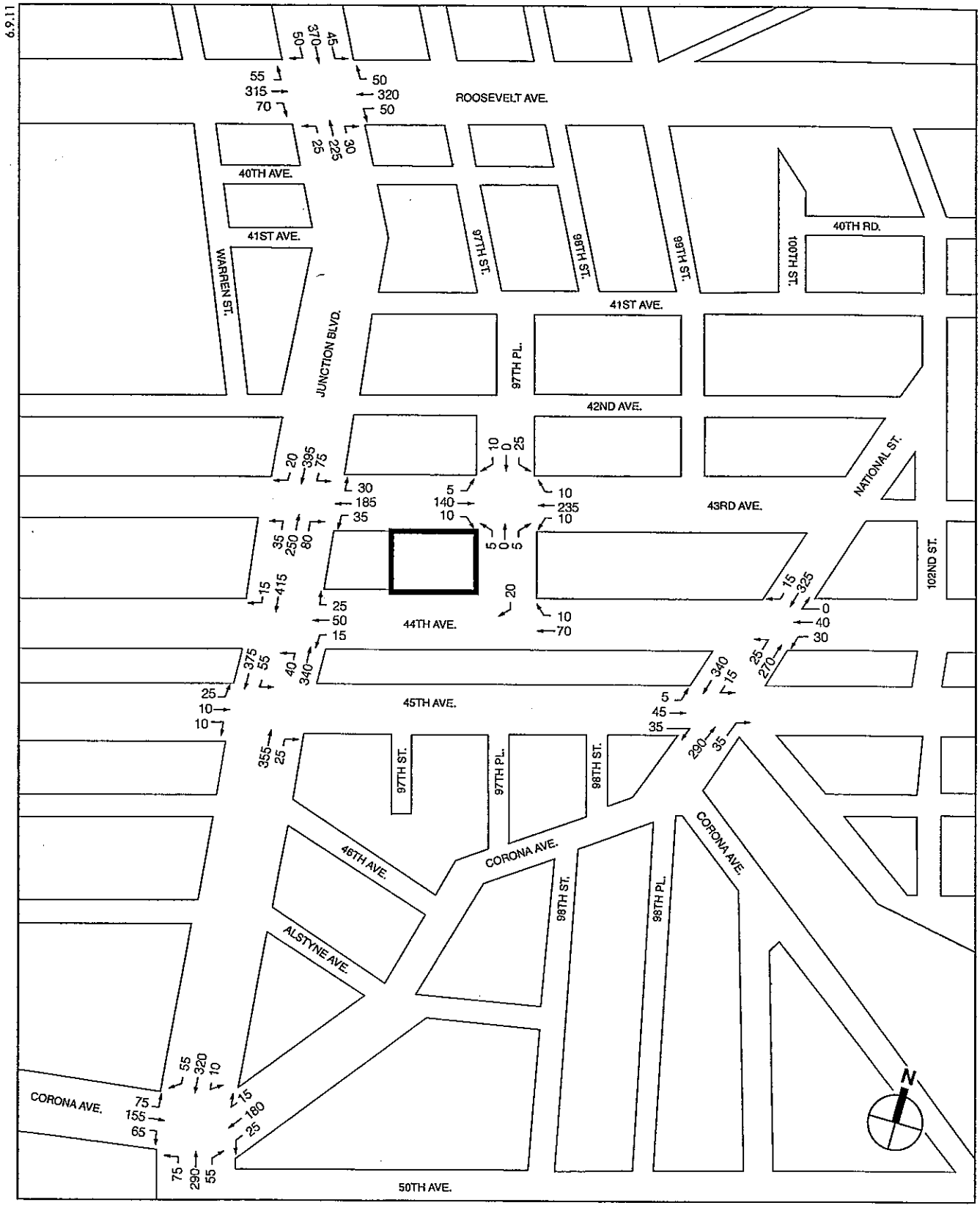
Tables 5-6 and **5-7** present the service conditions for the study area's signalized and unsignalized intersections. The capacity analysis indicates that most of the study area's signalized intersection approaches operate acceptably—at mid-LOS D (delays of 45 seconds or less for signalized intersections and 30 seconds or less for unsignalized intersections) or better for the two peak hours—with the following exceptions:

- The northbound and southbound approaches at the intersection of Roosevelt Avenue and Junction Boulevard, which operate at beyond mid-LOS D and at LOS F, during the AM and PM peak hours, respectively;



SCA P.S. 315 (Q315)

Traffic Study Area
Figure 5-1



2010 Existing Traffic Volumes
AM Peak Hour

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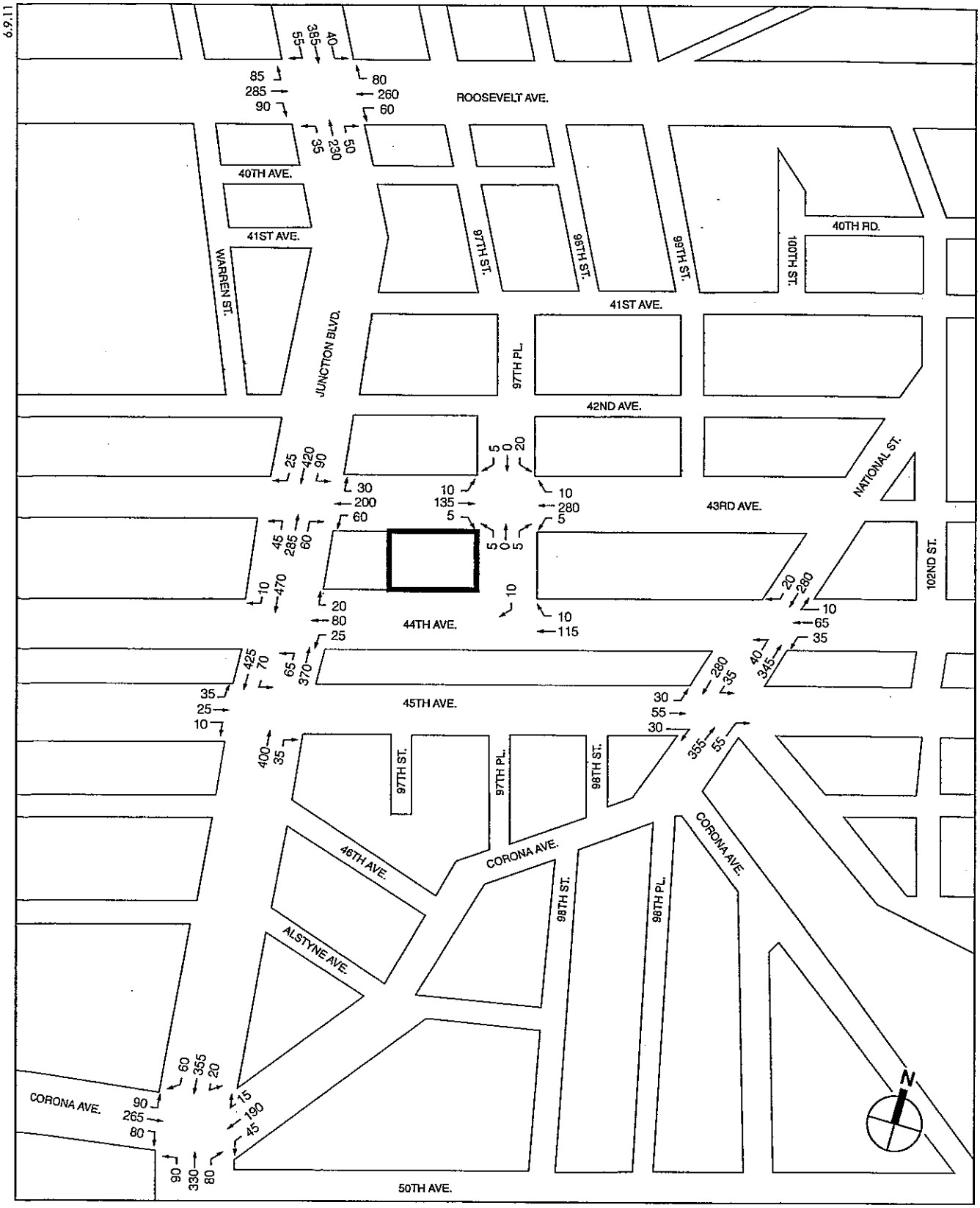
Figure 5-2



2010 Existing Traffic Volumes
PM Peak Hour
Figure 5-3

SCA P.S. 315 (Q315)

Table 5-6
2010 Existing Conditions Level of Service Analysis
Signalized Intersections

Intersection / Approach	AM Peak Hour				PM Peak Hour			
	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS
Roosevelt Avenue/Junction Boulevard								
Eastbound	LTR	0.69	24.2	C	LTR	0.79	30.4	C
Westbound	LTR	0.61	21.4	C	LTR	0.66	23.3	C
Northbound	LTR	0.79	47.8	D	LTR	0.81	50.2	D
Southbound	LTR	1.05	91.3	F	LTR	1.02	85.6	F
	Intersection		46.3	D	Intersection		47.3	D
43rd Avenue/Junction Boulevard								
Westbound	LTR	0.67	25.8	C	LTR	0.73	28.5	C
Northbound	LTR	0.57	13.6	B	LTR	0.63	14.8	B
Southbound	LTR	0.80	21.5	C	LTR	0.85	25.1	C
	Intersection		20.1	C	Intersection		22.6	C
Corona Avenue/Junction Boulevard								
Eastbound	LTR	0.55	16.9	B	LTR	0.79	25.2	C
Westbound	LTR	0.36	13.5	B	LTR	0.46	15.0	B
Northbound	LTR	0.66	19.0	B	LTR	0.80	24.9	C
Southbound	LTR	0.70	20.9	C	LTR	0.75	22.9	C
	Intersection		18.1	B	Intersection		22.8	C

Note: L: Left Turn; T: Through; R: Right Turn; LOS: Level of Service.

Table 5-7
2010 Existing Conditions Level of Service Analysis
Unsignalized Intersections

Intersection / Approach	AM Peak Hour				PM Peak Hour			
	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS
44th Avenue/Junction Boulevard								
Westbound	LTR	0.54	45.7	E	LTR	1.28	237.1	F
Northbound	LT	0.05	9.4	A	LT	0.08	9.6	A
45th Avenue/Junction Boulevard								
Eastbound	LTR	0.24	26.2	D	LTR	0.54	51.5	F
Southbound	LT	0.07	9.2	A	LT	0.09	9.6	A
44th Avenue/97th Place								
Westbound	TR	0.10	9.5	A	TR	0.16	9.9	A
44th Avenue/National Street								
Westbound	LTR	0.28	21.2	C	LTR	0.50	30.6	D
Northbound	LT	0.02	8.4	A	LT	0.04	8.4	A
45th Avenue/National Street								
Eastbound	LTR	0.30	19.8	C	LTR	0.42	26.5	D
Southbound	LT	0.01	8.3	A	LT	0.04	8.7	A
43rd Avenue/97th Place								
Eastbound	LTR	0.00	7.8	A	LTR	0.01	8.0	A
Westbound	LTR	0.01	7.6	A	LTR	0.00	7.6	A
Northbound	LTR	0.02	11.1	B	LTR	0.02	11.2	B
Southbound	LTR	0.08	12.4	B	LTR	0.06	12.8	B

Note: L: Left Turn; T: Through; R: Right Turn; LOS: Level of Service.

- The westbound approach at the intersection of 44th Avenue and Junction Boulevard, which operates at LOS E and LOS F during the AM and PM peak hours, respectively;
- The eastbound approach at the intersection of 45th Avenue and Junction Boulevard, which operates at LOS F during the PM peak hour; and
- The westbound approach at the intersection of 44th Avenue and National Street, which operates at beyond mid-LOS D during the PM peak hour.

THE FUTURE WITHOUT THE PROPOSED PROJECT

Future 2015 conditions without the proposed project were estimated by increasing existing traffic and pedestrian levels to reflect expected growth in overall travel through and within the study area. As per the 2010 *CEQR* guidelines, an annual background growth rate of 0.5 percent was assumed for an overall compounded growth of approximately 2.5 percent by 2015.

Besides the general background growth, notable projects expected to be completed in the study area by the year 2015 include an 800-seat primary school at 50-51 98th Street (located between 50th Avenue and Christie Avenue) and a new 785-seat intermediate school at 97-36 43rd Avenue, across 97th Place from the proposed project site. However, since the school at 97-36 43rd Avenue is still in the planning stages and is subject to a separate discretionary approval, two No Build scenarios were assessed—one assuming the school at 97-36 43rd Avenue is constructed by the proposed project's 2015 Build year, and the other assuming the school is constructed later. Furthermore, there was a recent change in the street direction on 45th Avenue between Junction Boulevard and 94th Street from one-way eastbound to one-way westbound. This street direction change has been incorporated in the No Build analysis.

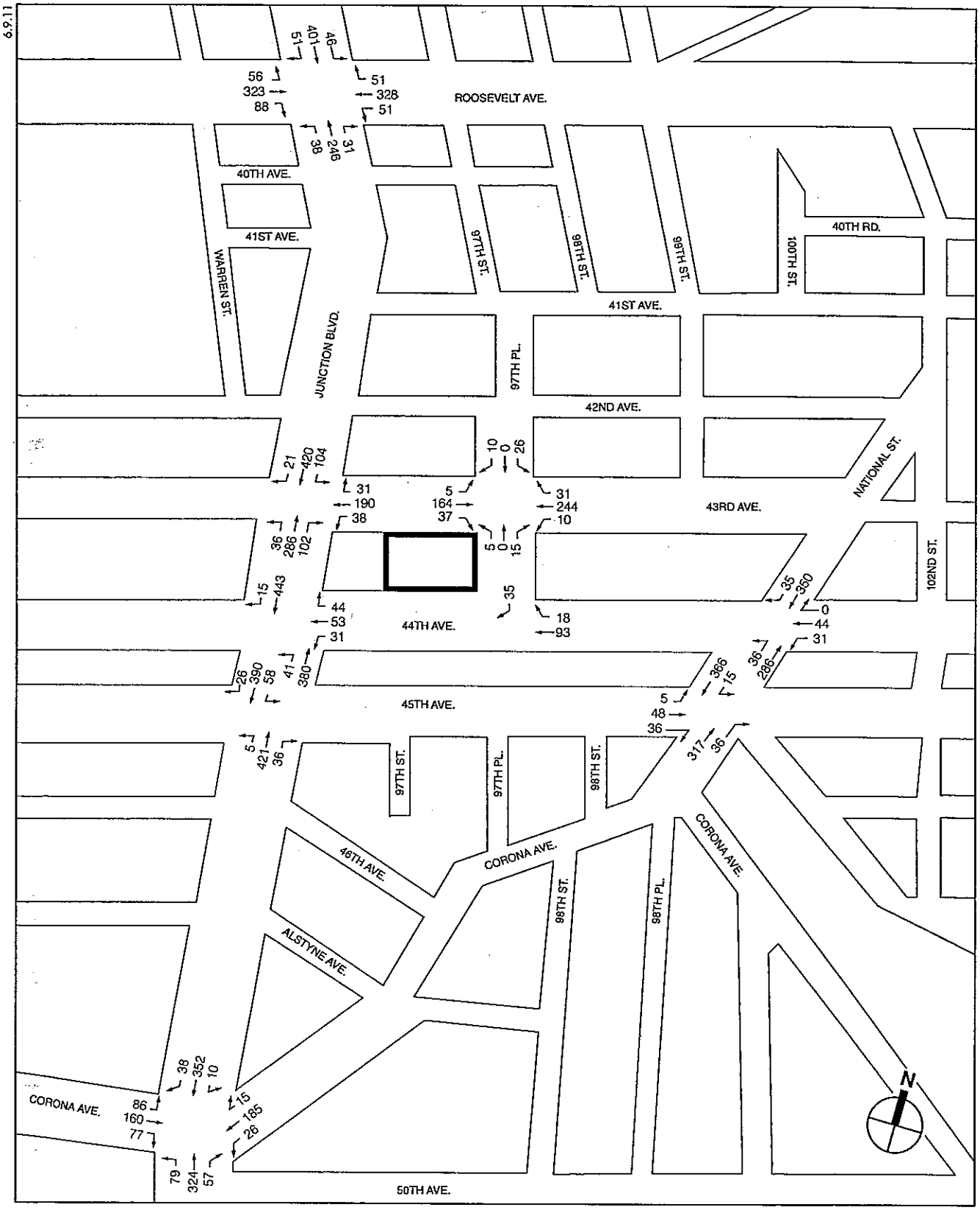
TRAFFIC OPERATIONS

Scenario One

Under Scenario One, in addition to the general background growth, both the primary and the intermediate school in the study area are expected to be completed by the year 2015. Vehicular and pedestrian trips generated by these two planned school projects and their corresponding proposed geometric improvements were incorporated in the 2015 No Build analysis. These include the traffic improvements proposed as part of the new intermediate school located at 97-36 43rd Avenue involving installation of All-Way-Stop-Controls (AWSC) at the intersections of 43rd and 44th Avenues at 97th Place to facilitate safe pedestrian crossings at newly installed crosswalks.

The 2015 Scenario One No Build traffic volumes are shown in **Figures 5-4** and **5-5** for the AM and PM peak hours, respectively. **Tables 5-8** and **5-9** present a comparison of Existing and Scenario One No Build conditions for signalized and unsignalized intersections, respectively. Based on the analysis results, the majority of the approaches/lane-groups would operate at the same LOS as in the existing conditions with the following notable exceptions:

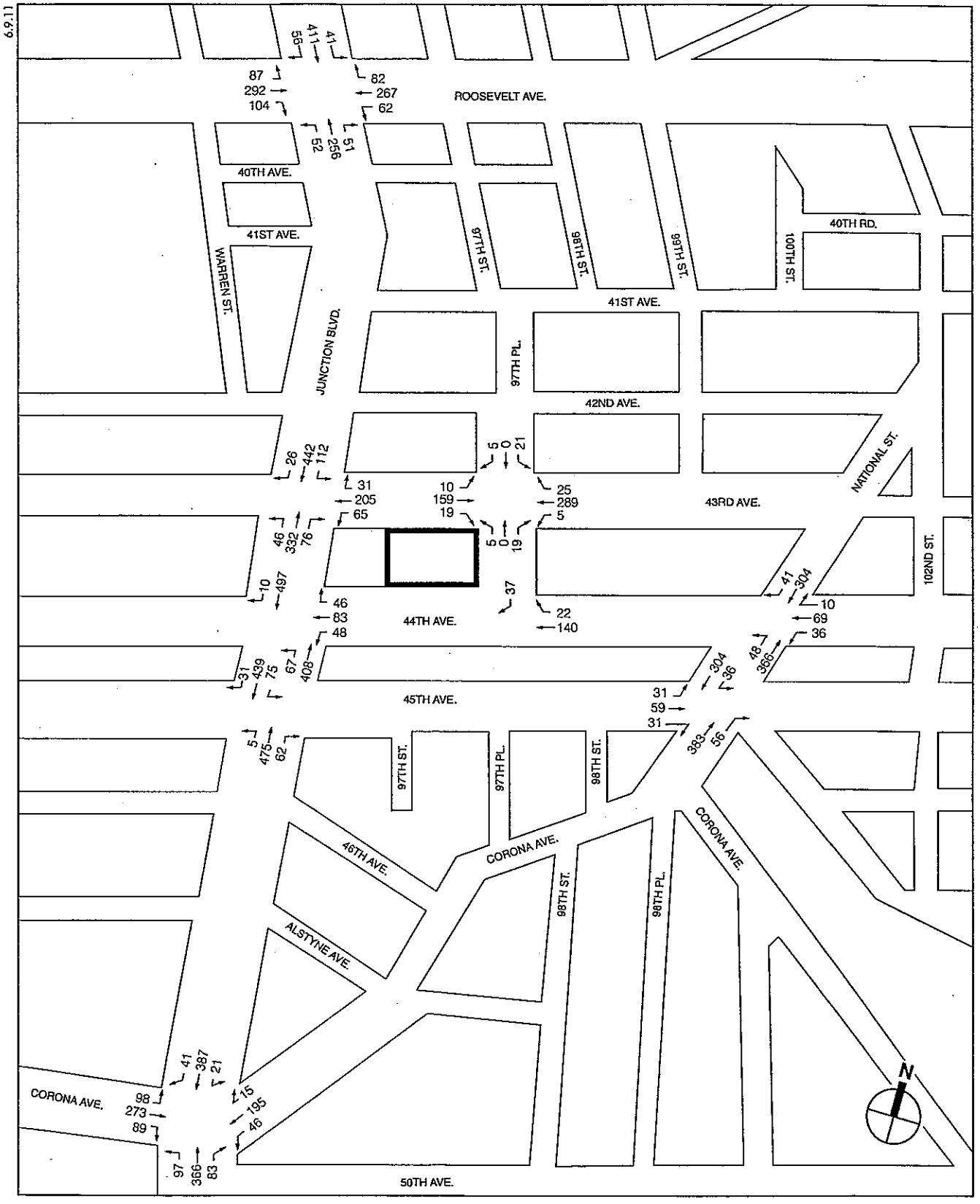
- The northbound approach at the intersection of Roosevelt Avenue and Junction Boulevard which would deteriorate from LOS D to LOS F during the AM and PM peak hours;
- The westbound approach at the intersection of 44th Avenue and Junction Boulevard which would deteriorate from LOS E to LOS F during the AM peak hour;
- The westbound approach at the intersection of 44th Avenue and National Street which would deteriorate from LOS C to LOS D during the AM peak hour and from LOS D to LOS F during the PM peak hour; and



2015 Scenario One No Build Traffic Volumes
AM Peak Hour

SCA P.S. 315 (Q315)

Figure 5-4



2015 Scenario One No Build Traffic Volumes
PM Peak Hour

SCA P.S. 315 (Q315)

Figure 5-5

Table 5-8
2010 Existing and 2015 Scenario One No Build Conditions Level of Service Analysis
Signalized Intersections

	AM Peak Hour								PM Peak Hour							
	2010 Existing				2015 No Build				2010 Existing				2015 No Build			
Intersection/ Approach	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS
Roosevelt Avenue/Junction Boulevard																
Eastbound	LTR	0.69	24.2	C	LTR	0.75	26.8	C	LTR	0.79	30.4	C	LTR	0.85	35.0-	C
Westbound	LTR	0.61	21.4	C	LTR	0.63	21.9	C	LTR	0.66	23.3	C	LTR	0.68	24.3	C
Northbound	LTR	0.79	47.8	D	LTR	0.99	81.0	F	LTR	0.81	50.2	D	LTR	1.03	93.5	F
Southbound	LTR	1.05	91.3	F	LTR	1.13	119.4	F	LTR	1.02	85.6	F	LTR	1.09	106.2	F
	Intersection		46.3	D	Intersection		61.8	E	Intersection		47.3	D	Intersection		63.2	E
43rd Avenue/Junction Boulevard																
Westbound	LTR	0.67	25.8	C	LTR	0.70	26.9	C	LTR	0.73	28.5	C	LTR	0.76	30.0	C
Northbound	LTR	0.57	13.6	B	LTR	0.68	16.6	B	LTR	0.63	14.8	B	LTR	0.74	18.6	B
Southbound	LTR	0.80	21.5	C	LTR	0.94	37.2	D	LTR	0.85	25.1	C	LTR	0.95	39.9	D
	Intersection		20.1	C	Intersection		28.2	C	Intersection		22.6	C	Intersection		30.4	C
Corona Avenue/Junction Boulevard																
Eastbound	LTR	0.55	16.9	B	LTR	0.61	18.4	B	LTR	0.79	25.2	C	LTR	0.85	29.4	C
Westbound	LTR	0.36	13.5	B	LTR	0.38	13.7	B	LTR	0.46	15.0	B	LTR	0.47	15.2	B
Northbound	LTR	0.66	19.0	B	LTR	0.73	21.5	C	LTR	0.80	24.9	C	LTR	0.89	32.7	C
Southbound	LTR	0.70	20.9	C	LTR	0.71	21.5	C	LTR	0.75	22.9	C	LTR	0.76	23.6	C
	Intersection		18.1	B	Intersection		19.5	B	Intersection		22.8	C	Intersection		26.7	C

Note: L: Left Turn; T: Through; R: Right Turn; LOS: Level of Service.

Table 5-9
2010 Existing and 2015 Scenario One No Build Conditions Level of Service Analysis
Unsignalized Intersections

	AM Peak Hour								PM Peak Hour							
	2010 Existing				2015 No Build				2010 Existing				2015 No Build			
Intersection/ Approach	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS
44th Avenue/Junction Boulevard																
Westbound	LTR	0.54	45.7	E	LTR	1.04	150.5	F	LTR	1.28	237.1	F	LTR	2.23	657.4	F
Northbound	LT	0.05	9.4	A	LT	0.05	9.7	A	LT	0.08	9.6	A	LT	0.09	9.9	A
45th Avenue/Junction Boulevard																
Eastbound	LTR	0.25	26.9	D					LTR	0.54	51.5	F				
Northbound					LTR	0.01	9.1	A					LTR	0.01	9.2	A
Southbound	LT	0.07	9.3	A	LTR	0.09	10.5	B	LT	0.09	9.6	A	LTR	0.12	11.1	B
44th Avenue/97th Place																
Westbound	TR	0.10	9.5	A	TR	0.14	7.6	A	TR	0.16	9.9	A	TR	0.21	8.2	A
Southbound					R	0.04	6.9	A					R	0.05	7.0	A
					Intersection		7.4	A					Intersection		7.9	A
44th Avenue/National Street																
Westbound	LTR	0.28	21.2	C	LTR	0.41	31.8	D	LTR	0.50	30.6	D	LTR	0.72	60.5	F
Northbound	LT	0.02	8.4	A	LT	0.04	9.5	A	LT	0.04	8.4	A	LT	0.06	9.5	A
45th Avenue/National Street																
Eastbound	LTR	0.30	19.8	C	LTR	0.42	28.5	D	LTR	0.42	26.5	D	LTR	0.59	43.8	E
Southbound	LT	0.01	8.3	A	LT	0.01	8.4	A	LT	0.04	8.7	A	LTR	0.04	8.8	A
43rd Avenue/97th Place																
Eastbound	LTR	0.00	7.8	A	LTR	0.32	9.5	A	LTR	0.01	8.0	A	LTR	0.29	9.3	A
Westbound	LTR	0.01	7.6	A	LTR	0.38	10.1	B	LTR	0.00	7.6	A	LTR	0.42	10.6	B
Northbound	LTR	0.02	11.1	B	LTR	0.03	8.1	A	LTR	0.02	11.2	B	LTR	0.04	8.1	A
Southbound	LTR	0.08	12.4	B	LTR	0.06	8.6	A	LTR	0.06	12.8	B	LTR	0.05	8.6	A
					Intersection		9.7	A					Intersection		9.9	A

Note: L: Left Turn; T: Through; R: Right Turn; LOS: Level of Service.

- The eastbound approach at the intersection of 45th Avenue and National Street which would deteriorate from LOS D to LOS E during the PM peak hour.

Scenario Two

Under Scenario Two, in addition to the general background growth, only the primary school located at 50-51 98th Street is expected to be completed by the year 2015. Vehicular and pedestrian trips generated by the planned school project were incorporated in the 2015 No Build analysis.

The 2015 Scenario Two No Build traffic volumes are shown in **Figures 5-6** and **5-7** for the AM and PM peak hours, respectively. **Tables 5-10** and **5-11** present a comparison of Existing and Scenario Two No Build conditions for signalized and unsignalized intersections, respectively. Based on the analysis results, the majority of the approaches/lane-groups would operate at the same LOS as in the existing conditions with the following notable exceptions:

- The northbound approach at the intersection of Roosevelt Avenue and Junction Boulevard which would deteriorate from LOS D to LOS E during the AM and PM peak hours; and
- The westbound approach at the intersection of 44th Avenue and Junction Boulevard which would deteriorate from LOS E to LOS F during the AM peak hour.

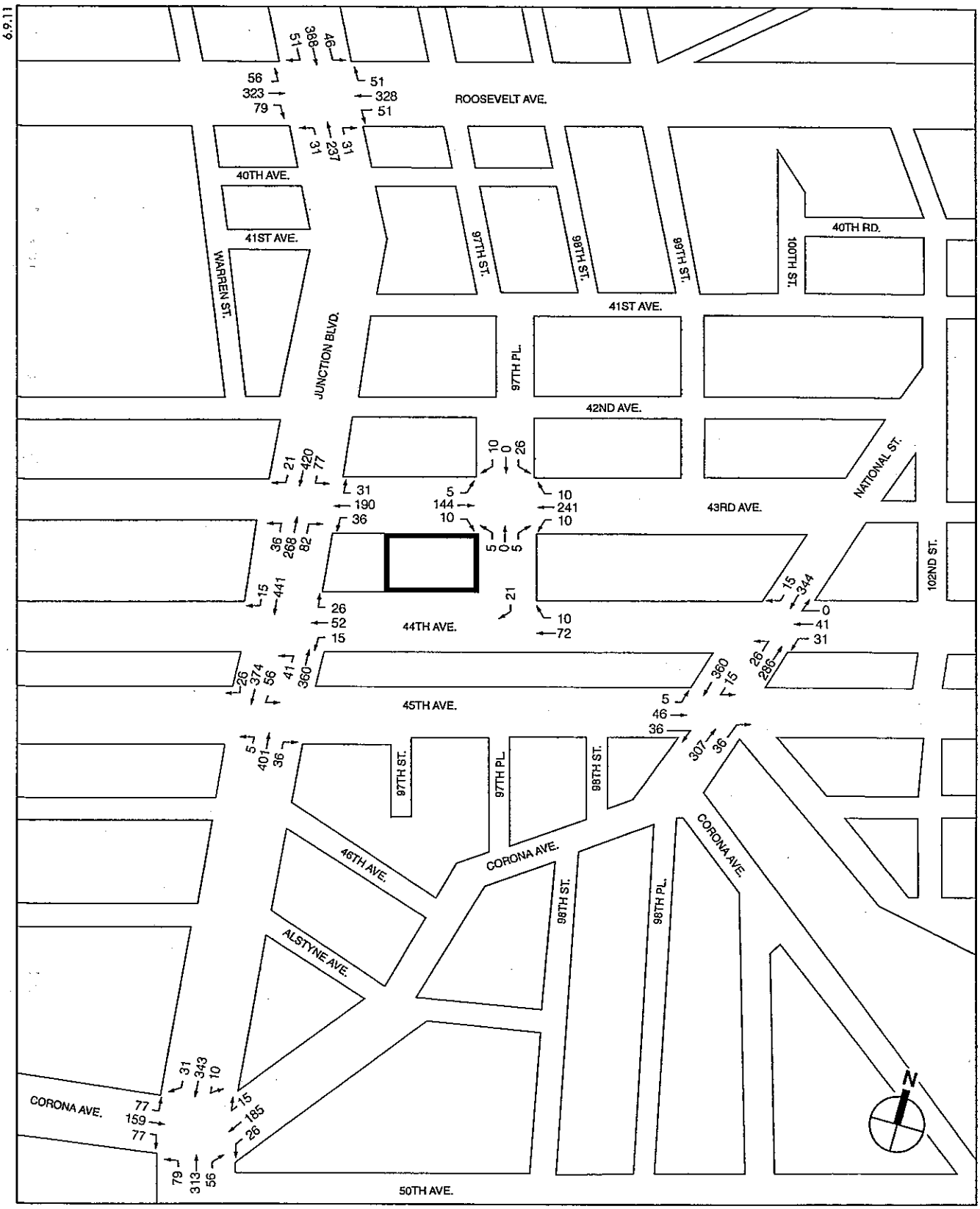
Table 5-10

2010 Existing and 2015 Scenario Two No Build Conditions Level of Service Analysis

Signalized Intersections

	AM Peak Hour								PM Peak Hour							
	2010 Existing				2015 No Build				2010 Existing				2015 No Build			
Intersection/ Approach	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS
Roosevelt Avenue/Junction Boulevard																
Eastbound	LTR	0.69	24.2	C	LTR	0.73	25.7	C	LTR	0.79	30.4	C	LTR	0.83	33.3	C
Westbound	LTR	0.61	21.4	C	LTR	0.63	21.8	C	LTR	0.66	23.3	C	LTR	0.68	24.2	C
Northbound	LTR	0.79	47.8	D	LTR	0.89	60.2	E	LTR	0.81	50.2	D	LTR	0.91	64.8	E
Southbound	LTR	1.05	91.3	F	LTR	1.10	107.8	F	LTR	1.02	85.6	F	LTR	1.07	98.6	F
	Intersection		46.3	D	Intersection		53.9	D	Intersection		47.3	D	Intersection		54.7	D
43rd Avenue/Junction Boulevard																
Westbound	LTR	0.67	25.8	C	LTR	0.69	26.6	C	LTR	0.73	28.5	C	LTR	0.75	29.6	C
Northbound	LTR	0.57	13.6	B	LTR	0.61	14.4	B	LTR	0.63	14.8	B	LTR	0.67	16.0	B
Southbound	LTR	0.80	21.5	C	LTR	0.85	25.3	C	LTR	0.85	25.1	C	LTR	0.88	28.8	C
	Intersection		20.1	C	Intersection		22.2	C	Intersection		22.6	C	Intersection		24.8	C
Corona Avenue/Junction Boulevard																
Eastbound	LTR	0.55	16.9	B	LTR	0.58	17.8	B	LTR	0.79	25.2	C	LTR	0.82	27.6	C
Westbound	LTR	0.36	13.5	B	LTR	0.38	13.7	B	LTR	0.46	15.0	B	LTR	0.47	15.2	B
Northbound	LTR	0.66	19.0	B	LTR	0.71	20.7	C	LTR	0.80	24.9	C	LTR	0.87	30.3	C
Southbound	LTR	0.70	20.9	C	LTR	0.68	20.3	C	LTR	0.75	22.9	C	LTR	0.72	21.8	C
	Intersection		18.1	B	Intersection		18.7	B	Intersection		22.8	C	Intersection		25.0	C

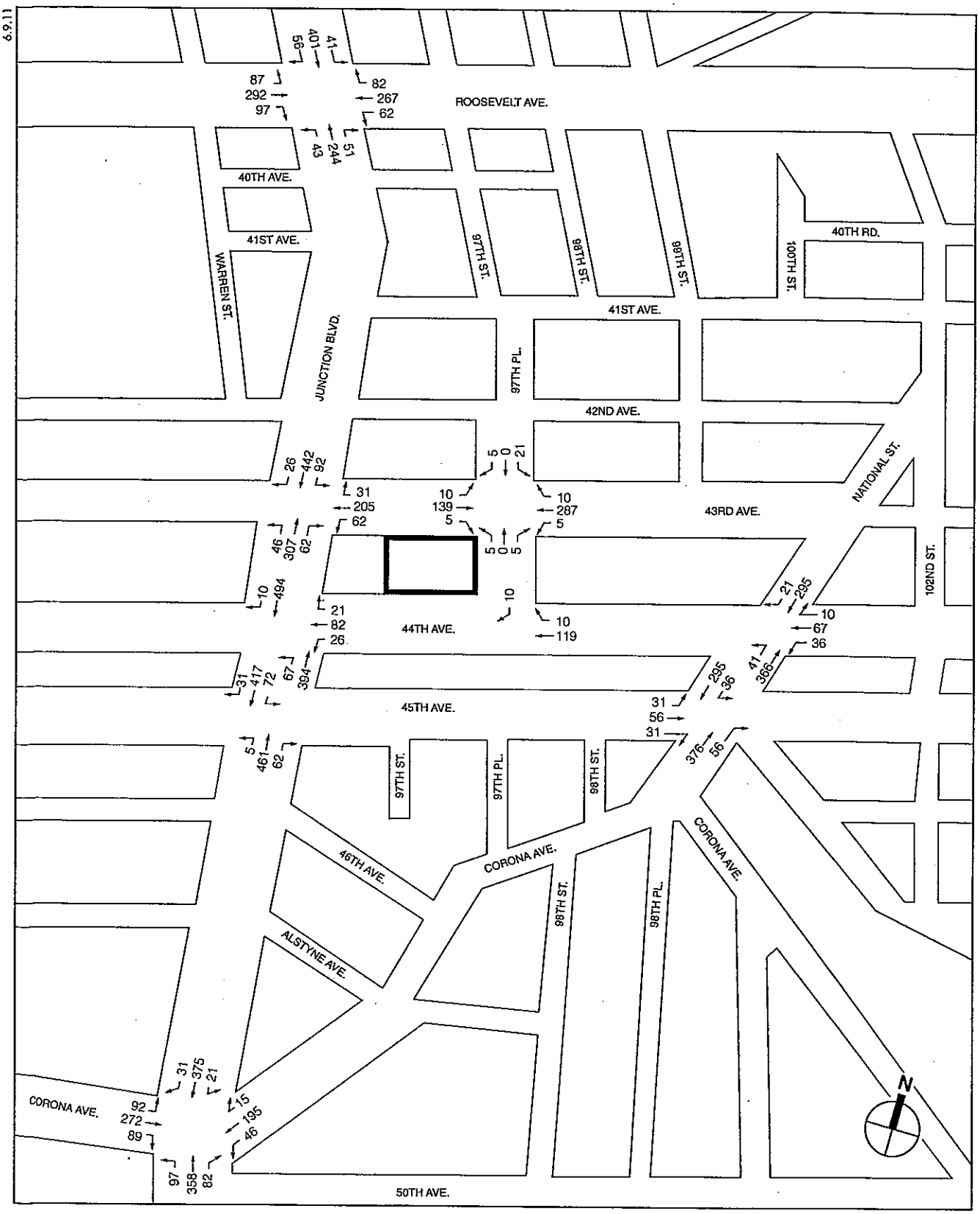
Note: L: Left Turn; T: Through; R: Right Turn; LOS: Level of Service.



2015 Scenario Two No Build Traffic Volumes
AM Peak Hour

SCA P.S. 315 (Q315)

Figure 5-6



2015 Scenario Two No Build Traffic Volumes
PM Peak Hour

SCA P.S. 315 (Q315)

Figure 5-7

Table 5-11
2010 Existing and 2015 Scenario Two No Build Conditions Level of Service Analysis
Unsignalized Intersections

Intersection/ Approach	AM Peak Hour								PM Peak Hour							
	2010 Existing				2015 No Build				2010 Existing				2015 No Build			
	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS
44th Avenue/Junction Boulevard																
Westbound	LTR	0.54	45.7	E	LTR	0.62	57.5	F	LTR	1.28	237.1	F	LTR	1.40	295.3	F
Northbound	LT	0.05	9.4	A	LT	0.05	9.6	A	LT	0.08	9.6	A	LT	0.09	9.8	A
45th Avenue/Junction Boulevard																
Eastbound	LTR	0.24	26.2	D					LTR	0.54	51.5	F				
Northbound					LTR	0.01	9.0	A					LTR	0.01	9.1	A
Southbound	LT	0.07	9.2	A	LTR	0.07	9.6	A	LT	0.09	9.6	A	LTR	0.10	10.0+	B
44th Avenue/97th Place																
Westbound	TR	0.10	9.5	A	TR	0.11	9.5	A	TR	0.16	9.9	A	TR	0.17	9.9	A
44th Avenue/National Street																
Westbound	LTR	0.28	21.2	C	LTR	0.31	23.1	C	LTR	0.50	30.6	D	LTR	0.55	34.8	D
Northbound	LT	0.02	8.4	A	LT	0.03	8.5	A	LT	0.04	8.4	A	LT	0.04	8.5	A
45th Avenue/National Street																
Eastbound	LTR	0.30	19.8	C	LTR	0.33	21.3	C	LTR	0.42	26.5	D	LTR	0.46	29.3	D
Southbound	LT	0.01	8.3	A	LT	0.01	8.4	A	LT	0.04	8.7	A	LTR	0.04	8.8	A
43rd Avenue/97th Place																
Eastbound	LTR	0.00	7.8	A	LTR	0.00	7.9	A	LTR	0.01	8.0	A	LTR	0.01	8.0	A
Westbound	LTR	0.01	7.6	A	LTR	0.01	7.6	A	LTR	0.00	7.6	A	LTR	0.00	7.6	A
Northbound	LTR	0.02	11.1	B	LTR	0.02	11.2	B	LTR	0.02	11.2	B	LTR	0.02	11.2	B
Southbound	LTR	0.08	12.4	B	LTR	0.08	12.6	B	LTR	0.06	12.8	B	LTR	0.07	13.0	B

Note: L: Left Turn; T: Through; R: Right Turn; LOS: Level of Service.

PROBABLE IMPACTS OF THE PROPOSED PROJECT

PROJECT TRIP GENERATION AND MODAL SPLIT

The proposed school would serve Community School District (CSD) 24 and would accommodate students in pre-kindergarten through fifth grade. Modal split estimates for the primary school students were determined based on the information presented in environmental studies for other school projects with comparable characteristics and the New York Metropolitan Transportation Council (NYMTC) data for Queens County. In terms of modal split estimates for special education students, it was assumed that due to their special needs, they would primarily use school buses or be dropped off by autos. The modal split estimates for the staff/faculty were based on the reverse-journey-to-work (RJTW) information from the 2000 US Census Data.

PRIMARY SCHOOL

The primary school would serve approximately 1,014 students (not including special education students). To accurately estimate the number of student trips on a typical day, a 10 percent absentee rate was assumed, yielding a total of 912 students. In addition, it is estimated that approximately 90 percent, or about 821 of the students, would arrive and depart during the morning and afternoon peak hours. The trip generation and modal splits for the proposed primary school students are presented in **Table 5-12**.

Table 5-12
Trip Generation
Primary School Students

Travel Mode	Students		
	Percent	Person Trips	Vehicle Trips
AM PEAK HOUR			
Automobile (drop-offs/pick-ups)*	10%	82	63
Taxi	0%	0	0
School Bus/Van*	10%	82	5
Public Transit	5%	41	—
Walk	75%	616	—
PM PEAK HOUR			
Automobile (drop-offs/pick-ups)*	10%	82	63
Taxi	0%	0	0
School Bus/Van*	10%	82	5
Public Transit	5%	41	—
Walk	75%	616	—

Notes:
* Both inbound and outbound vehicle trips takes place during the same peak hour
Student Vehicle Occupancy = 1.3
School Bus/Van Occupancy = 17

SPECIAL EDUCATION STUDENTS

The proposed school would serve approximately 96 special education students. To accurately estimate the number of student trips on a typical day, a 10-percent absentee rate was assumed, yielding a daily total of 86 students attending school. In addition, it is estimated that about 90 percent or approximately 77 students would arrive and depart during the morning and afternoon peak hours. The trip generation and modal splits for the special education students are presented in **Table 5-13**.

Table 5-13
Trip Generation
Special Education Students

Travel Mode	Students		
	Percent	Person Trips	Vehicle Trips
AM PEAK HOUR			
Automobile (drop-offs/pick-ups)*	25%	19	15
School Bus/Van*	75%	58	4
Public Transit	0%	0	—
Walk	0%	0	—
PM PEAK HOUR			
Automobile (drop-offs/pick-ups)*	25%	19	15
School Bus/Van*	75%	58	4
Public Transit	0%	0	---
Walk	0%	0	---

Notes:
* Both inbound and outbound vehicle trips takes place during the same peak hour
Student Vehicle Occupancy = 1.3
School Bus/Van Occupancy = 17

TEACHERS AND ADMINISTRATIVE STAFF

The school facility would be staffed by approximately 85 teachers and administrative staff. It is estimated that about 90 percent of the teachers and administrative staff would arrive and depart during the morning and afternoon peak hours. The trip generation and modal splits for the teachers and administrative staff are presented in **Table 5-14.**

Table 5-14
Trip Generation
Teachers and Administrative Staff

Travel Mode [1]	Staff		
	Percent	Person Trips	Vehicle Trips
AM PEAK HOUR			
Automobile (Drive)	55%	42	34
Taxi	2%	1	1
Subway	15%	12	—
Local Bus	7%	5	—
Walk	21%	16	—
PM PEAK HOUR			
Automobile (Drive)	55%	42	34
Taxi	2%	1	1
Subway	15%	12	—
Local Bus	7%	5	—
Walk	21%	16	—

Notes:
Staff Vehicle Occupancy = 1.23
(1) Modal splits based on Reverse-Journey-To-Work (RJTW) information from the 2000 U.S. Census Data.

SITE ACCESS AND STUDENT DROP-OFFS

The main entrance for the proposed school facility would be located at the corner of 97th Place and 44th Avenue. Based on the location of the project site and the direction of traffic flow on the streets/roadways in the study area, all student drop-offs/pick-ups were assumed to take place on 44th Avenue between 97th Place and Junction Boulevard in front of the school's main entrance. All the staff-generated auto trips were assigned to on-street parking in the study area.

PROJECT VEHICLE ASSIGNMENT

Project-generated traffic was assigned to the study area network based on the local travel patterns and the most likely approach paths to and from the project site. Project-generated traffic entering the study area was distributed in the following manner: 24 percent from the north, 25 percent from the south; 24 percent from the east and 27 percent from the west.

TRAFFIC OPERATIONS

As discussed in the preceding "The Future without the Proposed Project" section, two No Build scenarios were assessed—Scenario One assumed that the construction of a new 785-seat intermediate school at 97-36 43rd Avenue would be completed by 2015, while Scenario Two assumed that the intermediate school would be constructed later than 2015. Traffic operations under both scenarios are discussed in the following sections.

Scenario One

Figures 5-8 and **5-9** show the total project-generated traffic volumes on the streets surrounding the site in the AM and PM peak hours, respectively. **Figures 5-10** and **5-11** show the estimated Scenario One future with the proposed project (Build) condition volumes for the AM and PM peak hours, respectively. **Tables 5-15** and **5-16** present a comparison of the Scenario One No Build and Build conditions for signalized and unsignalized intersections.

For the streets around the site, capacities at most of the approaches would be sufficient to accommodate these increases. However, based on the impact criteria discussed earlier, the proposed project could cause significant adverse impacts at the following intersection approaches/lane-groups during the two peak hours analyzed:

Signalized Intersections

- The northbound and southbound approaches at the intersection of Roosevelt Avenue and Junction Boulevard during the AM and PM peak periods; and
- The southbound approach at the intersection of 43rd Avenue and Junction Boulevard during the AM and PM peak periods.

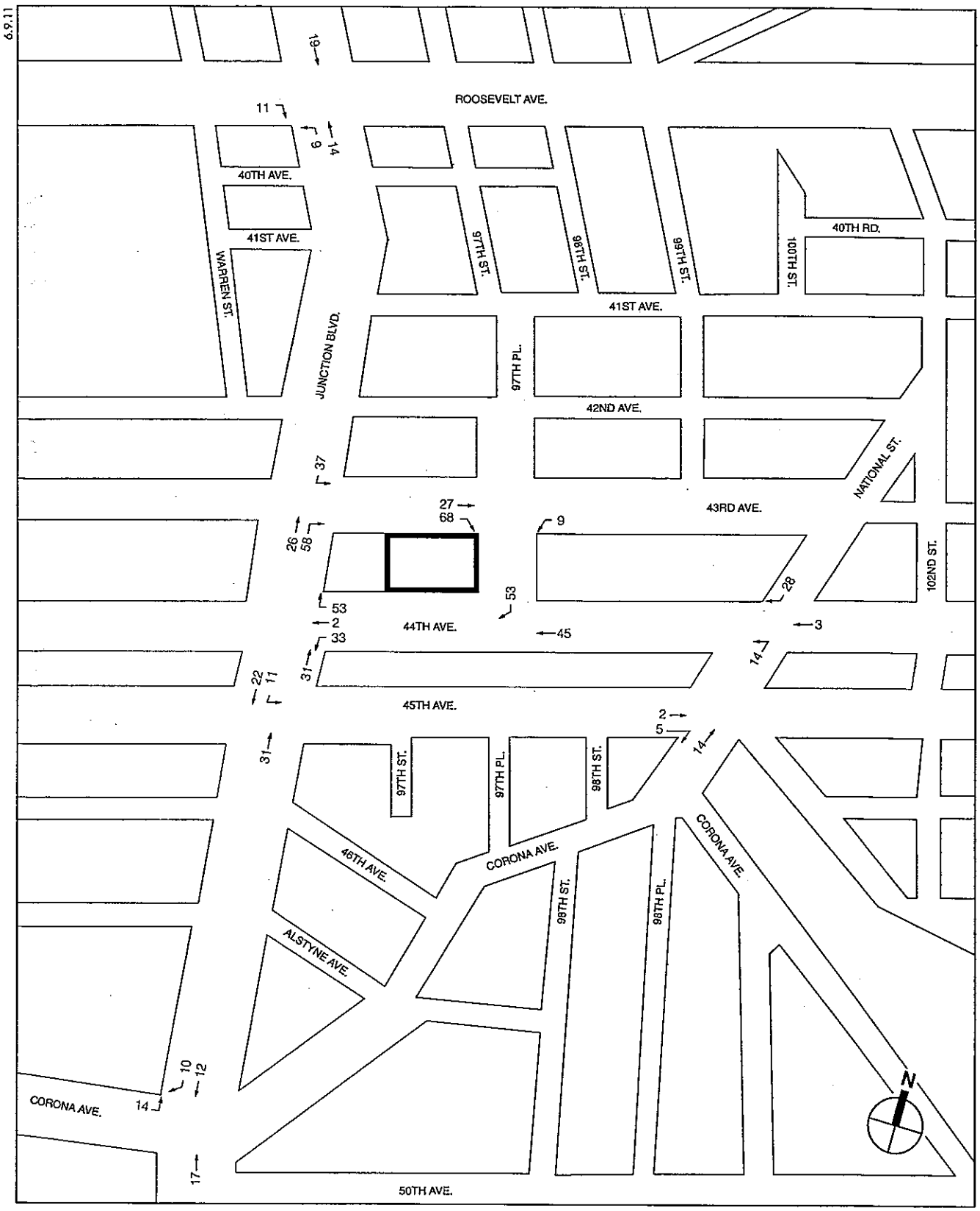
Unsignalized Intersections

- The westbound approach at the intersection of 44th Avenue and Junction Boulevard during the AM and PM peak periods;
- The westbound approach at the intersection of 44th Avenue and National Street during the PM peak period[1]; and
- The eastbound approach at the intersection of 45th Avenue and National Street during the AM and PM peak periods.

Scenario Two

Figures 5-8 and **5-9** show the total project-generated traffic volumes on the streets surrounding the site in the AM and PM peak hours, respectively. **Figures 5-12** and **5-13** show the estimated Scenario Two future with the proposed project (Build) condition volumes for the AM and PM peak hours, respectively. **Tables 5-17** and **5-18** present a comparison of the Scenario Two No Build and Build conditions for signalized and unsignalized intersections.

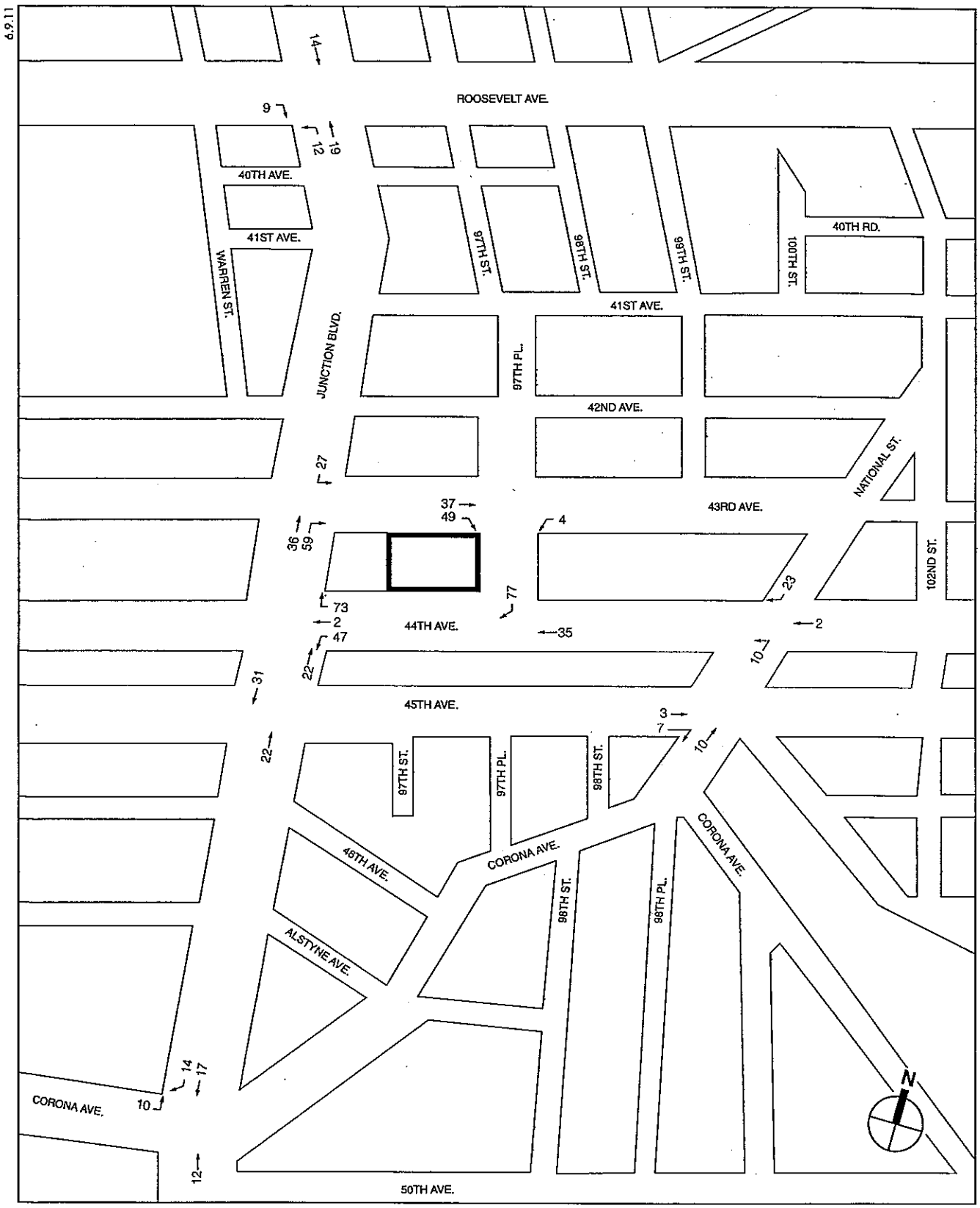
[1] As described in Section B, "Methodology," for the unsignalized intersection significant impact criteria, the difference in the westbound delays at this intersection between the No Build and Build conditions would not be considered a significant adverse impact per *CEQR* criteria because there are less than 90 vehicles at the westbound approach during the AM peak hour.



2015 Project Generated Traffic Volumes
AM Peak Hour

SCA P.S. 315 (Q315)

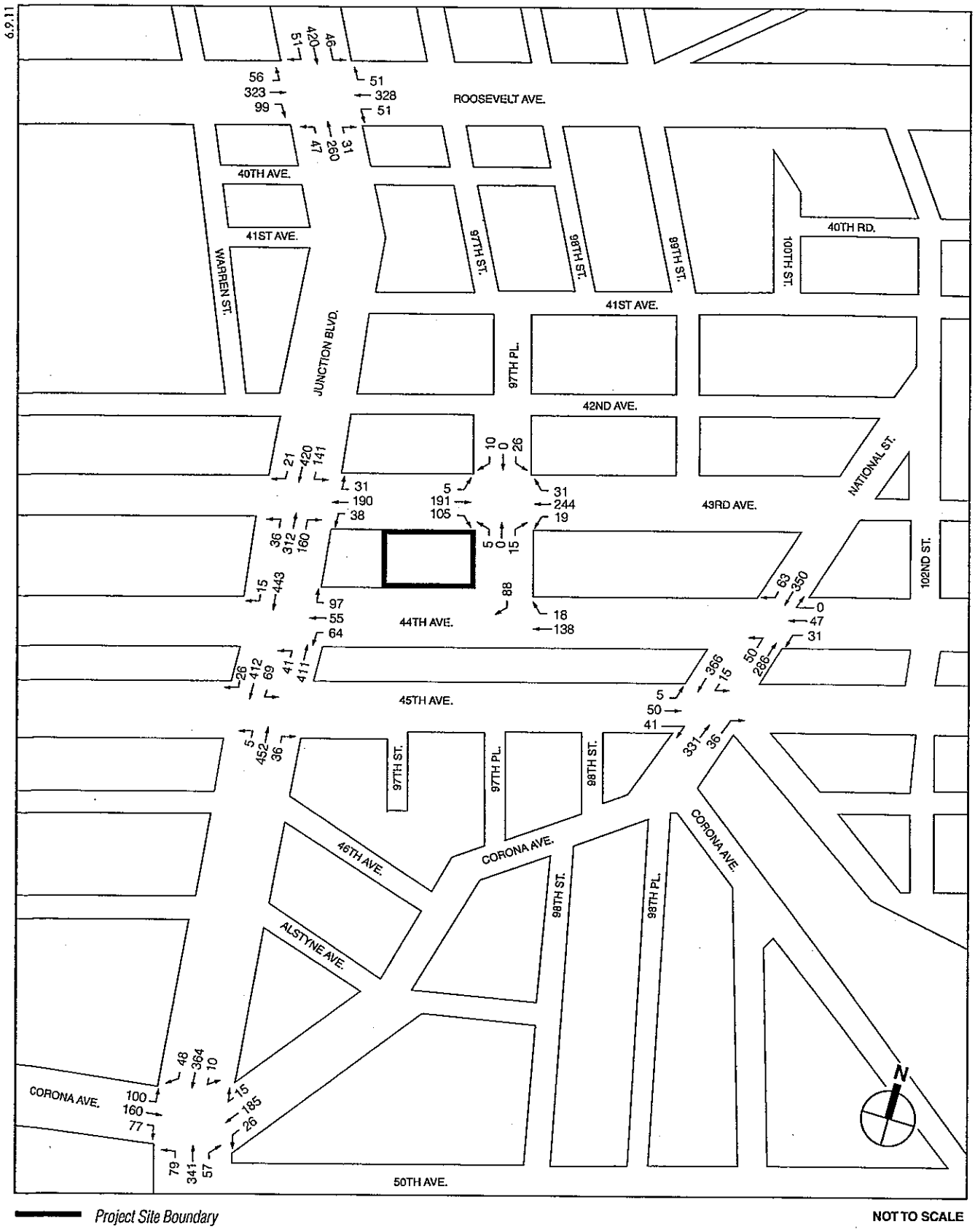
Figure 5-8



2015 Project Generated Traffic Volumes
PM Peak Hour

SCA P.S. 315 (Q315)

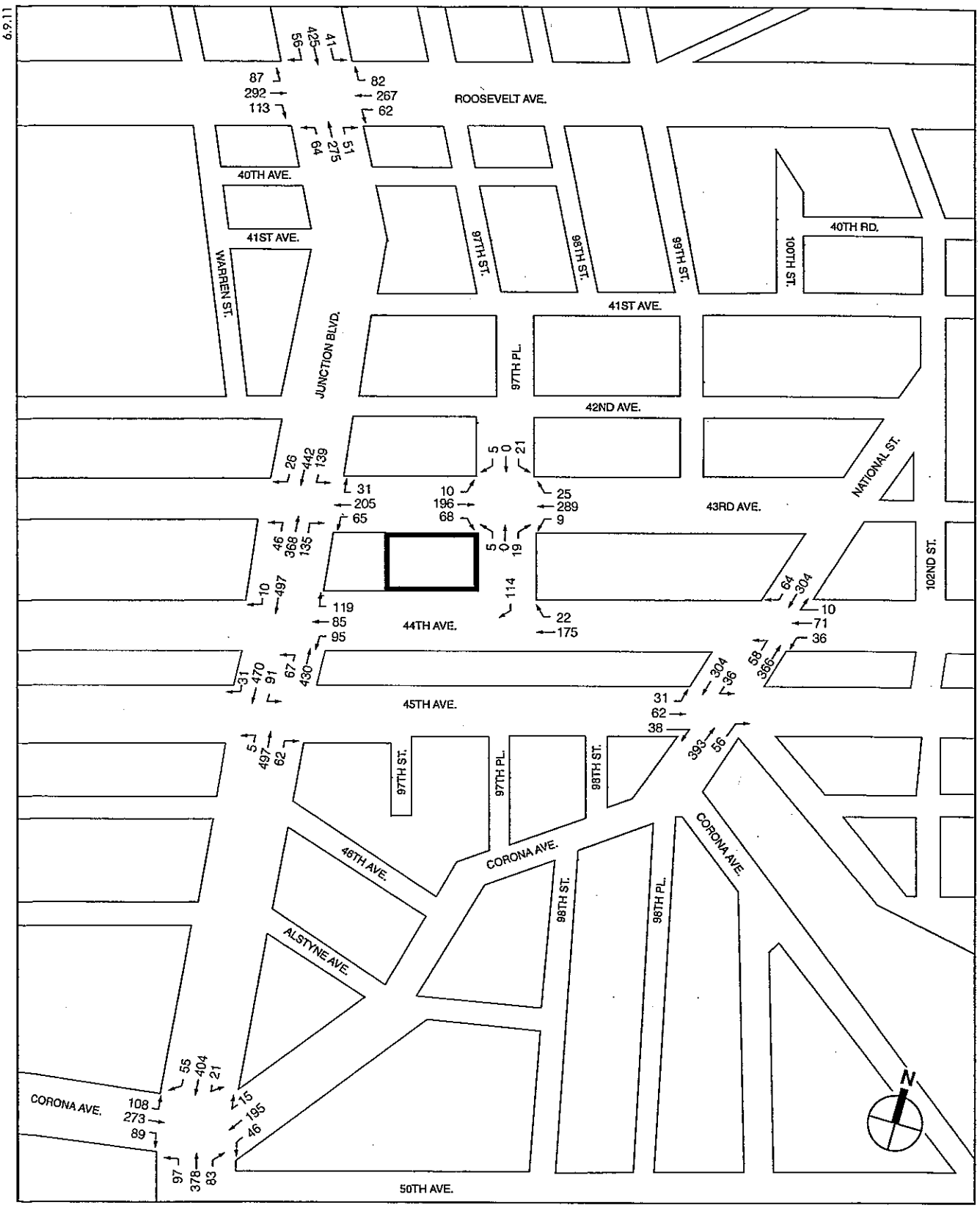
Figure 5-9



2015 Scenario One Build Traffic Volumes
AM Peak Hour

SCA P.S. 315 (Q315)

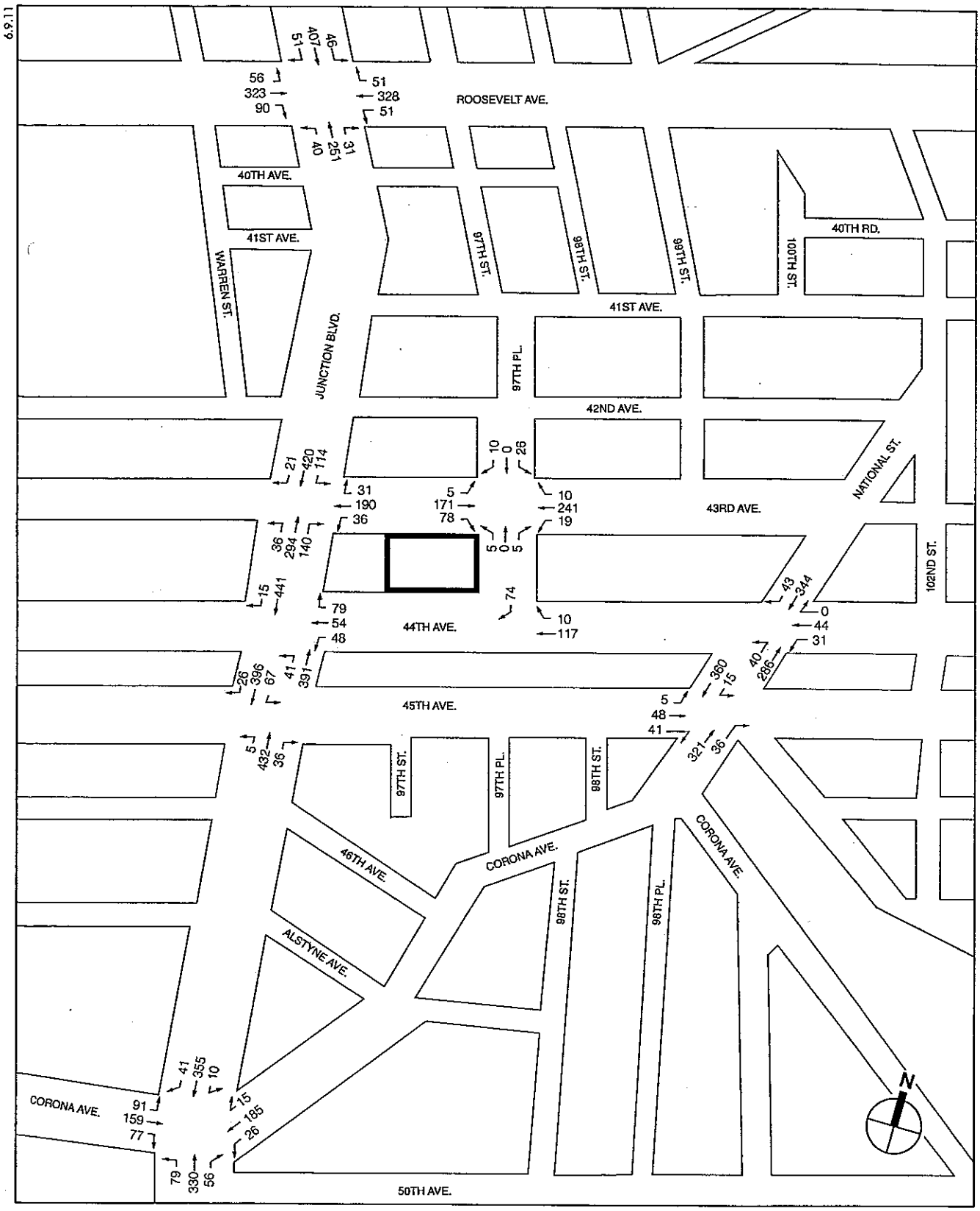
Figure 5-10



2015 Scenario One Build Traffic Volumes
PM Peak Hour

SCA P.S. 315 (Q315)

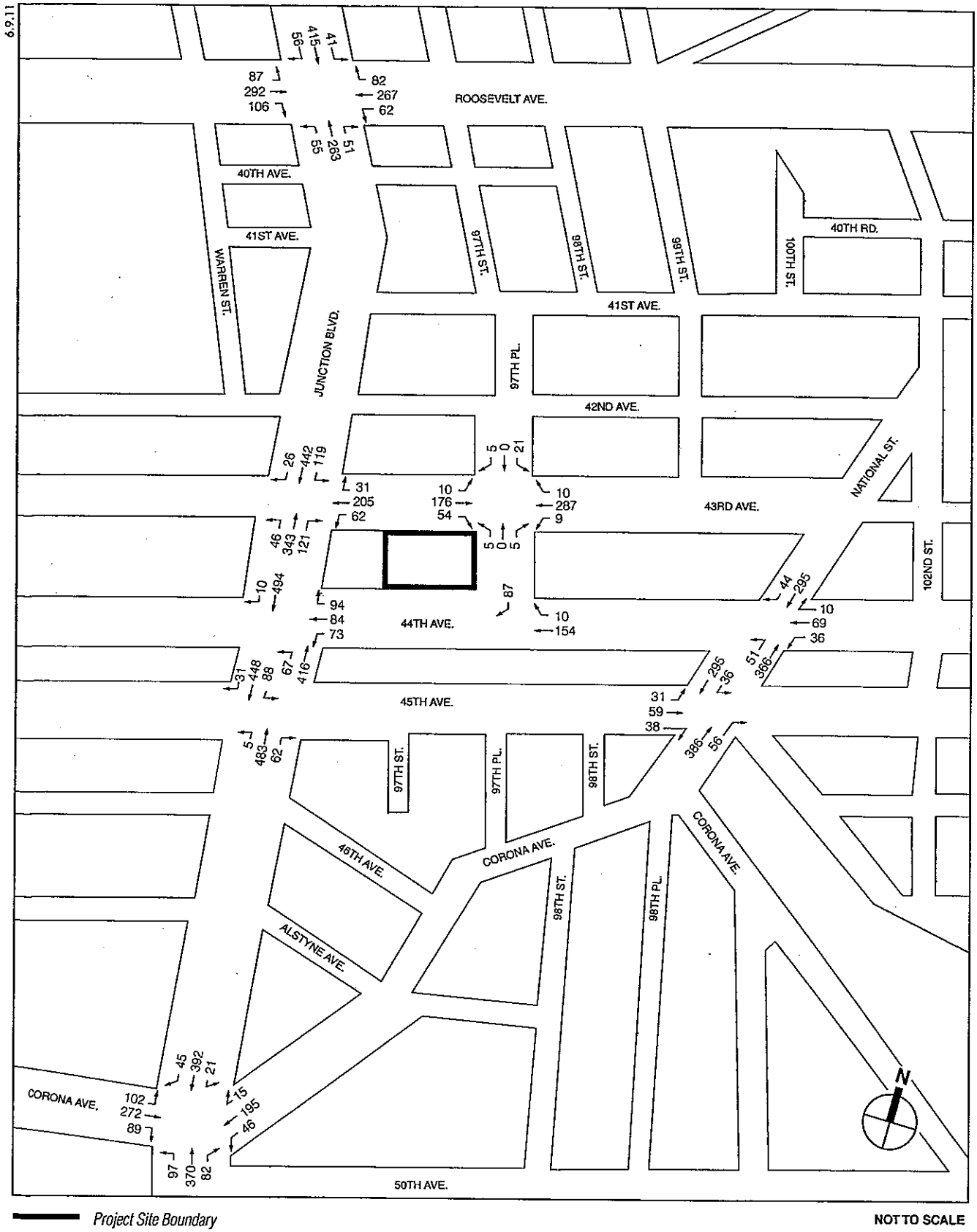
Figure 5-11



2015 Scenario Two Build Traffic Volumes
AM Peak Hour

SCA P.S. 315 (Q315)

Figure 5-12



2015 Scenario Two Build Traffic Volumes
PM Peak Hour

SCA P.S. 315 (Q315)

Figure 5-13

Table 5-15
2015 Scenario One No Build and Build Conditions Level of Service Analysis
Signalized Intersections

Intersection/ Approach	AM Peak Hour								PM Peak Hour							
	2015 No Build				2015 Build				2015 No Build				2015 Build			
	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS
Roosevelt Avenue/Junction Boulevard																
Eastbound	LTR	0.75	26.8	C	LTR	0.78	28.4	C	LTR	0.85	35.0-	C	LTR	0.87	37.2	D
Westbound	LTR	0.63	21.9	C	LTR	0.63	21.9	C	LTR	0.68	24.3	C	LTR	0.69	24.4	C
Northbound	LTR	0.99	81.0	F	LTR	1.16	135.1	F+	LTR	1.03	93.5	F	LTR	1.21	157.0	F+
Southbound	LTR	1.13	119.4	F	LTR	1.17	135.4	F+	LTR	1.09	106.2	F	LTR	1.13	118.8	F+
	Intersection		61.8	E	Intersection		78.3	E	Intersection		63.2	E	Intersection		81.2	F
43rd Avenue/Junction Boulevard																
Westbound	LTR	0.70	26.9	C	LTR	0.70	26.9	C	LTR	0.76	30.0	C	LTR	0.76	30.0	C
Northbound	LTR	0.68	16.6	B	LTR	0.86	27.7	C	LTR	0.74	18.6	B	LTR	0.94	36.9	C
Southbound	LTR	0.94	37.2	D	LTR	1.14	96.0	F+	LTR	0.95	39.9	D	LTR	1.12	87.9	F+
	Intersection		28.2	C	Intersection		57.5	E	Intersection		30.4	C	Intersection		56.4	E
Corona Avenue/Junction Boulevard																
Eastbound	LTR	0.61	18.4	B	LTR	0.65	19.6	B	LTR	0.85	29.4	C	LTR	0.88	33.1	C
Westbound	LTR	0.38	13.7	B	LTR	0.38	13.7	B	LTR	0.47	15.2	B	LTR	0.47	15.2	B
Northbound	LTR	0.73	21.5	C	LTR	0.76	22.8	C	LTR	0.89	32.7	C	LTR	0.92	36.9	D
Southbound	LTR	0.71	21.5	C	LTR	0.76	23.5	C	LTR	0.76	23.6	C	LTR	0.82	27.2	C
	Intersection		19.5	B	Intersection		20.8	C	Intersection		26.7	C	Intersection		30.0	C

Notes: L: Left Turn; T: Through; R: Right Turn; LOS: Level of Service.
+ implies a significant adverse impact

Table 5-16
2015 Scenario One No Build and Build Conditions Level of Service Analysis
Unsignalized Intersections

Intersection/ Approach	AM Peak Hour								PM Peak Hour							
	2015 No Build				2015 Build				2015 No Build				2015 Build			
	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS
44th Avenue/Junction Boulevard																
Westbound	LTR	1.04	150.5	F	LTR	3.38	1195.0	F+	LTR	2.23	657.4	F	LTR	6.00	2381.0	F+
Northbound	LT	0.05	9.7	A	LT	0.05	9.7	A	LT	0.09	9.9	A	LT	0.09	9.9	A
45th Avenue/Junction Boulevard																
Northbound	LTR	0.01	9.1	A	LTR	0.01	9.2	A	LTR	0.01	9.2	A	LTR	0.01	9.3	A
Southbound	LTR	0.09	10.5	B	LTR	0.19	15.7	C	LTR	0.12	11.1	B	LTR	0.25	17.3	C
44th Avenue/97th Place																
Westbound	TR	0.14	7.6	A	TR	0.21	8.2	A	TR	0.21	8.2	A	TR	0.27	8.9	A
Southbound	R	0.04	6.9	A	R	0.12	7.3	A	R	0.05	7.0	A	R	0.15	7.6	A
	Intersection		7.4	A	Intersection		7.9	A	Intersection		7.9	A	Intersection		8.4	A
44th Avenue/National Street																
Westbound	LTR	0.41	31.8	D	LTR	0.88	128.7	F	LTR	0.72	60.5	F	LTR	1.52	357.2	F+
Northbound	LT	0.04	9.5	A	LT	0.12	14.0	B	LT	0.06	9.5	A	LT	0.13	14.0	B
45th Avenue/National Street																
Eastbound	LTR	0.42	28.5	D	LTR	0.83	96.6	F+	LTR	0.59	43.8	E	LTR	1.16	205.6	F+
Southbound	LT	0.01	8.4	A	LT	0.02	8.5	A	LTR	0.04	8.8	A	LTR	0.04	8.8	A
43rd Avenue/97th Place																
Eastbound	LTR	0.32	9.5	A	LTR	0.45	10.9	B	LTR	0.29	9.3	A	LTR	0.42	10.6	B
Westbound	LTR	0.38	10.1	B	LTR	0.40	10.6	B	LTR	0.42	10.6	B	LTR	0.44	11.0	B
Northbound	LTR	0.03	8.1	A	LTR	0.03	8.4	A	LTR	0.04	8.1	A	LTR	0.04	8.4	A
Southbound	LTR	0.06	8.6	A	LTR	0.07	8.9	A	LTR	0.05	8.6	A	LTR	0.05	8.9	A
	Intersection		9.7	A	Intersection		10.6	B	Intersection		9.9	A	Intersection		10.6	B

Notes: L: Left Turn; T: Through; R: Right Turn; LOS: Level of Service.
+ implies a significant adverse impact

Table 5-17
2015 Scenario Two No Build and Build Conditions Level of Service Analysis
Signalized Intersections

Intersection/ Approach	AM Peak Hour								PM Peak Hour							
	2015 No Build				2015 Build				2015 No Build				2015 Build			
	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS
Roosevelt Avenue/Junction Boulevard																
Eastbound	LTR	0.73	25.7	C	LTR	0.75	27.1	C	LTR	0.83	33.3	C	LTR	0.85	35.4	D
Westbound	LTR	0.63	21.8	C	LTR	0.63	21.9	C	LTR	0.68	24.2	C	LTR	0.68	24.3	C
Northbound	LTR	0.89	60.2	E	LTR	1.03	92.9	F+	LTR	0.91	64.8	E	LTR	1.08	108.1	F+
Southbound	LTR	1.10	107.8	F	LTR	1.14	123.8	F+	LTR	1.07	98.6	F	LTR	1.10	109.9	F+
	Intersection		53.9	D	Intersection		65.7	E	Intersection		54.7	D	Intersection		67.5	E
43rd Avenue/Junction Boulevard																
Westbound	LTR	0.69	26.6	C	LTR	0.69	26.6	C	LTR	0.75	29.6	C	LTR	0.75	29.6	C
Northbound	LTR	0.61	14.4	B	LTR	0.78	21.3	C	LTR	0.67	16.0	B	LTR	0.86	26.8	C
Southbound	LTR	0.85	25.3	C	LTR	1.00	49.2	D+	LTR	0.88	28.8	C	LTR	1.00	51.6	D+
	Intersection		22.2	C	Intersection		34.7	C	Intersection		24.8	C	Intersection		37.7	D
Corona Avenue/Junction Boulevard																
Eastbound	LTR	0.58	17.8	B	LTR	0.62	18.8	B	LTR	0.82	27.6	C	LTR	0.86	30.5	C
Westbound	LTR	0.38	13.7	B	LTR	0.38	13.7	B	LTR	0.47	15.2	B	LTR	0.47	15.2	B
Northbound	LTR	0.71	20.7	C	LTR	0.74	21.8	C	LTR	0.87	30.3	C	LTR	0.90	33.8	C
Southbound	LTR	0.68	20.3	C	LTR	0.73	21.9	C	LTR	0.72	21.8	C	LTR	0.78	24.5	C
	Intersection		18.7	B	Intersection		19.8	B	Intersection		25.0	C	Intersection		27.6	C

Notes: L: Left Turn; T: Through; R: Right Turn; LOS: Level of Service.
+ implies a significant adverse impact

Table 5-18
2015 Scenario Two No Build and Build Conditions Level of Service Analysis
Unsignalized Intersections

Intersection/ Approach	AM Peak Hour								PM Peak Hour							
	2015 No Build				2015 Build				2015 No Build				2015 Build			
	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS
44th Avenue/Junction Boulevard																
Westbound	LTR	0.62	57.5	F	LTR	2.09	598.3	F+	LTR	1.40	295.3	F	LTR	4.46	1676.0	F+
Northbound	LT	0.05	9.6	A	LT	0.05	9.7	A	LT	0.09	9.8	A	LT	0.09	9.9	A
45th Avenue/Junction Boulevard																
Northbound	LTR	0.01	9.0	A	LTR	0.01	9.1	A	LTR	0.01	9.1	A	LTR	0.01	9.3	A
Southbound	LTR	0.07	9.6	A	LTR	0.15	13.3	B	LTR	0.10	10.0+	B	LTR	0.20	14.3	B
44th Avenue/97th Place																
Westbound	TR	0.11	9.5	A	TR	0.17	7.9	A	TR	0.17	9.9	A	TR	0.22	8.5	A
Southbound					R	0.10	7.1	A					R	0.11	7.3	A
					Intersection		7.6	A					Intersection		8.0	A
44th Avenue/National Street																
Westbound	LTR	0.31	23.1	C	LTR	0.59	56.8	F	LTR	0.55	34.8	D	LTR	1.05	156.3	F+
Northbound	LT	0.03	8.5	A	LT	0.07	11.6	B	LT	0.04	8.5	A	LT	0.09	11.5	B
45th Avenue/National Street																
Eastbound	LTR	0.33	21.3	C	LTR	0.62	51.9	F+	LTR	0.46	29.3	D	LTR	0.87	99.7	F+
Southbound	LT	0.01	8.4	A	LT	0.01	8.4	A	LTR	0.04	8.8	A	LTR	0.04	8.8	A
43rd Avenue/97th Place																
Eastbound	LTR	0.00	7.9	A	LTR	0.38	9.9	A	LTR	0.01	8.0	A	LTR	0.36	9.8	A
Westbound	LTR	0.01	7.6	A	LTR	0.36	10.0	B	LTR	0.00	7.6	A	LTR	0.41	10.5	B
Northbound	LTR	0.02	11.2	B	LTR	0.02	8.3	A	LTR	0.02	11.2	B	LTR	0.02	8.3	A
Southbound	LTR	0.08	12.6	B	LTR	0.07	8.7	A	LTR	0.07	13.0	B	LTR	0.05	8.7	A
					Intersection		9.9	A					Intersection		10.0	B

Notes: L: Left Turn; T: Through; R: Right Turn; LOS: Level of Service.
+ implies a significant adverse impact

It should be noted that under Scenario Two, the new AWSCs proposed as part of the new intermediate school located at 97-36 43rd Avenue would still be incorporated in the analysis. This is due to the fact that the new intermediate school and the proposed P.S. 315 are in close proximity of each other and regardless of the completion schedule for the new intermediate school, the proposed AWSCs would be required to facilitate the safe pedestrian crossings for the proposed P.S. 315. These proposed project improvements are reflected in the LOS results presented in **Table 5-18**.

For the streets around the site, capacities at most of the approaches would be sufficient to accommodate these increases. However, based on the impact criteria discussed earlier, the proposed project could cause significant adverse impacts at the following intersection approaches/lane-groups during the two peak hours analyzed:

Signalized Intersections

- The northbound and southbound approaches at the intersection of Roosevelt Avenue and Junction Boulevard during the AM and PM peak periods; and
- The southbound approach at the intersection of 43rd Avenue and Junction Boulevard during the AM and PM peak periods.

Unsignalized Intersections

- The westbound approach at the intersection of 44th Avenue and Junction Boulevard during the AM and PM peak periods;
- The westbound approach at the intersection of 44th Avenue and National Street during the PM peak period[1]; and
- The eastbound approach at the intersection of 45th Avenue and National Street during the AM and PM peak periods.

PROPOSED TRAFFIC IMPROVEMENTS

SCENARIO ONE

As discussed under "Probable Impacts of the Proposed Project," five of the intersections in the study area would experience significant traffic impacts in the 2015 Scenario One Build condition as a result of the project-generated traffic. **Table 5-19** summarizes the improvement measures—consisting of signal timing modifications, approach daylighting (prohibiting parking at the approach for approximately 100-feet), and installation of new traffic signals—recommended as part of the proposed project. Please note that all of the improvement measures summarized in **Table 5-19** are subject to review and approval by NYCDOT.

With these improvement measures in place, all of the impacted intersection approaches/lane groups would operate at the same or at better service conditions than the No Build conditions. **Tables 5-20** and **5-21** compare the LOS conditions for the No Build, Build, and Build with Improvement conditions for these intersections.

[1] As described in Section B, "Methodology," for the unsignalized intersection significant impact criteria, the difference in the westbound delays at this intersection between the No Build and Build conditions would not be considered a significant adverse impact per *CEQR* criteria because there are less than 90 vehicles at the westbound approach during the AM peak hour.

Table 5-19
Scenario One Recommended Improvements

Intersection	AM Peak Hour	PM Peak Hour
Signalized Intersections		
Roosevelt Avenue/Junction Boulevard	Shift 4 seconds of green time from the EB/WB phase to the NB/SB phase.	Shift 2 seconds of green time from the EB/WB phase to the NB/SB phase. Daylight the NB approach.
43rd Avenue/Junction Boulevard	Daylight the SB approach.	Daylight the SB approach.
Unsignalized Intersections		
44th Avenue/Junction Boulevard	Provide 2 phase signal with the following timing plan: Phase / Green / Amber / Red EB/WB 19 3 2 NB/SB 31 3 2 Cycle Length = 60 Seconds	Provide 2 phase signal with the following timing plan: Phase / Green / Amber / Red EB/WB 19 3 2 NB/SB 31 3 2 Cycle Length = 60 Seconds
44th Avenue/National Street	Provide 3 phase signal with the following timing plan: Phase / Green / Amber / Red EB/WB 18 3 2 NB/SB 22 3 2 NB 5 3 2 Cycle Length = 60 Seconds	Provide 3 phase signal with the following timing plan: Phase / Green / Amber / Red EB/WB 18 3 2 NB/SB 22 3 2 NB 5 3 2 Cycle Length = 60 Seconds
45th Avenue/National Street	Provide 3 phase signal with the following timing plan: Phase / Green / Amber / Red EB/WB 18 3 2 NB/SB 22 3 2 SB 5 3 2 Cycle Length = 60 Seconds	Provide 3 phase signal with the following timing plan: Phase / Green / Amber / Red EB/WB 18 3 2 NB/SB 22 3 2 SB 5 3 2 Cycle Length = 60 Seconds

Notes: L = Left Turn, T = Through, R = Right Turn, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound.

Table 5-20
2015 Scenario One No Build, Build, and Build with Improvements Conditions
Level of Service Analysis – Signalized Intersections

Intersection/ Approach	2015 No Build				2015 Build					2015 Build with Improvements			
	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS		Lane Group	V/C Ratio	Delay (spv)	LOS
AM Peak Hour													
Roosevelt Avenue/Junction Boulevard													
Eastbound	LTR	0.75	26.8	C	LTR	0.78	28.4	C		LTR	0.83	35.3	D
Westbound	LTR	0.63	21.9	C	LTR	0.63	21.9	C		LTR	0.68	26.0	C
Northbound	LTR	0.99	81.0	F	LTR	1.16	135.1	F	+	LTR	1.01	82.2	F
Southbound	LTR	1.13	119.4	F	LTR	1.17	135.4	F	+	LTR	1.05	89.4	F
	Intersection		61.8	E	Intersection		78.3	E		Intersection		57.6	E
43rd Avenue/Junction Boulevard													
Westbound	LTR	0.70	26.9	C	LTR	0.70	26.9	C		LTR	0.70	26.9	C
Northbound	LTR	0.68	16.6	B	LTR	0.86	27.7	C		LTR	0.86	27.7	C
Southbound	LTR	0.94	37.2	D	LTR	1.14	96.0	F	+	LTR	0.97	41.5	D
	Intersection		28.2	C	Intersection		57.5	E		Intersection		33.6	C
PM Peak Hour													
Roosevelt Avenue/Junction Boulevard													
Eastbound	LTR	0.85	35.0-	C	LTR	0.87	37.2	D		LTR	0.91	43.6	D
Westbound	LTR	0.68	24.3	C	LTR	0.69	24.4	C		LTR	0.71	26.8	C
Northbound	LTR	1.03	93.5	F	LTR	1.21	157.0	F	+	LTR	0.95	69.4	E
Southbound	LTR	1.09	106.2	F	LTR	1.13	118.8	F	+	LTR	1.07	96.3	F
	Intersection		63.2	E	Intersection		81.2	F		Intersection		59.3	E
43rd Avenue/Junction Boulevard													
Westbound	LTR	0.76	30.0	C	LTR	0.76	30.0	C		LTR	0.76	30.0	C
Northbound	LTR	0.74	18.6	B	LTR	0.94	36.9	D		LTR	0.94	36.9	D
Southbound	LTR	0.95	39.9	D	LTR	1.12	87.9	F	+	LTR	0.95	37.8	D
	Intersection		30.4	C	Intersection		56.4	E		Intersection		35.8	D

Notes: L: Left Turn; T: Through; R: Right Turn; LOS: Level of Service.
+ implies a significant adverse impact

Table 5-21
2015 Scenario One No Build, Build, and Build with Improvements Conditions
Level of Service Analysis – Unsignalized Intersections

Intersection/ Approach	2015 No Build				2015 Build				2015 Build with Improvements			
	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS
AM Peak Hour												
44th Avenue/Junction Boulevard												
									Signalized			
Westbound	LTR	1.04	150.5	F	LTR	3.38	1195.0	F+	LTR	0.47	19.4	B
Northbound	LT	0.05	9.7	A	LT	0.05	9.7	A	LT	0.52	11.6	B
Southbound									TR	0.69	16.0	B
									Intersection		14.9	B
44th Avenue/National Street [1]												
									Signalized			
Westbound	LTR	0.41	31.8	D	LTR	0.88	128.7	F	LTR	0.20	16.6	B
Northbound	LT	0.04	9.5	A	LT	0.12	14.0	B	LT	0.40	9.6	A
Southbound									TR	0.80	28.7	C
									Intersection		19.7	B
45th Avenue/National Street												
									Signalized			
Eastbound	LTR	0.42	28.5	D	LTR	0.83	96.6	F+	LTR	0.25	17.1	B
Northbound									TR	0.67	22.0	C
Southbound	LT	0.01	8.4	A	LT	0.02	8.5	A	LT	0.37	9.1	A
									Intersection		15.6	B
PM Peak Hour												
44th Avenue/Junction Boulevard												
									Signalized			
Westbound	LTR	2.23	657.4	F	LTR	6.00	2381.0	F+	LTR	0.74	27.9	C
Northbound	LT	0.09	9.9	A	LT	0.09	9.9	A	LT	0.60	13.1	B
Southbound									TR	0.69	15.9	B
									Intersection		17.9	B
44th Avenue/National Street												
									Signalized			
Westbound	LTR	0.72	60.5	F	LTR	1.52	357.2	F+	LTR	0.33	18.4	B
Northbound	LT	0.06	9.5	A	LT	0.13	14.0	B	LT	0.52	11.2	B
Southbound									TR	0.73	24.9	C
									Intersection		17.6	B
45th Avenue/National Street												
									Signalized			
Eastbound	LTR	0.59	43.8	E	LTR	1.16	205.6	F+	LTR	0.30	17.9	B
Northbound									TR	0.85	32.4	C
Southbound	LTR	0.04	8.8	A	LTR	0.04	8.8	A	LT	0.42	9.8	A
									Intersection		21.6	C

Notes: L: Left Turn; T: Through; R: Right Turn; LOS: Level of Service.
+ implies a significant adverse impact
(1) Intersection not impacted during the AM peak hour but analysis was conducted to incorporate permanent geometric/signal phasing changes proposed as improvement measures in the PM peak hours.

SCENARIO TWO

As discussed under "Probable Impacts of the Proposed Project," five of the intersections in the study area would experience significant traffic impacts in the 2015 Scenario Two Build condition as a result of the project-generated traffic. **Table 5-22** summarizes the improvement measures—consisting of signal timing modifications, approach daylighting (prohibiting parking at the approach for approximately 100-feet), and installation of new traffic signals—recommended as part of the proposed project. Please note that all of the improvement measures summarized in **Table 5-22** are subject to review and approval by NYCDOT.

With these improvement measures in place, all of the impacted intersection approaches/lane groups would operate at the same or at better service conditions than the No Build conditions. **Tables 5-23** and **5-24** compare the LOS conditions for the No Build, Build, and Build with Improvement conditions for these intersections.

Table 5-22

Scenario Two Recommended Improvements

Intersection	AM Peak Hour	PM Peak Hour
Signalized Intersections		
Roosevelt Avenue/Junction Boulevard	Shift 4 seconds of green time from the EB/WB phase to the NB/SB phase.	Shift 3 seconds of green time from the EB/WB phase to the NB/SB phase. Daylight the NB approach.
43rd Avenue/Junction Boulevard	Daylight the SB approach.	Daylight the SB approach.
Unsignalized Intersections		
44th Avenue/Junction Boulevard	Provide 2 phase signal with the following timing plan: Phase / Green / Amber / Red EB/WB / 19 / 3 / 2 NB/SB / 31 / 3 / 2 Cycle Length = 60 Seconds	Provide 2 phase signal with the following timing plan: Phase / Green / Amber / Red EB/WB / 19 / 3 / 2 NB/SB / 31 / 3 / 2 Cycle Length = 60 Seconds
44th Avenue/National Street	Provide 3 phase signal with the following timing plan: Phase / Green / Amber / Red EB/WB / 18 / 3 / 2 NB/SB / 22 / 3 / 2 NB / 5 / 3 / 2 Cycle Length = 60 Seconds	Provide 3 phase signal with the following timing plan: Phase / Green / Amber / Red EB/WB / 18 / 3 / 2 NB/SB / 22 / 3 / 2 NB / 5 / 3 / 2 Cycle Length = 60 Seconds
45th Avenue/National Street	Provide 3 phase signal with the following timing plan: Phase / Green / Amber / Red EB/WB / 18 / 3 / 2 NB/SB / 22 / 3 / 2 SB / 5 / 3 / 2 Cycle Length = 60 Seconds	Provide 3 phase signal with the following timing plan: Phase / Green / Amber / Red EB/WB / 18 / 3 / 2 NB/SB / 22 / 3 / 2 SB / 5 / 3 / 2 Cycle Length = 60 Seconds

Notes: L = Left Turn, T = Through, R = Right Turn, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound.

Table 5-23
2015 Scenario Two No Build, Build, and Build with Improvements Conditions
Level of Service Analysis – Signalized Intersections

Intersection/ Approach	2015 No Build				2015 Build				2015 Build with Improvements			
	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS
AM Peak Hour												
Roosevelt Avenue/Junction Boulevard												
Eastbound	LTR	0.73	25.7	C	LTR	0.75	27.1	C	LTR	0.81	33.3	C
Westbound	LTR	0.63	21.8	C	LTR	0.63	21.9	C	LTR	0.68	25.9	C
Northbound	LTR	0.89	60.2	E	LTR	1.03	92.9	F+	LTR	0.91	59.7	E
Southbound	LTR	1.10	107.8	F	LTR	1.14	123.8	F+	LTR	1.03	81.4	F
	Intersection		53.9	D	Intersection		65.7	E	Intersection		50.1	D
43rd Avenue/Junction Boulevard												
Westbound	LTR	0.69	26.6	C	LTR	0.69	26.6	C	LTR	0.69	26.6	C
Northbound	LTR	0.61	14.4	B	LTR	0.78	21.3	C	LTR	0.78	21.3	C
Southbound	LTR	0.85	25.3	C	LTR	1.00	49.2	D+	LTR	0.85	24.0	C
	Intersection		22.2	C	Intersection		34.7	C	Intersection		23.6	C
PM Peak Hour												
Roosevelt Avenue/Junction Boulevard												
Eastbound	LTR	0.83	33.3	C	LTR	0.85	35.4	D	LTR	0.91	44.6	D
Westbound	LTR	0.68	24.2	C	LTR	0.68	24.3	C	LTR	0.72	28.1	C
Northbound	LTR	0.91	64.8	E	LTR	1.08	108.1	F+	LTR	0.83	48.4	D
Southbound	LTR	1.07	98.6	F	LTR	1.10	109.9	F+	LTR	1.02	81.3	F
	Intersection		54.7	D	Intersection		67.5	E	Intersection		51.3	D
43rd Avenue/Junction Boulevard												
Westbound	LTR	0.75	29.6	C	LTR	0.75	29.6	C	LTR	0.75	29.6	C
Northbound	LTR	0.67	16.0	B	LTR	0.86	26.8	C	LTR	0.86	26.8	C
Southbound	LTR	0.88	28.8	C	LTR	1.00	51.6	D+	LTR	0.85	24.6	C
	Intersection		24.8	C	Intersection		37.7	D	Intersection		26.5	C

Notes: L: Left Turn; T: Through; R: Right Turn; LOS: Level of Service.
+ implies a significant adverse impact

Table 5-24
2015 Scenario Two No Build, Build, and Build with Improvements Conditions
Level of Service Analysis – Unsignalized Intersections

Intersection/ Approach	2015 No Build				2015 Build				2015 Build with Improvements			
	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS	Lane Group	V/C Ratio	Delay (spv)	LOS
AM Peak Hour												
44th Avenue/Junction Boulevard												
									Signalized			
Westbound	LTR	0.62	57.5	F	LTR	2.09	598.3	F+	LTR	0.39	18.1	B
Northbound	LT	0.05	9.6	A	LT	0.05	9.7	A	LT	0.50	11.3	B
Southbound									TR	0.69	15.9	B
									Intersection		14.5	B
44th Avenue/National Street [1]												
									Signalized			
Westbound	LTR	0.31	23.1	C	LTR	0.59	56.8	F	LTR	0.20	16.5	B
Northbound	LT	0.03	8.5	A	LT	0.07	11.6	B	LT	0.35	9.1	A
Southbound									TR	0.72	24.2	C
									Intersection		17.2	B
45th Avenue/National Street												
									Signalized			
Eastbound	LTR	0.33	21.3	C	LTR	0.62	51.9	F+	LTR	0.24	17.0	B
Northbound									TR	0.65	21.4	C
Southbound	LT	0.01	8.4	A	LT	0.01	8.4	A	LT	0.37	9.1	A
									Intersection		15.3	B
PM Peak Hour												
44th Avenue/Junction Boulevard												
									Signalized			
Westbound	LTR	1.40	295.3	F	LTR	4.46	1676.0	F+	LTR	0.61	22.9	C
Northbound	LT	0.09	9.8	A	LT	0.09	9.9	A	LT	0.58	12.8	B
Southbound									TR	0.69	15.8	B
									Intersection		16.3	B
44th Avenue/National Street												
									Signalized			
Westbound	LTR	0.55	34.8	D	LTR	1.05	156.3	F+	LTR	0.33	18.3	B
Northbound	LT	0.04	8.5	A	LT	0.09	11.5	B	LT	0.47	10.5	B
Southbound									TR	0.65	21.5	C
									Intersection		15.8	B
45th Avenue/National Street												
									Signalized			
Eastbound	LTR	0.46	29.3	D	LTR	0.87	99.7	F+	LTR	0.29	17.7	B
Northbound									TR	0.83	31.1	C
Southbound	LTR	0.04	8.8	A	LTR	0.04	8.8	A	LT	0.41	9.7	A
									Intersection		21.0	C

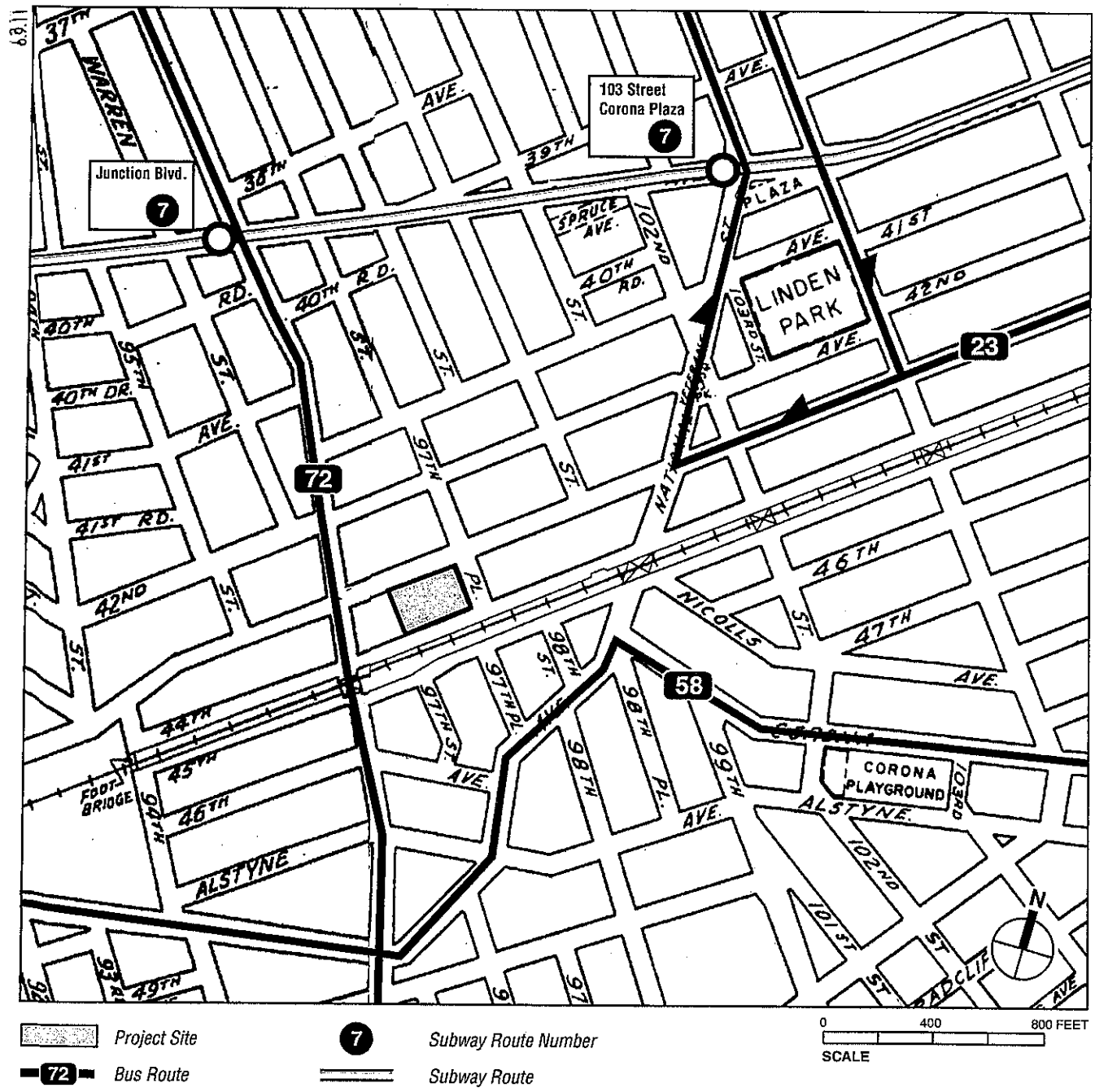
Notes: L: Left Turn; T: Through; R: Right Turn; LOS: Level of Service.
+ implies a significant adverse impact
(1) Intersection not impacted during the AM peak hour but analysis was conducted to incorporate permanent geometric/signal phasing changes proposed as improvement measures in the PM peak hour.

D. TRANSIT OPERATIONS

Mass transit options serving the project site and surrounding area are shown in **Figure 5-14**. The project site is located in an area served by Junction Boulevard and 103rd Street-Corona Plaza stations (No. 7 subway line) and the Q23, Q58, and Q72 bus routes. A description of each of these transit modes that would be affected by trips associated with the proposed project is provided below.

SUBWAY SERVICE

The project site is served by Junction Boulevard and 103rd Street-Corona Plaza stations (No. 7 subway line) which are operated by New York City Transit (NYCT). The No. 7 train operates between Times Square-42nd Street in Manhattan and Flushing-Main Street in Queens.


6.8.11
37TH
WARREN
AVE.
38TH
39TH
103 Street
Corona Plaza
7
Junction Blvd.
7
SPRUCE AVE.
102ND
PLAZA
41ST
AVE.
40TH RD.
LINDEN PARK
42ND
103RD ST.
23
40TH
95TH ST.
40TH DR.
41ST AVE.
41ST RD.
72
97TH ST.
42ND ST.
46TH
NICOLLS ST.
47TH AVE.
98TH ST.
97TH PL.
58
44TH
45TH
FOOT BRIDGE
46TH
ALSTYNE
98TH PL.
99TH AVE.
CORONA PLAYGROUND
101ST
49TH
N
Project Site
Bus Route
Subway Route Number
Subway Route
0
400
800 FEET
SCALE

Based on the travel demand estimates, it was determined that approximately 17 project-generated of the subway trips during each of the AM and PM peak 15-minute periods will be spread across several station elements at the Junction Boulevard and 103rd Street-Corona Plaza Stations.

As specified by the 2010 *CEQR Technical Manual*, if the proposed project is considered unlikely to create any noticeable constraints on any subway station elements or to produce a significant transit impact, a quantitative analysis is not required. Consequently, the proposed project is not expected to create any operational constraints on transit.

BUS SERVICE

Based on the travel demand estimates and the availability of Q23, Q58, and Q72 bus routes near the project site, it was determined that no individual bus route would experience 50 or more peak hour bus trips in one direction—the CEQR recommended threshold for undertaking quantified bus analysis. Consequently, it is expected that the project would not create a noticeable constraint on bus capacity; therefore, a quantitative bus analysis is not warranted.

Table 5-25 provides a summary of the NYCT local bus routes, which provide regular service to the study area, and their weekday frequencies of operation. All of these routes use standard buses with a guideline capacity of 54 to 55 passengers per bus.

Table 5-25
NYCT Local Bus Routes Serving The Study Area

Bus Route	Start Point	End Point	Routing	Freq. of Bus Service (Headway in Minutes)	
				AM	PM
Q23	Forest Hills	East Elmhurst	108th Street	8	6
Q58	Flushing	Ridgewood	Corona Avenue	12	8
Q72	Rego Park	La Guardia Airport	Junction Blvd	6	4

Source: MTA NYCT, Queens Bus Timetable (2009/2010).

E. PEDESTRIAN OPERATIONS

Existing pedestrian levels are based on field surveys conducted in January and November 2010 during the hours of 7:30 to 9:30 AM and 2:00 to 4:00 PM. The intersection of 43rd Avenue and 97th Place was included in the study area identified for both the potential new intermediate school located at 97-36 43rd Avenue and the proposed project. Pedestrian counts for this additional location were conducted in November 2010 for three weekdays. Furthermore, two additional days of pedestrian counts were conducted at the intersections of 43rd Avenue at National Street and Junction Boulevard in November 2010 to update the pedestrian data at these locations, in accordance with the criteria identified in the 2010 *CEQR Technical Manual*.

PEDESTRIAN STUDY AREA

Pedestrian trip assignments were developed by distributing person trips generated by the proposed project to surrounding pedestrian facilities, including sidewalks, crosswalks, and corner reservoirs that would be most affected by new trips. Transit riders were assigned to the nearby subway stations/stairways and available bus stops. As shown in **Figures 5-15** and **5-16**, pedestrian activities resulting from the proposed project are expected to concentrate along 43rd Avenue and 44th Avenue as well as the connecting sidewalks and crosswalks on Junction Boulevard, 97th

Place, and National Street. Since this level of pedestrian activity is above the 200 peak-hour pedestrian trips/element threshold identified in the 2010 *CEQR Technical Manual*, detailed pedestrian analyses were conducted for the following pedestrian elements as shown in **Figure 5-17.**

SIDEWALK ANALYSIS LOCATIONS

- East sidewalk along Junction Boulevard between 43rd Avenue and 44th Avenue;
- South sidewalk along 43rd Avenue between 95th Street and Junction Boulevard;
- South sidewalk along 43rd Avenue between Junction Boulevard and 97th Place;
- North sidewalk (east segment) along 44th Avenue between Junction Boulevard and 97th Place;
- North sidewalk (west segment) along 44th Avenue between Junction Boulevard and 97th Place;
- North sidewalk (west segment) along 44th Avenue between 97th Place and National Street;
- North sidewalk (center segment) along 44th Avenue between 97th Place and National Street;
- North sidewalk (east segment) along 44th Avenue between 97th Place and National Street;
- West sidewalk along 97th Place between 43rd Avenue and 44th Avenue;
- South sidewalk along 43rd Avenue between 99th Street and National Street;
- South sidewalk along 43rd Avenue between National Street and 102nd Street; and
- West sidewalk along National Street between 43rd Avenue and 44th Avenue.

CROSSWALK ANALYSIS LOCATIONS

- South crosswalk of Junction Boulevard and 43rd Avenue; and
- South crosswalk of National Street and 43rd Avenue.

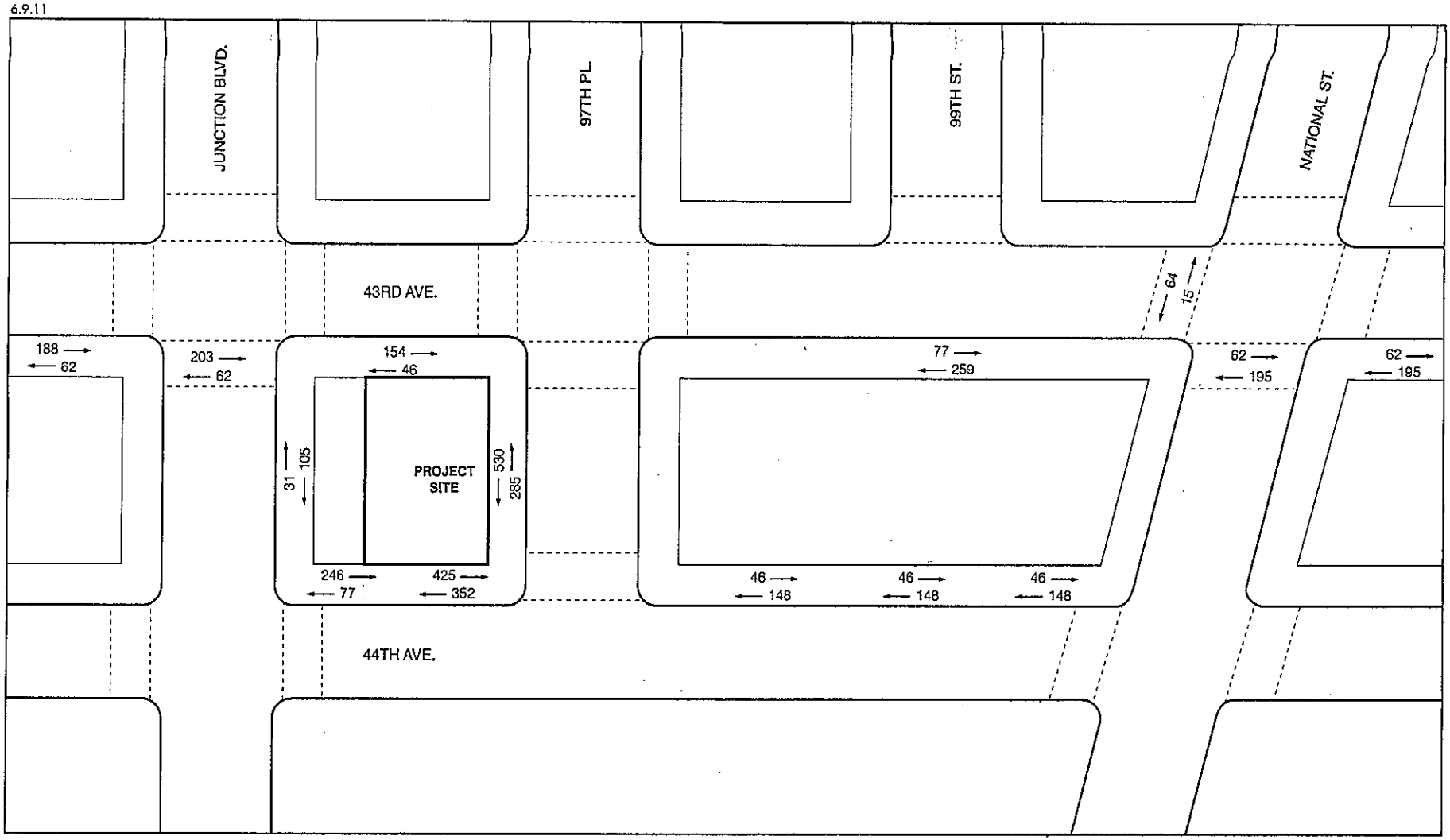
CORNER RESERVOIR ANALYSIS LOCATIONS

- Northwest corner of 43rd Avenue and National Street; and
- Southwest corner of 43rd Avenue and National Street.

ANALYSIS RESULTS

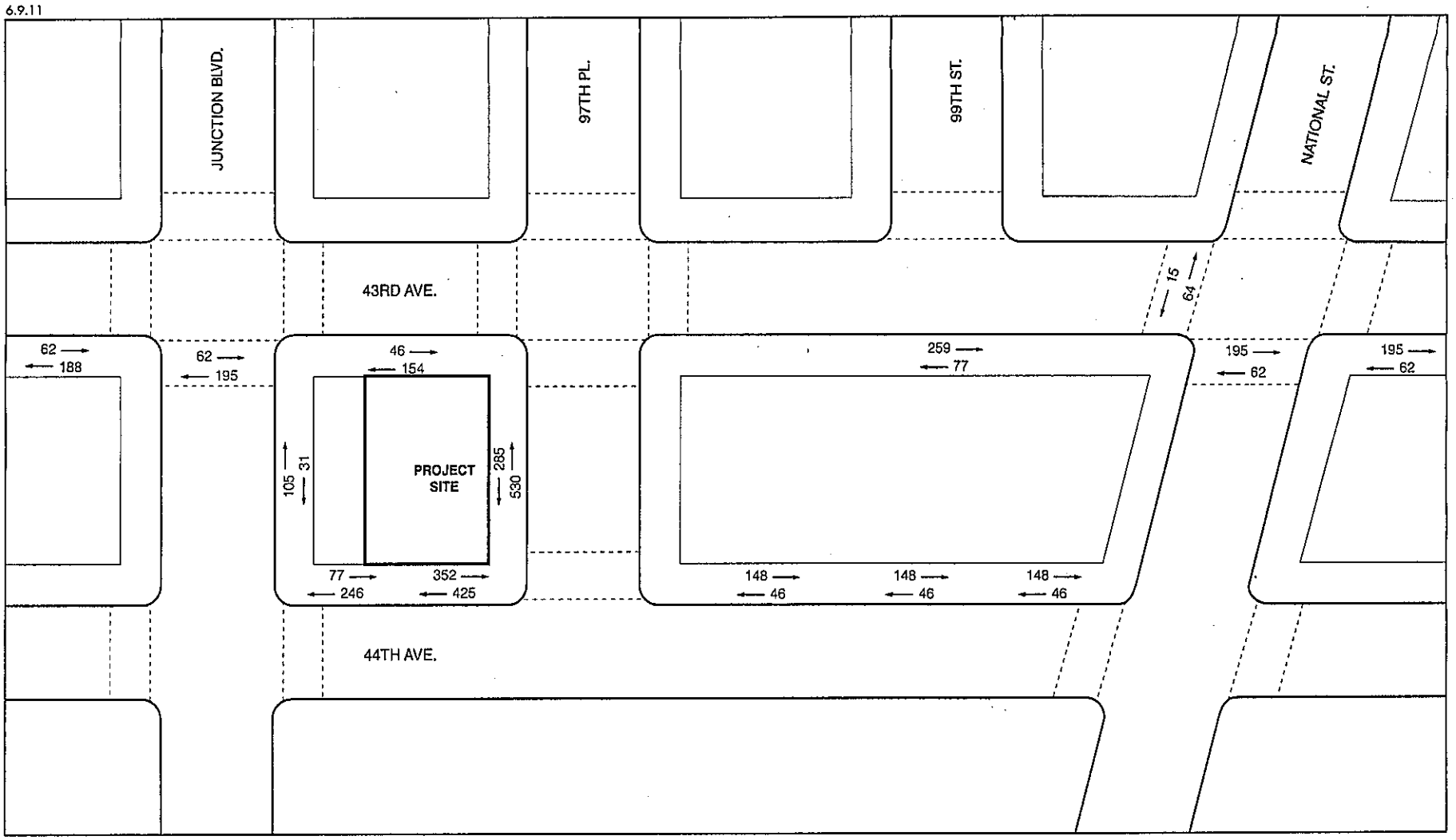
STREET LEVEL PEDESTRIAN OPERATIONS

As described above, the study area sidewalks, corner reservoirs, and crosswalks were assessed for the AM and PM peak periods. Existing peak 15-minute volumes were developed for 16 pedestrian elements closest to the project site where the most pedestrian trips are anticipated. As shown in **Tables 5-26** to **5-28**, all sidewalks, crosswalks, and corner reservoir analysis locations operate at acceptable levels (minimum 24 SFP for crosswalks and corners, maximum 6 PMF platoon flows for sidewalks) during the AM and PM peak 15-minute periods.



NOT TO SCALE

Project Generated Pedestrian Volumes
AM Peak Hour
Figure 5-15



Project Generated Pedestrian Volumes
PM Peak Hour
Figure 5-16

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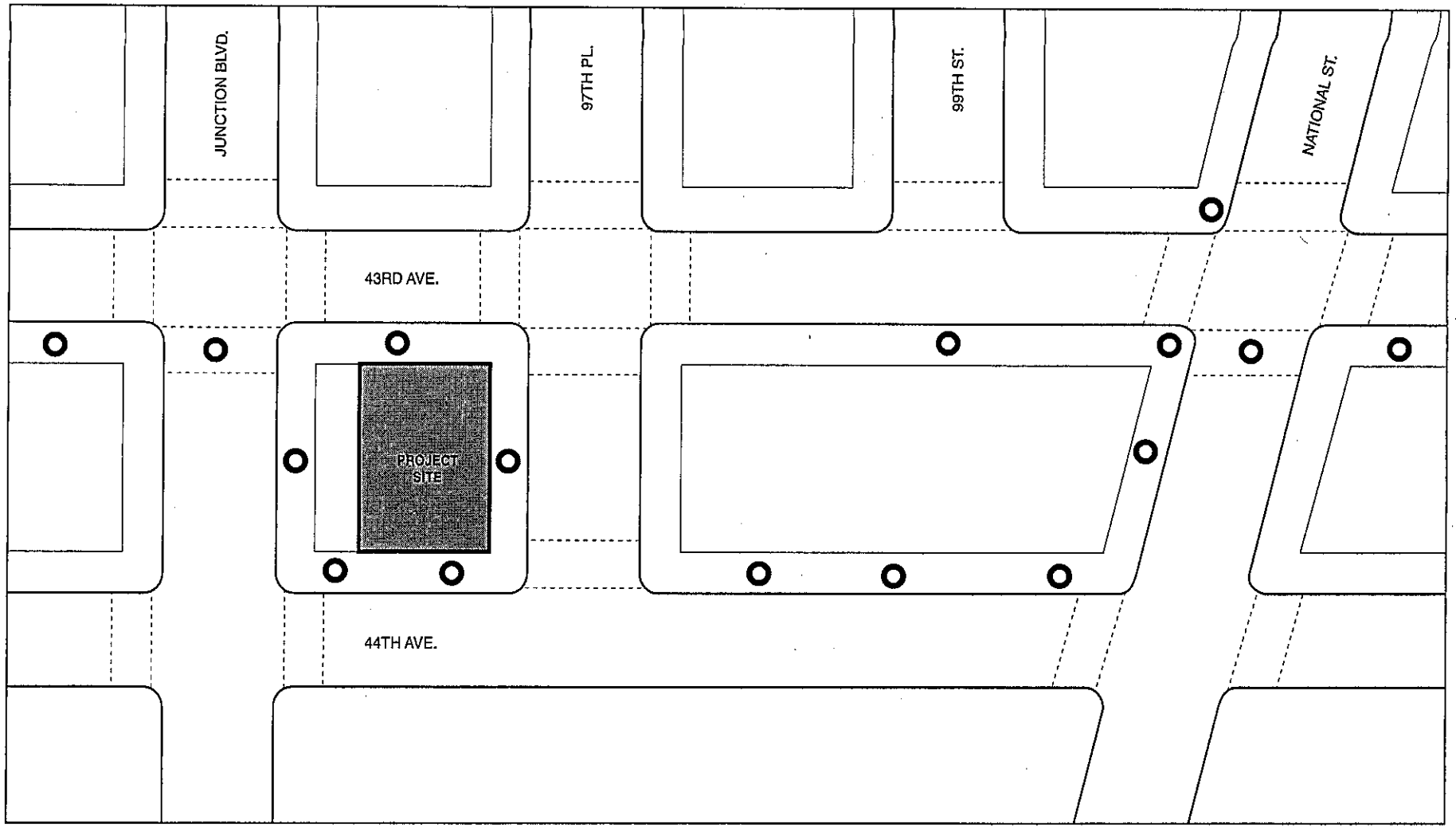

Project Site

Pedestrian Analysis Location

NOT TO SCALE

SCA P.S. 315 (Q315)

Pedestrian Analysis Locations
Figure 5-17

Table 5-26
2010 Existing Conditions: Pedestrian LOS Analysis for Sidewalks

Location	Sidewalk	Effective Width (ft)	15 Minute Two-Way Volume	Platoon Flow	
				PMF	LOS
AM Peak Period					
Junction Blvd between 43rd Avenue and 44th Avenue	East	6.5	109	1.1	B
43rd Avenue between 95th Street and Junction Blvd	South	8.5	38	0.3	A
43rd Avenue between Junction Blvd and 97th Place	South	9.5	24	0.2	A
44th Avenue between Junction Blvd and 97th Place	North (east segment)	2.5	7	0.2	A
44th Avenue between Junction Blvd and 97th Place	North (west segment)	2.5	7	0.2	A
44th Avenue between 97th Place and National Street	North (west segment)	2.8	9	0.2	A
44th Avenue between 97th Place and National Street	North (center segment)	3.3	9	0.2	A
44th Avenue between 97th Place and National Street	North (east segment)	2.0	9	0.3	A
97th Place between 43rd Avenue and 44th Avenue	West	11.0	15	0.1	A
43rd Avenue between 99th Street and National Street	South	6.3	88	0.9	B
43rd Avenue between National Street and 102nd Street	South	8.5	23	0.2	A
National Street between 43rd Avenue and 44th Avenue	West	10.5	95	0.6	B
PM Peak Period					
Junction Blvd between 43rd Avenue and 44th Avenue	East	6.5	78	0.8	B
43rd Avenue between 95th Street and Junction Blvd	South	8.5	37	0.3	A
43rd Avenue between Junction Blvd and 97th Place	South	9.5	50	0.4	A
44th Avenue between Junction Blvd and 97th Place	North (east segment)	2.5	5	0.1	A
44th Avenue between Junction Blvd and 97th Place	North (west segment)	2.5	5	0.1	A
44th Avenue between 97th Place and National Street	North (west segment)	2.8	6	0.1	A
44th Avenue between 97th Place and National Street	North (center segment)	3.3	6	0.1	A
44th Avenue between 97th Place and National Street	North (east segment)	2.0	6	0.2	A
97th Place between 43rd Avenue and 44th Avenue	West	11.0	9	0.1	A
43rd Avenue between 99th Street and National Street	South	6.3	52	0.6	B
43rd Avenue between National Street and 102nd Street	South	8.5	29	0.2	A
National Street between 43rd Avenue and 44th Avenue	West	10.5	71	0.5	A

Note: PMF = pedestrians per minute per foot

Table 5-27
2010 Existing Conditions: Pedestrian LOS Analysis for Corner Reservoirs

Locations	Corner	AM Peak Period		PM Peak Period	
		SFP	LOS	SFP	LOS
National Street and 43rd Avenue	Southwest	175.8	A	185.0	A
	Northwest	329.4	A	274.6	A

Note: SFP = square feet per pedestrian

Table 5-28
2010 Existing Conditions: Pedestrian LOS Analysis for Crosswalks

Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	Conditions with conflicting vehicles			
				AM		PM	
				SFP	LOS	SFP	LOS
Junction Blvd and 43rd Avenue	South	51.5	12.0	129.1	A	183.2	A
National Street and 43rd Avenue	South	59.5	10.0	256.7	A	187.6	A

Note: SFP = square feet per pedestrian

THE FUTURE WITHOUT THE PROPOSED PROJECT

Consistent with the traffic analyses discussed above, two separate No Build scenarios were assessed—one assuming the new I.S. at 97-36 43rd Avenue is constructed by the proposed project's 2015 Build year, and the other assuming the new I.S. is constructed later. Scenario One, which assumes the new I.S. at 97-36 43rd Avenue would be constructed by 2015, would include the pedestrian trips anticipated to be generated by the new school in the No Build analysis. Scenario Two, which assumes the new I.S. at 97-36 43rd Avenue would be constructed later, would not include the pedestrian trips anticipated to be generated by the new school in the No Build analysis.

SCENARIO ONE ANALYSIS RESULTS

Street Level Pedestrian Operations

The 2015 Scenario One No Build peak period volume projections were applied to the pedestrian analysis networks described previously. As shown in **Tables 5-29** to **5-31**, all sidewalks, crosswalks, and corner reservoir analysis locations would continue to operate at acceptable levels (minimum 24 SFP for crosswalks and corners, maximum 6 PMF platoon flows for sidewalks) during both the AM and PM peak 15-minute periods except for the following location:

- The north sidewalk (center segment) of 44th Avenue between 97th Place and National Street would operate at LOS D (7.2 PMF and 7.1 PMF, respectively) during the AM and PM peak periods.

SCENARIO TWO ANALYSIS RESULTS

Street Level Pedestrian Operations

The 2015 Scenario Two No Build peak period volume projections were applied to the pedestrian analysis networks described previously. As shown in **Tables 5-32** to **5-34**, all sidewalks, crosswalks, and corner reservoir analysis locations would continue to operate at acceptable levels (minimum 24 SFP for crosswalks and corners, maximum 6 PMF platoon flows for sidewalks) during both the AM and PM peak 15-minute periods.

Table 5-29
2015 Scenario One No Build Conditions:
Pedestrian LOS Analysis for Sidewalks

Location	Sidewalk	Effective Width (ft)	15 Minute Two-Way Volume	Platoon Flow	
				PMF	LOS
AM Peak Period					
Junction Blvd between 43rd Avenue and 44th Avenue	East	6.5	112	1.1	B
43rd Avenue between 95th Street and Junction Blvd	South	8.5	83	0.7	B
43rd Avenue between Junction Blvd and 97th Place	South	9.5	110	0.8	B
44th Avenue between Junction Blvd and 97th Place	North (east segment)	2.5	40	1.1	B
44th Avenue between Junction Blvd and 97th Place	North (west segment)	2.5	40	1.1	B
44th Avenue between 97th Place and National Street	North (west segment)	2.8	42	1.0	B
44th Avenue between 97th Place and National Street	North (center segment)	3.3	126	2.5	B
44th Avenue between 97th Place and National Street	North (east segment)	2.0	46	1.5	B
97th Place between 43rd Avenue and 44th Avenue	West	11.0	15	0.1	A
43rd Avenue between 99th Street and National Street	South	6.3	317	3.4	C
43rd Avenue between National Street and 102nd Street	South	8.5	71	0.6	B
National Street between 43rd Avenue and 44th Avenue	West	10.5	97	0.6	B
PM Peak Period					
Junction Blvd between 43rd Avenue and 44th Avenue	East	6.5	80	0.8	B
43rd Avenue between 95th Street and Junction Blvd	South	8.5	81	0.6	B
43rd Avenue between Junction Blvd and 97th Place	South	9.5	137	1.0	B
44th Avenue between Junction Blvd and 97th Place	North (east segment)	2.5	38	1.0	B
44th Avenue between Junction Blvd and 97th Place	North (west segment)	2.5	38	1.0	B
44th Avenue between 97th Place and National Street	North (west segment)	2.8	39	0.9	B
44th Avenue between 97th Place and National Street	North (center segment)	3.3	123	2.5	B
44th Avenue between 97th Place and National Street	North (east segment)	2.0	43	1.4	B
97th Place between 43rd Avenue and 44th Avenue	West	11.0	9	0.1	A
43rd Avenue between 99th Street and National Street	South	6.3	281	3.0	B
43rd Avenue between National Street and 102nd Street	South	8.5	77	0.6	B
National Street between 43rd Avenue and 44th Avenue	West	10.5	73	0.5	A

Note: PMF = pedestrians per minute per foot

Table 5-30
2015 Scenario One No Build Conditions:
Pedestrian LOS Analysis for Corner Reservoirs

Locations	Corner	AM Peak Period		PM Peak Period	
		SFP	LOS	SFP	LOS
National Street and 43rd Avenue	Southwest	116.6	A	113.3	A
	Northwest	240.9	A	210.2	A

Note: SFP = square feet per pedestrian

Table 5-31
2015 Scenario One No Build Conditions:
Pedestrian LOS Analysis for Crosswalks

Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	Conditions with conflicting vehicles			
				AM		PM	
				SFP	LOS	SFP	LOS
Junction Blvd and 43rd Avenue	South	51.5	12.0	60.7	A	72.1	A
National Street and 43rd Avenue	South	59.5	10.0	84.7	A	74.2	A

Note: SFP = square feet per pedestrian

Table 5-32
2015 Scenario Two No Build Conditions:
Pedestrian LOS Analysis for Sidewalks

Location	Sidewalk	Effective Width (ft)	15 Minute Two-Way Volume	Platoon Flow	
				PMF	LOS
AM Peak Period					
Junction Blvd between 43rd Avenue and 44th Avenue	East	6.5	112	1.1	B
43rd Avenue between 95th Street and Junction Blvd	South	8.5	39	0.3	A
43rd Avenue between Junction Blvd and 97th Place	South	9.5	24	0.2	A
44th Avenue between Junction Blvd and 97th Place	North (east segment)	2.5	7	0.2	A
44th Avenue between Junction Blvd and 97th Place	North (west segment)	2.5	7	0.2	A
44th Avenue between 97th Place and National Street	North (west segment)	2.8	9	0.2	A
44th Avenue between 97th Place and National Street	North (center segment)	3.3	9	0.2	A
44th Avenue between 97th Place and National Street	North (east segment)	2.0	9	0.3	A
97th Place between 43rd Avenue and 44th Avenue	West	11.0	15	0.1	A
43rd Avenue between 99th Street and National Street	South	6.3	90	1.0	B
43rd Avenue between National Street and 102nd Street	South	8.5	23	0.2	A
National Street between 43rd Avenue and 44th Avenue	West	10.5	97	0.6	B

Table 5-32 (cont'd)
2015 Scenario Two No Build Conditions:
Pedestrian LOS Analysis for Sidewalks

Location	Sidewalk	Effective Width (ft)	15 Minute Two-Way Volume	Platoon Flow	
PM Peak Period					
Junction Blvd between 43rd Avenue and 44th Avenue	East	6.5	80	0.8	B
43rd Avenue between 95th Street and Junction Blvd	South	8.5	37	0.3	A
43rd Avenue between Junction Blvd and 97th Place	South	9.5	51	0.4	A
44th Avenue between Junction Blvd and 97th Place	North (east segment)	2.5	5	0.1	A
44th Avenue between Junction Blvd and 97th Place	North (west segment)	2.5	5	0.1	A
44th Avenue between 97th Place and National Street	North (west segment)	2.8	6	0.1	A
44th Avenue between 97th Place and National Street	North (center segment)	3.3	6	0.1	A
44th Avenue between 97th Place and National Street	North (east segment)	2.0	6	0.2	A
97th Place between 43rd Avenue and 44th Avenue	West	11.0	9	0.1	A
43rd Avenue between 99th Street and National Street	South	6.3	54	0.6	B
43rd Avenue between National Street and 102nd Street	South	8.5	29	0.2	A
National Street between 43rd Avenue and 44th Avenue	West	10.5	73	0.5	A
Note: PMF = pedestrians per minute per foot					

Table 5-33
2015 Scenario Two No Build Conditions:
Pedestrian LOS Analysis for Corner Reservoirs

Locations	Corner	AM Peak Period		PM Peak Period	
		SFP	LOS	SFP	LOS
National Street and 43rd Avenue	Southwest	172.1	A	178.0	A
	Northwest	323.8	A	267.0	A
Note: SFP = square feet per pedestrian					

Table 5-34
2015 Scenario Two No Build Conditions:
Pedestrian LOS Analysis for Crosswalks

Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	Conditions with conflicting vehicles			
				AM		PM	
				SFP	LOS	SFP	LOS
Junction Blvd and 43rd Avenue	South	51.5	12.0	126.5	A	177.7	A
National Street and 43rd Avenue	South	59.5	10.0	256.7	A	179.4	A
Note: SFP = square feet per pedestrian							

PROBABLE IMPACTS OF THE PROPOSED PROJECT

The future with the proposed project would result in increased pedestrian trips as compared to the two No Build conditions. This section describes the projected travel patterns of the site-related trips and assesses their potential impacts on nearby transit and pedestrian facilities.

TRIP DISTRIBUTION AND ASSIGNMENT

Primary pedestrian access to the project site would be provided along 44th Avenue between 97th Place and Junction Boulevard. The following assumptions were used to assign auto, taxi, school bus, transit, and walk-only trips to the project site.

- Auto and school bus drop-offs/pick-ups were assumed to occur on 44th Avenue between 97th Place and Junction Boulevard at the school's main entrance.
- Faculty auto and taxi trips were assumed to occur on 44th Avenue between Junction Boulevard and 97th Place at the school's main entrance and on 97th Place between 43rd and 44th Avenues.
- The assignment of the subway trips is based on the available routes within the study area and transfer opportunities within the New York City subway system. In total, 17 project-generated subway trips were projected during each of the AM and PM peak 15-minute periods and were assigned to the Junction Boulevard and 103rd Street-Corona Plaza stations (No. 7 subway line).
- As with the subway person trips, bus person trips would be distributed to the three bus routes available in the study area. In total, 13 project-generated bus trips were estimated during each of the AM and PM peak 15-minute periods, with the Q23, Q58, and Q72 bus routes expected to absorb the highest share of the total project-generated bus trips. The assignment of bus person trips began with designating specific bus stops at which users would access the nearby bus routes, then tracing these trips through logical walking routes to the project site.
- While all trips would require a walking component that connects the origins and destinations with their respective mode of transportation, a portion of the trips are made only by walking. These trips were estimated to be 624 total walk only project-generated trips during each of the AM and PM peak 15-minute periods. The area's pedestrian network and nearby populated neighborhoods were accounted for in the assignment of these trips.

SCENARIO ONE ANALYSIS RESULTS

Pedestrian trips associated with the proposed project would result in increased volumes at the analysis locations. The analysis conducted for the 2015 Scenario One Build condition accounts for the distribution of project-generated trips overlaid onto the 2015 Scenario One No Build trips on the network's sidewalks, corner reservoirs, and crosswalks. **Tables 5-35** to **5-37** present the future Build operating conditions for the analysis elements. Based on the analysis results, all sidewalks, crosswalks and corners would continue to operate at acceptable levels (minimum 24 SFP for crosswalks and corners, maximum 6 PMF platoon flows for sidewalks) during both the AM and PM peak 15-minute periods. Therefore, the proposed project would not result in any significant adverse pedestrian impacts under the 2015 Scenario One Build condition.

Table 5-35
2015 Scenario One Build Conditions:
Pedestrian LOS Analysis for Sidewalks

Location	Sidewalk	Effective Width (ft)	15 Minute Two-Way Volume	Platoon Flow	
				PMF	LOS
AM Peak Period					
Junction Blvd between 43rd Avenue and 44th Avenue	East	6.5	179	1.8	B
43rd Avenue between 95th Street and Junction Blvd	South	8.5	208	1.6	B
43rd Avenue between Junction Blvd and 97th Place	South	9.5	210	1.5	B
44th Avenue between Junction Blvd and 97th Place	North (east segment)	14	429	2.0	B
44th Avenue between Junction Blvd and 97th Place	North (west segment)	2.5	202	5.4	C
44th Avenue between 97th Place and National Street	North (west segment)	2.8	139	3.3	C
44th Avenue between 97th Place and National Street	North (center segment)	3.3	223	4.5	C
44th Avenue between 97th Place and National Street	North (east segment)	2.0	143	4.8	C
97th Place between 43rd Avenue and 44th Avenue	West	9.7	422	2.9	B
43rd Avenue between 99th Street and National Street	South	6.3	485	5.1	C
43rd Avenue between National Street and 102nd Street	South	8.5	199	1.6	B
National Street between 43rd Avenue and 44th Avenue	West	10.5	97	0.6	B
PM Peak Period					
Junction Blvd between 43rd Avenue and 44th Avenue	East	6.5	147	1.5	B
43rd Avenue between 95th Street and Junction Blvd	South	8.5	206	1.6	B
43rd Avenue between Junction Blvd and 97th Place	South	9.5	237	1.7	B
44th Avenue between Junction Blvd and 97th Place	North (east segment)	14	427	2.0	B
44th Avenue between Junction Blvd and 97th Place	North (west segment)	2.5	200	5.3	C
44th Avenue between 97th Place and National Street	North (west segment)	2.8	136	3.2	C
44th Avenue between 97th Place and National Street	North (center segment)	3.3	220	4.4	C
44th Avenue between 97th Place and National Street	North (east segment)	2.0	140	4.7	C
97th Place between 43rd Avenue and 44th Avenue	West	9.7	416	2.9	B
43rd Avenue between 99th Street and National Street	South	6.3	449	4.8	C
43rd Avenue between National Street and 102nd Street	South	8.5	205	1.6	B
National Street between 43rd Avenue and 44th Avenue	West	10.5	73	0.5	A

Note: PMF = pedestrians per minute per foot
+ implies a significant adverse impact

Table 5-36
2015 Scenario One Build Conditions:
Pedestrian LOS Analysis for Corner Reservoirs

Locations	Corner	AM Peak Period		PM Peak Period	
		SFP	LOS	SFP	LOS
National Street and 43rd Avenue	Southwest	63.1	A	56.4	B
	Northwest	158.0	A	146.7	A

Note: SFP = square feet per pedestrian

Table 5-37
2015 Scenario One Build Conditions:
Pedestrian Crosswalk LOS Analysis

Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	Conditions with conflicting vehicles			
				AM		PM	
				SFP	LOS	SFP	LOS
Junction Blvd and 43rd Avenue	South	51.5	12.0	25.7	C	27.0	C
National Street and 43rd Avenue	South	59.5	10.0	30.9	C	31.0	C

Note: SFP = square feet per pedestrian
+ implies a significant adverse impact

SCENARIO TWO ANALYSIS RESULTS

Pedestrian trips associated with the proposed project would result in increased volumes at the analysis locations. The analysis conducted for the 2015 Scenario Two Build condition accounts for the distribution of project-generated trips overlaid onto the 2015 Scenario Two No Build trips on the network's sidewalks, corner reservoirs, and crosswalks. **Tables 5-38** to **5-40** present the future Build operating condition for the analysis elements. Based on the analysis results, all sidewalks, crosswalks, and corner reservoir analysis locations would continue to operate at acceptable levels (minimum 24 SFP for crosswalks and corners, maximum 6 PMF platoon flows for sidewalks) during both the AM and PM peak 15-minute periods. Therefore, the proposed project would not result in any significant adverse pedestrian impacts under the 2015 Scenario Two Build condition.

Table 5-38
2015 Scenario Two Build Conditions:
Pedestrian LOS Analysis for Sidewalks

Location	Sidewalk	Effective Width (ft)	15 Minute Two-Way Volume	Platoon Flow	
				PMF	LOS
AM Peak Period					
Junction Blvd between 43rd Avenue and 44th Avenue	East	6.5	179	1.8	B
43rd Avenue between 95th Street and Junction Blvd	South	8.5	164	1.3	B
43rd Avenue between Junction Blvd and 97th Place	South	9.5	124	0.9	B
44th Avenue between Junction Blvd and 97th Place	North (east segment)	14	396	1.9	B
44th Avenue between Junction Blvd and 97th Place	North (west segment)	2.5	169	4.5	C
44th Avenue between 97th Place and National Street	North (west segment)	2.8	106	2.5	B
44th Avenue between 97th Place and National Street	North (center segment)	3.3	106	2.1	B
44th Avenue between 97th Place and National Street	North (east segment)	2.0	106	3.5	C
97th Place between 43rd Avenue and 44th Avenue	West	9.7	422	2.9	B
43rd Avenue between 99th Street and National Street	South	6.3	258	2.7	B
43rd Avenue between National Street and 102nd Street	South	8.5	151	1.2	B
National Street between 43rd Avenue and 44th Avenue	West	10.5	97	0.6	B
PM Peak Period					
Junction Blvd between 43rd Avenue and 44th Avenue	East	6.5	147	1.5	B
43rd Avenue between 95th Street and Junction Blvd	South	8.5	162	1.3	B
43rd Avenue between Junction Blvd and 97th Place	South	9.5	151	1.1	B
44th Avenue between Junction Blvd and 97th Place	North (east segment)	14	394	1.9	B
44th Avenue between Junction Blvd and 97th Place	North (west segment)	2.5	167	4.5	C
44th Avenue between 97th Place and National Street	North (west segment)	2.8	103	2.5	B
44th Avenue between 97th Place and National Street	North (center segment)	3.3	103	2.1	B
44th Avenue between 97th Place and National Street	North (east segment)	2.0	103	3.4	C
97th Place between 43rd Avenue and 44th Avenue	West	9.7	416	2.9	B
43rd Avenue between 99th Street and National Street	South	6.3	222	2.3	B
43rd Avenue between National Street and 102nd Street	South	8.5	157	1.2	B
National Street between 43rd Avenue and 44th Avenue	West	10.5	73	0.5	A

Note: PMF = pedestrians per minute per foot
+ implies a significant adverse impact

Table 5-39
2015 Scenario Two Build Conditions:
Pedestrian LOS Analysis for Corner Reservoirs

Locations	Corner	AM Peak Period		PM Peak Period	
		SFP	LOS	SFP	LOS
National Street and 43rd Avenue	Southwest	76.9	A	72.7	A
	Northwest	191.7	A	172.5	A

Note: SFP = square feet per pedestrian

Table 5-40
2015 Scenario Two Build Conditions:
Pedestrian Crosswalk LOS Analysis

Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	Conditions with conflicting vehicles			
				AM		PM	
				SFP	LOS	SFP	LOS
Junction Blvd and 43rd Avenue	South	51.5	12.0	33.1	C	35.7	C
National Street and 43rd Avenue	South	59.5	10.0	41.3	B	39.5	C

Note: SFP = square feet per pedestrian

F. PARKING

EXISTING CONDITIONS

A survey of off-and on-street parking within a ¼-mile radius of the project site was conducted in April 2010 to assess their capacities and approximate utilization rates. Based on the survey, there are no off-street public parking facilities located within a ¼-mile radius of the project site. In terms of on-street parking, there are approximately 2,067 legal on-street spaces within a ¼-mile radius of the project site. Out of these, approximately 224 spaces were available during the morning peak period resulting in an overall utilization rate of 89 percent.

THE FUTURE WITHOUT THE PROPOSED PROJECT

SCENARIO ONE

The study area's overall on-street parking utilization is assumed to experience the same growth as projected for the traffic conditions in the study area. Accounting for the general background growth and the demand generated by other No Build projects, the overall on-street parking utilization rate in the study area in the 2015 Scenario One No Build condition would increase to approximately 94 percent, with 122 available on-street spaces during the AM period.

SCENARIO TWO

The study area's overall on-street parking utilization is assumed to experience the same growth as projected for the traffic conditions in the study area. Accounting for the general background growth and the demand generated by the No Build project, the overall on-street parking utilization rate in the study area in the 2015 Scenario Two No Build condition would increase to approximately 93 percent, with 149 available on-street spaces during the AM period.

PROBABLE IMPACTS OF THE PROPOSED PROJECT

SCENARIO ONE

The proposed school would not provide any on-site parking spaces and would generate a demand of approximately 38 parking spaces by faculty/staff commuting by auto. Since the on-street parking utilization in the study area in the 2015 Scenario One No Build condition is expected to be 94 percent during the AM peak hour, the parking demand generated by the proposed project would be accommodated by the available on-street parking spaces within the ¼-mile radius of the project site. This would result in an overall on-street parking utilization rate of approximately 96 percent in the ¼ -mile study area in the 2015 Build conditions.

Since the on-street parking in the study area would operate with available capacity in the 2015 Build condition, the proposed project would not result in significant adverse impacts to the supply and demand of on-street parking in the study area.

SCENARIO TWO

The proposed school would not provide any on-site parking spaces and would generate a demand of approximately 38 parking spaces by faculty/staff commuting by auto. Since the on-street parking utilization in the study area in the 2015 Scenario Two No Build condition is expected to be 93 percent during the AM peak hour, the parking demand generated by the proposed project would be accommodated by the available on-street parking spaces within the ¼-mile radius of the project site. This would result in an overall on-street parking utilization rate of approximately 95 percent in the ¼ -mile study area in the 2015 Build conditions.

Since the on-street parking in the study area would operate with available capacity in the 2015 Build condition, the proposed project would not result in significant adverse impacts to the supply and demand of on-street parking in the study area.

G. PEDESTRIAN SAFETY

Accident data for the study area intersections were compiled from New York State Department of Transportation (NYSDOT) records for the period between March 31, 2007 and March 31, 2010. The data obtained quantify the total number of reportable accidents (involving fatality, injury, or more than $1,000 in property damage) during the study period, as well as a yearly breakdown of pedestrian- and bicycle-related accidents at each location. According to the 2010 *CEQR Technical Manual*, a high accident location is one where there were 48 or more total reportable and non-reportable accidents or five or more pedestrian/bicyclist injury accidents in any consecutive twelve months of the most recent three-year period for which data are available.

During this period, a total of 97 reportable and non-reportable accidents (including 30 pedestrian-related accidents) occurred at the study area intersections. **Table 5-41** depicts total accident characteristics by intersection during the study period, as well as a breakdown of pedestrian and bicycle accidents by year and location. Based on the CEQR criteria, the intersections of Junction Boulevard and Roosevelt Avenue and Junction Boulevard and 43rd Avenue were identified as high pedestrian accident locations.

Table 5-42 shows a detailed description of each accident at the intersection of Junction Boulevard and Roosevelt Avenue during the three year period. Based on the detailed description, nearly half of the pedestrian-related accidents were related to vehicles making left or right turning movements while pedestrians were crossing with the signal. This failure to yield right-

of-way was specifically listed as a contributing factor in one-third of the six accidents involving turning vehicles. Of the remaining eight accidents, seven involved vehicles going straight and one involved a vehicle entering a parking position. With respect to geometric deficiencies that could potentially cause safety hazards, the intersection of Junction Boulevard and Roosevelt Avenue is signalized and provides three regular crosswalks and one high-visibility (school) crosswalk. In addition, "School Advance" signs are posted at all approaches at this intersection.

Table 5-41
Accident Data

Intersection		Study Period						Accidents by Year							
North-South Roadway	East-West Roadway	All Accidents by Year				Total Fatalities	Total Injuries	Pedestrian				Bicycle			
		2007	2008	2009	2010			2007	2008	2009	2010	2007	2008	2009	2010
Junction Blvd	**Roosevelt Ave**	8	7	9	0	0	20	2	0	7	0	1	3	1	0
Junction Blvd	42nd Avenue	0	1	0	0	0	1	0	0	0	0	0	0	0	0
Junction Blvd	**43rd Avenue**	1	0	6	0	0	7	1	0	5	0	0	0	0	0
Junction Blvd	44th Avenue	2	2	3	0	0	9	1	0	0	0	0	0	0	0
Junction Blvd	45th Avenue	1	2	2	0	0	6	1	0	0	0	0	1	1	0
Junction Blvd	46th Avenue	1	0	1	0	0	2	0	0	0	0	0	0	1	0
Junction Blvd	Alstyne Avenue	0	2	0	1	0	2	0	0	0	0	0	0	0	0
Junction Blvd	Corona Avenue	8	5	6	1	0	13	2	1	2	1	2	0	0	0
National Street	43rd Avenue	1	3	2	0	0	6	0	2	2	0	0	0	0	0
National Street	44th Avenue	2	1	3	0	0	11	1	1	0	0	0	0	0	0
National Street	45th Avenue	0	0	0	0	0	0	0	0	0	0	0	0	0	0
99th Street	42nd Avenue	1	4	3	0	0	9	0	0	0	0	0	0	1	0
99th Street	43rd Avenue	0	0	1	1	0	2	0	0	1	0	0	0	0	0
97th Street	42nd Avenue	0	3	0	0	0	3	0	0	0	0	0	0	0	0
97th Street	43rd Avenue	1	1	1	0	0	2	0	0	0	0	0	0	0	0
97th Street	44th Avenue	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Source: NYSDOT March 31, 2007 to March 31, 2010 accident data.
Bold intersections are high pedestrian accident locations.

With the proposed project, the intersection of Junction Boulevard and Roosevelt Avenue would experience modest increases in vehicular and pedestrian traffic. In terms of project generated vehicle trips, the intersection could experience peak-hour volume increases of approximately 53 and 54 vehicles during the AM and PM peak hours, respectively. As for the pedestrian trips, the proposed project would generate less than 10 pedestrians through this intersection during each of the two peak hours.

Based on the review of the accident history at the intersection of Junction Boulevard and Roosevelt Avenue, no prevailing trends with regard to geometric deficiencies were identified as the primary causes of recorded accidents. Measures to increase pedestrian safety at this intersection could include the installation of pedestrian safety signs such as "Turning Vehicles Yield to Pedestrians" on all approaches, repainting the one existing high-visibility (school) crosswalk and replacing the three regular crosswalks with high visibility (school) crosswalks. With these measures in place, the projected increases in vehicular and pedestrian levels at the intersection of Junction Boulevard and Roosevelt Avenue are not anticipated to exacerbate any of the current causes of pedestrian-related accidents; therefore, the proposed project is not expected to result in any significant adverse pedestrian safety impacts.

Table 5-42 also shows a detailed description of each accident at the intersection of Junction Boulevard and 43rd Avenue during the three year period. Based on the detailed description, two of the pedestrian-related accidents were related to vehicles making left or right turning movements while pedestrians were crossing with the signal. The failure to yield right-of-way

Table 5-42
Vehicle – Pedestrian Accident Summary

Intersection	Year	Date	Time	Accident Class		Action of Vehicle	Action of Pedestrian	Cause of Accident			
				Injured	Killed			Left / Right Turns	Pedestrian Error/ Confusion	Driver Inattention	Other
Junction Boulevard @ Roosevelt Avenue	2007	6/24	9:45 PM	X		Entering parked position	Working in roadway				Unknown
		8/19	9:10 PM	X		Going straight – West	Crossing with signal				Unknown
		10/7	7:25 PM	X		Making left turn – Northwest	Crossing with signal	x			Driver Inexperience
	2008	2/10	11:35 AM	X		Going straight – West	Along Highway with Traffic				Unknown
		6/28	8:25 AM	X		Going straight – South	Crossing with signal				Unknown
		10/4	9:25 PM			Going straight – North	Unknown				Unknown
	2009	2/6	10:50 PM	X		Making left turn - East	Crossing with signal	x			Failure to Yield R.O.W.
		2/23	8:30 AM	X		Going straight – South	Crossing with signal				Unknown
		3/3	6:48 PM	X		Making right turn - East	Crossing with signal	x	x	x	
		3/16	N/A	X		Going Straight – West	Crossing		x		
		4/23	4:03 PM	X		Going Straight – West	Crossing against signal				Unknown
		8/29	11:34 AM	X		Making left turn – Northeast	Crossing with signal	x			
		10/4	10:37 PM	X		Making left turn – East	Crossing with signal	x			Failure to yield R.O.W.
		10/27	9:50 PM	X		Making left turn – East	Crossing with signal	x			Pavement slippery, Turning improper
Junction Boulevard @ 43rd Avenue	2007	10/20	5:25 PM	X		Going straight – West	Crossing				Unknown
	2009	3/26	9:10 PM	X		Making left turn – South	Crossing with signal	x			Failure to yield R.O.W.
		4/6	3:00 PM	X		Going straight – Southeast	Crossing with signal				Unknown
		8/2	9:35 PM	X		Making left turn - North	Crossing with signal	x			Unknown
		12/4	7:02 PM	X		Unknown	Crossing against signal				Unknown
		12/8	5:48 PM	X		Unknown	Crossing with signal				Unknown

Source: NYSDOT March 31, 2007 to March 31, 2010 accident data.

was specifically listed as a contributing factor in one of the accidents involving turning vehicles. Of the remaining four accidents, two involved vehicles going straight and two were listed with causes unknown. With respect to geometric deficiencies that could potentially cause safety hazards, the intersection of Junction Boulevard and 43rd Avenue is signalized and provides three high-visibility (school) crosswalks and one regular crosswalk. In addition, "School Crosswalk" signs are posted at all approaches at this intersection.

With the proposed project, the intersection of Junction Boulevard and 43rd Avenue would experience noticeable increases in vehicular and pedestrian traffic. In terms of project generated activity, the intersection could experience peak-hour volume increases of approximately 121 and 122 vehicles during the AM and PM peak hours, respectively. As for the pedestrian trips, the proposed project would generate approximately 340 pedestrians through this intersection during each of the two peak hours.

Based on the review of the accident history at the intersection of Junction Boulevard and 43rd Avenue, no prevailing trends with regard to geometric deficiencies were identified as the primary causes of recorded accidents. Measures to increase pedestrian safety at this intersection could include the repainting of all three high-visibility (school) crosswalks for better visibility, painting the one regular crosswalk with a high visibility crosswalk, and the installation of pedestrian safety signs such as "Turning Vehicles Yield to Pedestrians" on all the approaches. In addition, it is anticipated that NYCDOT would coordinate with the relevant agencies regarding school crossing guards to facilitate pedestrians crossing at this intersection during the school related morning and afternoon peak periods. With these measures in place, the projected increases in vehicular and pedestrian levels at the intersection of Junction Boulevard and 43rd Avenue are not anticipated to exacerbate any of the current causes of pedestrian-related accidents.

With the proposed safety improvement measures in place at the two high pedestrian accident locations discussed above, the proposed project is not expected to result in any significant adverse pedestrian safety impacts. ✳

A. INTRODUCTION

The potential for air quality impacts with the proposed school is examined in this chapter. Air quality impacts can be either direct or indirect. Direct impacts result from emissions generated by stationary sources at the project site, such as emissions from on-site fuel combustion for heat and hot water system. Indirect impacts are those caused by emissions from nearby existing stationary sources (impacts on the proposed project) or by emissions from on-road vehicle trips (mobile sources) generated by a project.

As described in Chapter 1, "Project Description," independent of the proposed project, the SCA is currently pursuing plans to develop a new 785-seat Intermediate School (I.S.) at 97-36 43rd Avenue, one block east of the proposed project. If approved the new I.S. at 97-36 43rd Avenue is currently anticipated to be completed by the proposed project's Build Year, 2015. However, in the event that the new I.S. is not constructed by 2015, this environmental analysis considers two analysis scenarios for the future without the proposed project—Scenario One includes construction of the 785-seat I.S. by 2015, and Scenario Two assumes that the new I.S. is not constructed by 2015. For the assessment of mobile source air quality impacts Scenario One is analyzed as the worst case scenario, accounting for emissions from cumulative vehicle trips that would be generated by the two schools. The stationary source analysis conducted for the proposed school is applicable to both Scenario One and Scenario Two.

The maximum hourly traffic that would cumulatively be generated by the proposed project and the proposed school at 97-36 43rd Avenue under Scenario One would exceed the *CEQR Technical Manual* carbon monoxide screening threshold of 170 for peak hour trips at nearby intersections in the study area. The cumulative trips generated under Scenario One would also exceed the particulate matter emission screening threshold discussed in Chapter 17, Sections 210 and 311 of the *CEQR Technical Manual*. Therefore, a quantified assessment of emissions from traffic that would cumulatively be generated by the proposed project and the proposed school at 97-36 43rd Avenue was conducted.

The proposed school would include natural-gas-fueled heat and hot water systems. Therefore, a heat and hot water system screening analysis was conducted to evaluate the potential for air quality impacts. In addition, site surveys were conducted to identify manufacturing and other businesses that have the potential to emit pollutants of concern.

The mobile source analysis conducted shows that there would be no potential for significant adverse impact on air quality from the vehicle trips cumulatively generated under Scenario One. As the cumulative assessment represents the worst-case condition, the proposed project generated on its own would also not result in a significant adverse mobile source impact on air quality. Based on the heat and hot water system screening analysis, there would be no potential significant adverse air quality impacts from emissions of the proposed school's heat and hot water systems. In addition, there would be no significant adverse air quality impacts from

existing manufacturing district businesses on the proposed school. Therefore, there is no potential for any significant adverse air quality impacts with the proposed school.

B. POLLUTANTS FOR ANALYSIS

Ambient air quality is affected by air pollutants produced by both motor vehicles and stationary sources. Emissions from motor vehicles are referred to as mobile source emissions, while emissions from fixed facilities are referred to as stationary source emissions. Ambient concentrations of carbon monoxide (CO) are predominantly influenced by mobile source emissions. Particulate matter (PM), volatile organic compounds (VOCs), and nitrogen oxides (NO and NO_2, collectively referred to as NO_x) are emitted from both mobile and stationary sources. Fine PM is also formed when emissions of NO_x, sulfur oxides (SO_x), ammonia, organic compounds, and other gases react or condense in the atmosphere. Emissions of sulfur dioxide (SO_2) are associated mainly with stationary sources, and sources utilizing non-road diesel such as diesel trains, marine engines, and non-road vehicles (e.g., construction engines). On-road diesel vehicles currently contribute very little to SO_2 emissions since the sulfur content of on-road diesel fuel, which is federally regulated, is extremely low. Ozone is formed in the atmosphere by complex photochemical processes that include NO_x and VOCs.

CARBON MONOXIDE

CO, a colorless and odorless gas, is produced in the urban environment primarily by the incomplete combustion of gasoline and other fossil fuels. In urban areas, approximately 80 to 90 percent of CO emissions are from motor vehicles. Since CO is a reactive gas which does not persist in the atmosphere, CO concentrations can vary greatly over relatively short distances; elevated concentrations are usually limited to locations near crowded intersections, heavily traveled and congested roadways, parking lots, and garages. Consequently, CO concentrations must be predicted on a local, or microscale, basis. Since the proposed project together with the proposed school at 97-36 43rd Avenue would result in cumulative peak hour vehicle trips that would exceed the *CEQR Technical Manual* screening analysis thresholds for CO under Scenario 1, a quantified assessment of air quality impacts from vehicle CO emissions generated under that scenario was conducted.

NITROGEN OXIDES, VOCS, AND OZONE

NO_x are of principal concern because of their role, together with VOCs, as precursors in the formation of ozone. Ozone is formed through a series of reactions that take place in the atmosphere in the presence of sunlight. Because the reactions are slow, and occur as the pollutants are advected downwind, elevated ozone levels are often found many miles from sources of the precursor pollutants. The effects of NO_x and VOC emissions from all sources are therefore generally examined on a regional basis. The contribution of any action or project to regional emissions of these pollutants would include any added stationary or mobile source emissions; the change in regional mobile source emissions of these pollutants would be related to the total vehicle miles traveled added or subtracted on various roadway types throughout the New York metropolitan area, which is designated as a moderate nonattainment area for ozone by the U.S. Environmental Protection Agency (EPA).

The proposed school would not have a significant effect on the overall volume of vehicular travel in the metropolitan area; therefore, no measurable impact on regional NO_x emissions or on

ozone levels is predicted. An analysis of emissions of these pollutants from mobile sources was therefore not warranted.

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

LEAD

Airborne lead emissions are currently associated principally with industrial sources. Effective January 1, 1996, the Clean Air Act (CAA) banned the sale of the small amount of leaded fuel that was still available in some parts of the country for use in on-road vehicles, concluding a 25-year effort to phase out lead in gasoline. Even at locations in the New York City area where traffic volumes are very high, atmospheric lead concentrations are below the 3-month average national standard of 0.15 micrograms per cubic meter ($\mu g/m^3$).

No significant sources of lead are associated with the proposed school and, therefore, analysis was not warranted.

RESPIRABLE PARTICULATE MATTER—PM_{10} AND $PM_{2.5}$

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

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

Diesel-powered vehicles, especially heavy duty trucks and buses, are a significant source of respirable PM, most of which is $PM_{2.5}$; PM concentrations may, consequently, be locally elevated near roadways with high volumes of heavy diesel-powered vehicles. Since under Scenario One the proposed project together with the proposed school at 97-36 43rd Avenue would result in an increase in $PM_{2.5}$ vehicle emissions that would exceed the $PM_{2.5}$ emissions threshold defined in Chapter 17, Sections 210 and 311 of the *CEQR Technical Manual* above which a detailed analysis of mobile source impacts on air quality is required, a quantified assessment of air quality impacts from vehicle PM emissions generated under that scenario was conducted.

SULFUR DIOXIDE

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

The proposed school would include heat and hot water system that would use natural gas. The sulfur content of natural gas is negligible; therefore, no analysis was performed to estimate the future levels of SO_2.

NONCRITERIA POLLUTANTS

In addition to the criteria pollutants discussed above, noncriteria pollutants are of concern. Noncriteria pollutants are emitted by a wide range of man-made and naturally occurring sources. Emissions of noncriteria pollutants from industries are regulated by EPA. Federal ambient air quality standards do not exist for noncriteria pollutants; however, the New York State Department of Environmental Conservation (NYSDEC) has issued standards for certain non-criteria compounds, including beryllium, gaseous fluorides, and hydrogen sulfide. NYSDEC has also developed guideline concentrations for numerous noncriteria pollutants. The NYSDEC guidance document DAR-1 (October 2010) contains a compilation of annual and short term (1-hour) guideline concentrations for these compounds. The NYSDEC guidance thresholds represent ambient levels that are considered safe for public exposure. A site survey was performed to assess whether any existing manufacturing district businesses are potentially sources of noncriteria pollutant emissions.

C. AIR QUALITY REGULATIONS, STANDARDS, AND BENCHMARKS

NATIONAL AND STATE AIR QUALITY STANDARDS

As required by the CAA, primary and secondary National Ambient Air Quality Standards (NAAQS) have been established for six major air pollutants: CO, NO_2, ozone, respirable PM (both $PM_{2.5}$ and PM_{10}), SO_2, and lead. The primary standards represent levels that are requisite to protect the public health, allowing an adequate margin of safety. The secondary standards are intended to protect the nation's welfare, and account for air pollutant effects on soil, water, visibility, materials, vegetation, and other aspects of the environment. The primary and secondary standards are the same for NO_2 (annual), ozone, lead, and PM, and there is no secondary standard for CO and the 1-hour NO_2 standard. The NAAQS are presented in **Table 6-1**. The NAAQS for CO, NO_2, and SO_2 have also been adopted as the ambient air quality standards for New York State, but are defined on a

running 12-month basis rather than for calendar years only. New York State also has standards for total suspended particulate matter (TSP), settleable particles, non-methane hydrocarbons (NMHC), and ozone which correspond to federal standards that have since been revoked or replaced, and for beryllium, fluoride, and hydrogen sulfide (H_2S).

Table 6-1
National Ambient Air Quality Standards (NAAQS)

Pollutant	Primary		Secondary	
	ppm	µg/m³	ppm	µg/m³
Carbon Monoxide (CO)				
8-Hour Average [1]	9	10,000	None	
1-Hour Average [1]	35	40,000		
Lead				
Rolling 3-Month Average [2]	NA	0.15	NA	0.15
Nitrogen Dioxide (NO_2)				
1-Hour Average [3]	0.100	188	None	
Annual Average	0.053	100	0.053	100
Ozone (O_3)				
8-Hour Average [4,5]	0.075	150	0.075	150
Respirable Particulate Matter (PM_{10})				
24-Hour Average [1]	NA	150	NA	150
Fine Respirable Particulate Matter ($PM_{2.5}$)				
Annual Mean	NA	15	NA	15
24-Hour Average [6,7]	NA	35	NA	35
Sulfur Dioxide (SO_2) [8]				
1-Hour Average [9]	0.075	196	NA	NA
Maximum 3-Hour Average [1]	NA	NA	0.50	1,300

Notes:
ppm – parts per million
µg/m³ – micrograms per cubic meter
NA – not applicable
All annual periods refer to calendar year.
PM concentrations (including lead) are in µg/m³ since ppm is a measure for gas concentrations. Concentrations of all gaseous pollutants are defined in ppm and approximately equivalent concentrations in µg/m³ are presented.

(1) Not to be exceeded more than once a year.
(2) EPA has lowered the NAAQS down from 1.5 µg/m³, effective January 12, 2009.
(3) 3-year average of the annual 98th percentile daily maximum 1-hr average concentration. Effective April 12, 2010.
(4) 3-year average of the annual fourth highest daily maximum 8-hr average concentration.
(5) EPA has proposed lowering this standard further to within the range 0.060-0.070 ppm.
(6) Not to be exceeded by the annual 98th percentile when averaged over 3 years.
(7) EPA has lowered the NAAQS down from 65 µg/m³, effective December 18, 2006.
(8) EPA revoked the 24-hour and annual primary standards, replacing them with a 1-hour average standard. Effective August 23, 2010.
(9) 3-year average of the annual 99th percentile daily maximum 1-hr average concentration. Effective August 23, 2010.

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

EPA has revised the NAAQS for PM, effective December 18, 2006. The revision included lowering the level of the 24-hour $PM_{2.5}$ standard from 65 $\mu g/m^3$ to 35 $\mu g/m^3$ and retaining the level of the annual standard at 15 $\mu g/m^3$. The PM_{10} 24-hour average standard was retained and the annual average PM_{10} standard was revoked.

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

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

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

NAAQS ATTAINMENT STATUS AND STATE IMPLEMENTATION PLANS

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

In 2002, EPA re-designated New York City as in attainment for CO. The CAA requires that a maintenance plan ensure continued compliance with the CO NAAQS for former nonattainment areas. New York City is also committed to implementing site-specific control measures throughout the city to reduce CO levels, should unanticipated localized growth result in elevated CO levels during the maintenance period.

Manhattan has been designated as a moderate NAA for PM_{10}. On December 17, 2004, EPA took final action designating the five New York City counties, Nassau, Suffolk, Rockland, Westchester, and Orange counties as a $PM_{2.5}$ nonattainment area under the CAA due to exceedance of the annual average standard. Based on recent monitoring data (2006-2009), annual average concentrations of $PM_{2.5}$ in New York no longer exceed the annual standard.

As described above, EPA has revised the 24-hour average $PM_{2.5}$ standard. In October 2009 EPA finalized the designation of the New York City Metropolitan Area as nonattainment with the 2006 24-hour $PM_{2.5}$ NAAQS, effective in November 2009. The nonattainment area includes the same 10-county area EPA originally designated as nonattainment with the 1997 annual $PM_{2.5}$ NAAQS. By November 2012 New York will be required to submit a SIP demonstrating attainment with the 2006 24-hour standard by November 2014 (EPA may grant attainment date extensions for up to five additional years).

Nassau, Rockland, Suffolk, Westchester, Lower Orange County Metropolitan Area (LOCMA), and the five New York City counties had been designated as a severe nonattainment area for ozone (1-hour average standard). In November 1998, New York State submitted its *Phase II Alternative Attainment Demonstration for Ozone*, which was finalized and approved by EPA

effective March 6, 2002, addressing attainment of the 1-hour ozone NAAQS by 2007. These SIP revisions included additional emission reductions that EPA requested to demonstrate attainment of the standard, and an update of the SIP estimates using the latest versions of the mobile source emissions model, MOBILE6.2, and the nonroad emissions model, NONROAD—which have been updated to reflect current knowledge of engine emissions and the latest mobile and nonroad engine emissions regulations.

On April 15, 2004, EPA designated these same counties as moderate nonattainment for the 8-hour average ozone standard which became effective as of June 15, 2004 (LOCMA was moved to the Poughkeepsie moderate nonattainment area for 8-hour ozone). EPA revoked the 1-hour standard on June 15, 2005; however, the specific control measures for the 1-hour standard included in the SIP are required to stay in place until the 8-hour standard is attained. The discretionary emissions reductions in the SIP would also remain but could be revised or dropped based on modeling. On February 8, 2008, NYSDEC submitted final revisions to a new SIP for ozone to EPA. NYSDEC has determined that achieving attainment for ozone before 2012 is unlikely, and has therefore made a request for a voluntary reclassification of the New York nonattainment area as "serious".

In March 2008 EPA strengthened the 8–hour ozone standards. SIPs will be due three years after the final designations are made. On March 12, 2009, NYSDEC recommended that the counties of Suffolk, Nassau, Bronx, Kings, New York, Queens, Richmond, Rockland, and Westchester be designated as a nonattainment area for the 2008 ozone NAAQS (the NYMA MSA nonattainment area). The EPA has proposed to determine that the Poughkeepsie nonattainment area (Dutchess, Orange, Ulster, and Putnam counties) has attained the 2008 one-hour and eight-hour National Ambient Air Quality Standards for ozone. It is unclear at this time what the attainment status of these areas will be under the newly proposed standard due to the range of concentrations proposed.

New York City is currently in attainment of the annual-average NO_2 standard. EPA has promulgated a 1-hour standard. The existing monitoring data indicates background concentrations below the standard. NYSDEC has determined that the present monitoring does not meet the revised EPA requirements in all respects and has recommended a designation of "unclassifiable" for the entire state. Therefore, it is likely that New York City will be designated by EPA as "unclassifiable" at first (January 2012), and then classified once three years of monitoring data are available (2016 or 2017).

EPA has established a 1-hour SO_2 standard, replacing the 24-hour and annual standards, effective August 23, 2010. Based on the available monitoring data, all New York State counties currently meet the 1-hour standard. Additional monitoring will be required. EPA plans to make final attainment designations in June 2012, based on 2008 to 2010 monitoring data and refined modeling. SIPs for nonattainment areas will be due by June 2014.

DETERMINING THE SIGNIFICANCE OF AIR QUALITY IMPACTS

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

its magnitude, and the number of people affected.[1] In terms of the magnitude of air quality impacts, any action predicted to increase the concentration of a criteria air pollutant to a level that would exceed the concentrations defined by the NAAQS (see Table 6-1) would be deemed to have a potential significant adverse impact. In addition, in order to maintain concentrations lower than the NAAQS in attainment areas, or to ensure that concentrations will not be significantly increased in nonattainment areas, threshold levels have been defined for certain pollutants; any action predicted to increase the concentrations of these pollutants above the thresholds would be deemed to have a potential significant adverse impact, even in cases where violations of the NAAQS are not predicted.

DE MINIMIS CRITERIA REGARDING CO IMPACTS

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

$PM_{2.5}$ INTERIM GUIDANCE CRITERIA

NYSDEC has published a policy to provide interim direction for evaluating $PM_{2.5}$ impacts[2]. This policy would apply only to facilities applying for permits or major permit modifications under SEQRA that emit 15 tons of PM_{10} or more annually. The policy states that such a project will be deemed to have a potentially significant adverse impact if the project's maximum impacts are predicted to increase $PM_{2.5}$ concentrations by more than 0.3 $\mu g/m^3$ averaged annually or more than 5 $\mu g/m^3$ on a 24-hour basis. Projects that exceed either the annual or 24-hour threshold will be required to prepare an Environmental Impact Statement (EIS) to assess the severity of the impacts, to evaluate alternatives, and to employ reasonable and necessary mitigation measures to minimize the $PM_{2.5}$ impacts of the source to the maximum extent practicable.

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

- 24-hour average $PM_{2.5}$ concentration increments which are predicted to be greater than 5 $\mu g/m^3$ at a discrete receptor location would be considered a significant adverse impact on air quality under operational conditions (i.e., a permanent condition predicted to exist for many years regardless of the frequency of occurrence);
- 24-hour average $PM_{2.5}$ concentration increments which are predicted to be greater than 2 $\mu g/m^3$ but no greater than 5 $\mu g/m^3$ would be considered a significant adverse impact on air

[1] CEQR Technical Manual, Chapter 17, section 400, May 2010; and State Environmental Quality Review Regulations, 6 NYCRR § 617.7

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

quality based on the magnitude, frequency, duration, location, and size of the area of the predicted concentrations;

- Annual average $PM_{2.5}$ concentration increments which are predicted to be greater than 0.1 $\mu g/m^3$ at ground level on a neighborhood scale (i.e., the annual increase in concentration representing the average over an area of approximately 1 square kilometer, centered on the location where the maximum ground-level impact is predicted for stationary sources; or at a distance from a roadway corridor similar to the minimum distance defined for locating neighborhood scale monitoring stations); or
- Annual average $PM_{2.5}$ concentration increments which are predicted to be greater than 0.3 $\mu g/m^3$ at a discrete receptor location (elevated or ground level).

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

The proposed school's annual emissions of PM_{10} are estimated to be well below the 15-ton-per-year threshold under the New York State Department of Environmental Conservation (NYSDEC) $PM_{2.5}$ policy guidance. The above interim guidance criteria have been used to evaluate the significance of predicted impacts of cumulative mobile source $PM_{2.5}$ emissions with the proposed project and the proposed school at 97-36 43rd Avenue on $PM_{2.5}$ concentrations.

D. METHODOLOGY FOR PREDICTING POLLUTANT CONCENTRATIONS

MOBILE SOURCES

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

The mobile source analysis for the proposed school employs a model approved by EPA that has been widely used for evaluating air quality impacts of projects in New York City, other parts of New York State, and throughout the country. The modeling approach includes a series of conservative assumptions relating to meteorology, traffic, and background concentration levels resulting in a conservatively high estimate of expected pollutant concentrations that could ensue from the proposed school. The assumptions used in the analysis are based on the latest CO and $PM_{2.5}$ interim guidance for CEQR projects.

VEHICLE EMISSIONS

Engine Emissions

Vehicular CO and PM engine emission factors were computed using the EPA mobile source emissions model, MOBILE6.2[1]. 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 MOBILE6.2 incorporate the most current guidance available from NYSDEC and NYCDEP.

Vehicle classification was based on data collected in the field. Appropriate credits were used to accurately reflect the inspection and maintenance program. The inspection and maintenance programs require inspections of automobiles and light trucks to determine if pollutant emissions from each vehicle exhaust system are lower than emission standards. Vehicles failing the emissions test must undergo maintenance and pass a repeat test to be registered in New York State.

All taxis were assumed to be in hot stabilized mode (i.e. excluding any start emissions). The general categories of vehicle types for specific roadways were further categorized into subcategories based on their relative breakdown within the fleet.[2]

An ambient temperature of 43°F was used. The use of this temperature is recommended in the *CEQR Technical Manual* for the Borough of Queens and is consistent with current DEP guidance.

Road Dust

The contribution of re-entrained road dust to PM_{10} concentrations, as presented in the PM_{10} SIP, is considered to be significant; therefore, the PM_{10} estimates include both exhaust and road dust. In accordance with the DEP $PM_{2.5}$ interim guidance criteria methodology, $PM_{2.5}$ emission rates were determined with fugitive road dust to account for their impacts in local microscale analyses. However, fugitive road dust was not included in the 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 EPA[3] and the 2010 *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 both the proposed school (see Chapter 5, "Transportation") and the planned I.S. project at 97-36 43rd Avenue. Traffic data for the future without and with the proposed schools were employed in the respective air quality modeling scenarios. The weekday morning (7:45 to 8:45 AM) and

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

[2] The MOBILE6.2 emissions model utilizes 28 vehicle categories by size and fuel. Traffic counts and predictions are based on broader size categories, and then broken down according to the fleet-wide distribution of subcategories and fuel types (diesel, gasoline, or alternative).

[3] 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.

afternoon (2:30 to 3:30 PM) peak hour traffic volumes were used as a baseline for determining off-peak volumes. Off-peak traffic volumes in the existing condition and in the future without the proposed schools, and off-peak increments from the proposed schools, were determined by adjusting the peak period volumes by the 24-hour distributions of actual vehicle counts collected at appropriate locations.

DISPERSION MODEL FOR MICROSCALE ANALYSES

Maximum CO concentrations adjacent to streets near the proposed project site, resulting from vehicle emissions, were predicted using the CAL3QHC model Version 2.0.[1] The CAL3QHC model employs a Gaussian (normal distribution) dispersion assumption and includes an algorithm for estimating vehicular queue lengths at signalized intersections. CAL3QHC predicts dispersion of CO from idling and moving vehicles. The queuing algorithm includes site-specific traffic parameters, such as signal timing and delay calculations (from the *2000 Highway Capacity Manual* traffic forecasting model), saturation flow rate, vehicle arrival type, and signal actuation (i.e., pre-timed or actuated signal) characteristics to accurately predict the number of idling vehicles. The CAL3QHC model has been updated with an extended module, CAL3QHCR, which allows for the incorporation of hourly traffic and meteorological data into the modeling, instead of worst-case assumptions regarding meteorological parameters. To determine motor vehicle generated PM concentrations adjacent to streets near the proposed project site, the refined CAL3QHCR version of the model was applied since it is more appropriate for calculating 24-hour and annual average concentrations.

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 stability accounts for the effects of vertical mixing in the atmosphere. These factors, therefore, influence the concentration at a particular prediction location (receptor).

Tier I Analyses—CAL3QHC

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

Following the EPA guidelines[2], CAL3QHC computations were performed using a wind speed of 1 meter per second, and the neutral stability class D. The 8-hour average CO concentrations were estimated by multiplying the predicted 1-hour average CO concentrations by a factor of 0.70 to account for persistence of meteorological conditions and fluctuations in traffic volumes. A surface roughness of 3.21 meters was chosen. At each receptor location, concentrations were calculated for all wind directions, and the highest predicted concentration was reported, regardless of frequency of occurrence. These assumptions ensured that worst-case meteorology was used to estimate CO impacts.

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

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

Tier II Analyses—CAL3QHCR

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

ANALYSIS YEAR

The microscale analyses were performed for existing conditions and 2015, the year by which the proposed project is likely to be completed. The future analysis was performed for both the Scenario Two No Build condition (without either of the proposed schools – i.e. the proposed project and the nearby I.S. at 97-36 43rd Avenue) and Scenario One Build condition (with the completion of the proposed project and the I.S.). This represents the largest increment of vehicles to be expected in the area, and therefore the highest air quality impact.

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 CO concentrations used in the mobile source analysis were based on maximum second highest concentrations recorded at the NYSDEC PS 219/Queens College monitoring station from 2005 to 2009. For the assessment of 24-hour average PM_{10} levels, a background concentration of 51 $\mu g/m^3$ was used. The background concentrations is based on monitored levels at the P.S. 219 / Queens College 2 monitoring station, the NYSDEC monitoring station nearest to the proposed school site. The selected background value represents the second highest concentration over the most recent 3-year period (2007 to 2009) for which a New York State Ambient Air Quality Report is available. $PM_{2.5}$ impacts are assessed on an incremental basis and compared with the $PM_{2.5}$ interim guidance criteria. Therefore, a background concentration for $PM_{2.5}$ is not included. The latest monitored values indicate that the $PM_{2.5}$ concentrations in Queens no longer exceed the NAAQS.

ANALYSIS SITE AND RECEPTOR PLACEMENT

The Junction Boulevard and 44th Avenue intersection was selected for microscale analysis because it is expected that the greatest level of traffic cumulatively generated by the proposed project and the proposed I.S. nearby, and therefore the highest air quality impacts and maximum changes in concentrations would occur at this intersection. The greatest number of school bus trips is expected at this intersection as well. Therefore, both the CO and the PM modeling analyses were conducted at this intersection. Multiple receptors (i.e. precise locations at which concentrations are predicted) were modeled along the approach and departure links at spaced intervals. Receptors were placed at sidewalk or roadside locations near intersections with continuous public access. For predicting annual average neighborhood-scale $PM_{2.5}$ concentrations, receptors were placed at a distance of 15 meters from the nearest moving lane, based on the NYCDEP procedure for neighborhood-scale $PM_{2.5}$ modeling.

HEAT AND HOT WATER SYSTEM SCREENING ANALYSIS

To assess air quality impacts associated with emissions from the proposed school's heat and hot water system, a screening analysis was performed. The methodology described in the *CEQR Technical Manual* was used for the analysis, which determines the threshold of development size below which the action would not have a significant adverse impact. The screening procedures utilize information regarding the type of fuel to be burned, the maximum development size, type of development, and the stack height, to evaluate whether a significant adverse impact is likely. Based on the distance from the development to the nearest building of similar or greater height, if the maximum development size is greater than the threshold size in the *CEQR Technical Manual,* there is the potential for significant adverse air quality impacts, and a refined dispersion modeling analysis would be required. Otherwise, the source passes the screening analysis, and no further analysis is required.

INDUSTRIAL SOURCE SCREENING ANALYSIS

To assess air quality impacts from emissions from nearby industrial sources on the proposed school, a screening analysis is performed using the methodology described in the *CEQR Technical Manual.* The first step in this analysis is to perform a field survey in order to identify any processing or manufacturing facilities located within 400 feet of the project site. Once identified, information regarding the release of air contaminants from these facilities is obtained from the New York City Department of Environmental Protection (NYCDEP) Bureau of Environmental Compliance (BEC). A comprehensive search is also performed to identify NYSDEC Title V permits and permits listed in the EPA Envirofacts database.[1] In the next step, the potential ambient concentrations of each noncriteria pollutant are determined using a screening database in the *CEQR Technical Manual.* The database provides factors for estimating maximum concentrations based on emissions levels at the source. The factors provided in the *Technical Manual* were derived from generic AERMOD dispersion modeling for the NYC area. Estimates of worst-case short-term (1-hour) and annual average pollutant levels are predicted and then compared with the short-term (SGC) and annual (AGC) guideline concentrations. The guideline concentrations are established by NYSDEC and represent levels that are considered safe for inhalation exposure by the public. A significant impact occurs if the predicted concentration exceeds an SGC or AGC.

E. EXISTING CONDITIONS

The most recent concentrations of all criteria pollutants at NYSDEC air quality monitoring stations nearest to the proposed site are presented in **Table 6-2**. As shown, the recently monitored levels did not exceed the NAAQS. It should be noted that these values are somewhat different from the background concentrations used in the analyses. For most pollutants the concentrations presented in Table 6-2 are based on recent measurements obtained in 2009, the most recent year for which data are available; the background concentrations are obtained from several years of monitoring data, and represent a conservative estimate of the highest background concentrations for future conditions.

[1] EPA, Envirofacts Data Warehouse, http://oaspub.epa.gov/enviro/ef_home2.air, 1/20/2010

MODELED CO CONCENTRATIONS FOR EXISTING TRAFFIC CONDITIONS

As noted previously, receptors were placed at multiple sidewalk locations next to the intersection selected for the analysis. **Table 6-3** shows the maximum modeled existing CO 8-hour average concentration for each peak period analyzed. (No 1-hour values are shown since predicted values are much lower than the 1-hour standard of 35 ppm.) At all receptor sites, the maximum predicted 8-hour average concentrations are well below the national standard of 9 ppm.

Table 6-2
Representative Monitored Ambient Air Quality Data

Pollutant	Location	Units	Averaging Period	Concentration	NAAQS
CO	P.S. 219/Queens College	ppm	8-hour	1.9	9
			1-hour	3.1	35
SO_2	P.S. 219/Queens College [1]	$\mu g/m^3$	3-hour	92	1,300
			1-hour	86.9	196
PM_{10}	P.S. 219/Queens College	$\mu g/m^3$	24-hour	56	150
$PM_{2.5}$	P.S. 219/Queens College [2]	$\mu g/m^3$	Annual	10.7	15
			24-hour	30	35
NO_2	P.S. 219/Queens College [3]	$\mu g/m^3$	Annual	39	100
			1-hour	126	188
Lead	J.H.S. 126, Brooklyn [4]	$\mu g/m^3$	3-month	0.019	0.15
Ozone	P.S. 219/Queens College [5]	ppm	8-hour	0.074	0.075

Notes:
(1) The 1-hour value is based on a three-year average (2007-2009) of the 99th percentile of daily maximum 1-hour average concentrations. EPA replaced the 24-hr and the annual standards with the 1-hour standard.
(2) Annual value is based on a three-year average (2007-2009) of annual concentrations. The 24-hour value is based on the 3-year average of the 98th percentile of 24-hour average concentrations.
(3) The 1-hour value is based on a three-year average (2007-2009) of the 98th percentile of daily maximum 1-hour average concentrations.
(4) Based on the highest quarterly average concentration measured in 2009.
(5) Based on the 3-year average (2007-2009) of the 99th percentile of the highest daily maximum 8-hour average concentrations.
Source: NYSDEC, New York State Ambient Air Quality Data.

Table 6-3
Modeled Existing 8-Hour Average CO Concentrations

Location	Time Period	8-Hour Concentration (ppm)
Junction Blvd and 44th Ave	AM	2.4
Junction Blvd and 44th Ave	PM	2.4

Note: 8-hour standard (NAAQS) is 9 ppm.

F. PROBABLE IMPACTS OF THE PROPOSED SCHOOL

The following sections describe the results of the studies performed to analyze the potential for significant adverse air quality impacts from the vehicle trips generated by the proposed project along with the planned I.S. project one block east at 97-36 43rd Avenue. The results of the

analyses conducted to assess the potential for impacts on air quality from the proposed school heat and hot water systems are presented and the assessment conducted to determine the potential for impacts from manufacturing district uses on the air quality at the proposed school is discussed.

MOBILE SOURCES

CO concentrations with the proposed project and planned I.S nearby were determined for the 2015 Build Year using the methodology previously described. **Table 6-4** shows the future maximum predicted 8-hour average CO concentration with and without the proposed project and the proposed I.S. nearby at the intersection studied. (No 1-hour values are shown, since no exceedances of the NAAQS would occur and the *de minimis* criteria are only applicable to 8-hour concentrations; therefore, the 8-hour values are the most critical for impact assessment.) The values shown represent the highest predicted concentrations for any of the receptors analyzed. The results indicate that the cumulative impact of the proposed project along with the proposed I.S. nearby would not result in any violations of the 8-hour CO standard. In addition, the incremental increases in 8-hour average CO concentrations are very small, and consequently would not exceed the *de minimis* CO criteria. (The *de minimis* criteria are described above in Section C: "Air Quality Regulations, Standards, and Benchmarks.")

Table 6-4
Future Modeled 8-Hour Average CO Concentrations With and Without the Proposed Project and Nearby Intermediate School

Location	Time Period	8-Hour Concentration (ppm)			
		Without the Proposed Schools	With the Project and Nearby I.S.	Increment	*De Minimis*
Junction Blvd and 44th Ave	AM	2.3	2.4	0.1	5.6
Junction Blvd and 44th Ave	PM	2.3	2.4	0.1	5.6
Note: 8-hour standard (NAAQS) is 9 ppm.					

Using the methodology previously described, PM_{10} concentrations with and without the proposed project and nearby I.S. were predicted for the 2015 Build Year. The values shown in **Table 6-5** are the highest predicted concentrations for all locations analyzed and include the PM_{10} ambient background concentration. The results indicate that the cumulative vehicle trips generated by both the proposed project and the nearby I.S. would not result in PM_{10} concentrations that would exceed the NAAQS.

Table 6-5
Future (2015) Maximum Predicted 24-Hour Average PM_{10} Concentrations ($\mu g/m^3$)

Location	Without the Proposed Schools	With the Project and nearby I.S.
Junction Blvd and 44th Ave	56.75	57.06
Note: The National Ambient Air Quality Standard for PM_{10} is 150 $\mu g/m^3$, for a 24-hour average.		

Future maximum predicted 24-hour and annual average $PM_{2.5}$ concentration increments were calculated for comparison with the interim guidance criteria. The results represent increments between the Scenario Two No Build concentrations and the Scenario One Build concentrations.

Based on this analysis, the maximum predicted localized 24-hour average and neighborhood-scale annual average incremental $PM_{2.5}$ concentrations are presented in **Table 6-6** and **Table 6-7**, respectively. Note that since impacts are assessed on an incremental basis, $PM_{2.5}$ concentrations for the two scenarios are not presented.

Table 6-6
Maximum Predicted 24-Hour Average $PM_{2.5}$ Concentration Increments

Location	Increment
Junction Blvd and 44th Ave	0.05
Note: $PM_{2.5}$ interim guidance criteria—24-hour average, 2 $\mu g/m^3$ (5 $\mu g/m^3$ not-to-exceed value).	

Table 6-7
Maximum Predicted Annual Average $PM_{2.5}$ Concentration Increments

Location	Increment
Junction Blvd and 44th Ave	0.02
Note: $PM_{2.5}$ interim guidance criteria—annual (neighborhood scale), 0.1 $\mu g/m^3$.	

The results show that the annual and daily (24-hour) $PM_{2.5}$ cumulative increments are predicted to be well below the interim guidance criteria and, therefore, the proposed project and the planned I.S. would not result in significant adverse impacts from mobile sources.

HEAT AND HOT WATER SYSTEM SCREENING ANALYSIS

A screening analysis was performed to assess the potential for air quality impacts from the proposed school's heat and hot water system. The analysis was based on the use of natural gas, total square footage (i.e., 131,500 gsf) of the proposed school, and an exhaust height of 74 feet (3 feet above the estimated height of the proposed school)[1]. The nearest distance to an existing building of a similar or greater height was determined to be beyond 400 feet. However, the I.S. project planned for a site approximately 220 feet east at 97-36 43rd Avenue would be taller than the proposed project. Therefore, a distance of 220 feet was conservatively used to assess the potential for impacts from both Scenario One and Scenario Two. The use of natural gas would not result in any significant stationary source air quality impacts because the proposed school would be below the maximum permitted size shown in Figure 17-7 in the Air Quality Appendix of the *CEQR Technical Manual.*

INDUSTRIAL SOURCE SCREENING ANALYSIS

A field survey was conducted on January 14, 2010 as part of the air quality impact assessment for the planned I.S. at 97-36 43rd Avenue, to determine whether there are any industrial sources in the project study area and to identify potential sites that might have NYCDEP permits. As part of that assessment, which included the 400 foot perimeter of concern for the proposed project, information was requested from NYCDEP on a business found to be operating within the study area that in the past had a permit with NYSDEC, according to the Envirofacts database. NYCDEP indicated that the business did not have or require any air emissions permits because it

[1] While some of the mechanical space may reach up to 85 feet in height, approximately 74 feet was assumed as it provides a more conservative assumption for this analysis.

no longer engaged in activities that would result in emissions of concern. A follow-up site survey was conducted on January 13, 2011 to identify any new sources of concern that may have moved near the proposed site. No new sources of concern were observed. Therefore, no further analysis is required and there would be no potential for significant adverse impacts from existing manufacturing district businesses on the proposed school. The conclusions of this assessment are applicable to both Scenario One and Scenario Two. ✳

A. INTRODUCTION

The proposed school would not generate sufficient traffic to have the potential to cause a significant noise impact (i.e., it would not result in an increase in noise passenger car equivalents [Noise PCEs] large enough to cause a 5 dBA increase in noise levels). The principal impacts of the proposed school on ambient noise levels would result from the use of the school's playground. An analysis of these potential impacts is presented, along with an analysis to determine the level of building attenuation necessary to ensure that interior noise levels satisfy applicable interior noise criteria.

B. ACOUSTICAL FUNDAMENTALS

Quantitative information on the effects of airborne noise on people is well documented. If sufficiently loud, noise may adversely affect people in several ways. For example, noise may interfere with human activities, such as sleep, speech communication, and tasks requiring concentration or coordination. It may also cause annoyance, hearing damage, and other physiological problems. Although it is possible to study these effects on people on an average or statistical basis, it must be remembered that all the stated effects of noise on people vary greatly with the individual. Several noise scales and rating methods are used to quantify the effects of noise on people. These sales and methods consider such factors as loudness, duration, time of occurrence, and changes in noise level with time.

"A"-WEIGHTED SOUND LEVEL (DBA)

Noise is typically measured in units called decibels (dB), which are ten times the algorithm of the ratio of the sound pressure squared to a standard reference pressure squared. Because loudness is important in the assessment of the effects of noise on people, the dependence of loudness on frequency must be taken into account in the noise scale used in environmental assessments. Frequency is the rate at which sound pressures fluctuate in a cycle over a given quantity of time, and is measured in Hertz (Hz), where 1 Hz equals 1 cycle per second. Frequency defines sound in terms of pitch components. One of the simplified scales that accounts for the dependence of perceived loudness on frequency is the use of a weighting network known as A-weighting in the measurement system, to simulate response of the human ear. For most noise assessments the A-weighted sound pressure level in units of dBA is used in view of its widespread recognition and its close correlation with perception. In this analysis, all measured noise levels are reported in dBA or A-weighted decibels. Common noise levels in dBA are shown in **Table 7-1.**

COMMUNITY RESPONSE TO CHANGES IN NOISE LEVELS

The average ability of an individual to perceive changes in noise levels is well documented (see **Table 7-2**). Generally, changes in noise levels less than 3 dBA are barely perceptible to most

listeners, whereas 10 dBA changes are normally perceived as doublings (or halving) of noise levels. These guidelines permit direct estimation of an individual's perception of changes in noise levels.

Table 7-1
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	
Busy city street, loud shout	80
Busy traffic intersection	
Highway traffic at 15 meters, train	70
Predominantly industrial area	60
Light car traffic at 15 meters, city or commercial areas or	
Background noise in an office	50
Suburban areas with medium density transportation	
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.
Source: Cowan, James P. Handbook of Environmental, Acoustics. Van Nostrand Reinhold, New York, 1994.
Egan, M. David, Architectural Acoustics. McGraw-Hill Book Company, 1988.

Table 7-2
Average Ability to Perceive Changes in Noise Levels

Change (dBA)	Human Perception of Sound
2-3	Barely perceptible
5	Readily noticeable
10	A doubling or halving of the loudness of sound
20	A dramatic change
40	Difference between a faintly audible sound and a very loud sound

Source: Bolt Beranek and Newman, Inc., *Fundamentals and Abatement of Highway Traffic Noise*, Report No. PB-222-703. Prepared for Federal Highway Administration, June 1973.

It is also possible to characterize the effects of noise on people by studying the aggregate response of people in communities. The rating method used for this purpose is based on a

statistical analysis of the fluctuations in noise levels in a community, and integrates the fluctuating sound energy over a known period of time, most typically during 1 hour or 24 hours. Various government and research institutions have proposed criteria that attempt to relate changes in noise levels to community response. One commonly applied criterion for estimating this response is incorporated into the community response scale proposed by the International Standards Organization (ISO) of the United Nations (see **Table 7-3**). This scale relates changes in noise level to the degree of community response and permits direct estimation of the probable response of a community to a predicted change in noise level.

Table 7-3
Community Response to Increases in Noise Levels

Change (dBA)	Category	Description
0	None	No observed reaction
5	Little	Sporadic complaints
10	Medium	Widespread complaints
15	Strong	Threats of community action
20	Very strong	Vigorous community action

Source: International Standards Organization, Noise Assessment with Respect to Community Responses, ISO/TC 43 (New York: United Nations, November 1969).

NOISE DESCRIPTORS USED IN IMPACT ASSESSMENT

Because the sound pressure level unit of dBA describes a noise level at just one moment and very few noises are constant, other ways of describing noise over extended periods have been developed. One way of describing fluctuating sound is to describe the fluctuating noise 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 computer. 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 as $L_{eq(24)}$), 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. Discrete event peak levels are given as L_1 levels. L_{eq} is used in the prediction of future noise levels, by adding the contributions from new sources of noise (i.e., increases in traffic volumes) to the existing levels and in relating annoyance to increases in noise levels.

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

For the purposes of this project, the maximum 1-hour equivalent sound level ($L_{eq(1)}$) has been selected as the noise descriptor to be used in the noise impact evaluation. $L_{eq(1)}$ is the noise

descriptor used in the City Environmental Quality Review (CEQR) standards for vehicular traffic noise impact evaluation, and is used to provide an indication of highest expected sound levels. $L_{10(1)}$ is the noise descriptor used in the CEQR noise exposure standards for vehicular traffic noise. Hourly statistical noise levels (particularly L_{10} and L_{eq} levels) were used to characterize the relevant noise sources and their relative importance at each receptor location.

C. NOISE STANDARDS AND CRITERIA

NEW YORK CEQR NOISE STANDARDS

The New York City Department of Environmental Protection (NYCDEP) has set external noise exposure standards. These standards are shown in **Table 7-4** and 7-5. Noise exposure is classified into four categories: acceptable, marginally acceptable, marginally unacceptable, and clearly unacceptable. The standards shown are based on maintaining an interior noise level for the worst-case hour L_{10} less than or equal to 45 dBA. Mitigation requirements are shown in **Table 7-5.**

Table 7-4
Noise Exposure Guidelines
For Use in City Environmental Impact Review[1]

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
1. Outdoor area requiring serenity and quiet[2]		$L_{10} \leq 55$ dBA	---------- Ldn ≤ 60 dBA ----------		---------- 60 < Ldn ≤ 65 dBA ----------		(1) 65 < Ldn ≤ 70 dBA, (II) 70 ≤ Ldn		---------- Ldn ≤ 75 dBA ----------
2. Hospital, Nursing Home		$L_{10} \leq 55$ dBA		55 < $L_{10} \leq 65$ dBA		65 < $L_{10} \leq 80$ dBA		$L_{10} > 80$ dBA	
3. Residence, residential hotel or motel	7 AM to 10 PM	$L_{10} \leq 65$ dBA		65 < $L_{10} \leq 70$ dBA		70 < $L_{10} \leq 80$ dBA		$L_{10} > 80$ dBA	
	10 PM to 7 AM	$L_{10} \leq 55$ dBA		55 < $L_{10} \leq 70$ dBA		70 < $L_{10} \leq 80$ dBA		$L_{10} > 80$ dBA	
4. School, museum, library, court, house of worship, transient hotel or motel, public meeting room,		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)	
5. 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)	
6. 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;

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. Examples are grounds for ambulatory hospital patients and patients and residents of sanitariums and old-age homes.

3 One may use the 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).

Table 7-5
Required Attenuation Values to Achieve Acceptable Interior Noise Levels

	Marginally Unacceptable				Clearly Unacceptable
Noise Level With Proposed Project	$70 < L_{10} \leq 73$	$73 < L_{10} \leq 76$	$76 < L_{10} \leq 78$	$78 < L_{10} \leq 80$	$80 < L_{10}$
Attenuation[1]	(I) 28 dB(A)	(II) 31 dB(A)	(III) 33 dB(A)	(IV) 35 dB(A)	$36 + (L_{10} - 80)^2$ dB(A)

Notes:
[1] The above composite window-wall attenuation values are for residential dwellings and community facility development. Commercial office spaces and meeting rooms would be 5 dB(A) less in each category. All the above categories require a closed window situation and hence an alternate means of ventilation.
[2] Required attenuation values increase by 1 dB(A) increments for L_{10} values greater than 80 dBA.
Source: New York City Department of Environmental Protection.

In addition, the *CEQR Technical Manual* uses the following criteria to determine whether a proposed project would result in a significant adverse noise impact. The impact assessments compare the proposed project's Build condition $L_{eq(1)}$ noise levels to those calculated for the No Build condition, for receptors potentially affected by the project.

If the No Build levels are less than 60 dBA $L_{eq(1)}$ and the analysis period is not a nighttime period, the threshold for a significant impact would be an increase of at least 5 dBA $L_{eq(1)}$. If the No Build noise level is equal to or greater than 62 dBA $L_{eq(1)}$, or if the analysis period is a nighttime period (defined in the CEQR standards as being between 10 PM and 7 AM), the incremental significant impact threshold would be 3 dBA $L_{eq(1)}$. (If the No Build noise level is 61 dBA $L_{eq(1)}$, the maximum incremental increase would be 4 dBA, since an increase higher than this would result in a noise level higher than the 65 dBA $L_{eq(1)}$ threshold.)

IMPACT DEFINITION

For purposes of the impact assessment, this assessment utilizes a relative noise impact criteria which considers project-related increases in $L_{eq(1)}$ noise levels over future conditions without the project of greater than 5.0 dBA as significant impacts. The 5.0 dBA relative criteria is consistent with increases in noise levels that the public considers noticeable and likely to result in complaints. The $L_{eq(1)}$ descriptor is used in this document to quantify and describe both playground and traffic noise.

D. EXISTING NOISE LEVELS

Existing noise levels were measured for 20-minute periods during the two weekday peak periods—AM (7:30– 9:00 AM), and PM (3:00 – 4:30 PM) peak periods on April 22 and 27, 2010 at two receptor sites (i.e., Sites 1 and 2) nearby the project site to determine CEQR building attenuation requirements. Existing noise levels were also measured for 20-minute periods throughout the day at Site 2 for the at-grade playground analysis. Due to the elevated Long Island Railroad immediately adjacent to the proposed project site, measurements at Site 1 were performed simultaneously at two microphone heights: 5 feet and 12 feet. Site 1 was located on 44th Avenue between National Street and 97th Place and Site 2 was located on 43rd Avenue between 97th Place and 99th Street (see **Figure 7-1**).

Measurements were performed using one Brüel & Kjær Sound Level Meter (SLM) Type 2260 (S/N 2001692) and one Brüel & Kjær SLM Type 2270 (S/N 2706757), Brüel & Kjær ½ inch microphones Type 4189 (S/N 2021267 and S/N 2695523), and Brüel & Kjær Sound Level

Calibrators Type 4231 (S/N 1800102 and S/N 2688762). The Brüel & Kjær SLM is a Type 1 instrument according to ANSI Standard S1.4-1983 (R2006). The SLMs have a laboratory calibration date of July 22, 2009 and March 11, 2010, respectively which are valid through July of 2010 and March of 2011, respectively. The microphone was mounted at a height of approximately five feet above the ground surface (for the at grade measurement, elevated measurement was approximately 12 feet above the ground surface) on a tripod and at least six feet away from any large, sound-reflecting surface to avoid major interference with sound propagation. The SLM was calibrated before and after readings with a Brüel & Kjær Type 4231 Sound Level Calibrator using the appropriate adaptor. Measurements at each location were made on the A-scale (dBA). The data were digitally recorded by the sound level meter and displayed at the end of the measurement period in units of dBA. Measured quantities included L_{eq}, L_1, L_{10}, L_{50}, and L_{90} levels. A windscreen was used during all sound measurements except for calibration. All measurement procedures were based on the guidelines outlined in ANSI Standard S1.13-2005.

The noise monitoring results used for the building attenuation analysis are summarized in **Table 7-6** and show the measured noise levels during the AM and PM traffic peak periods. The noise monitoring results used for the playground impact assessment are summarized in **Table 7-7**. The levels shown are the lowest measured levels throughout the day at Site 2. Using these lower levels as a baseline for impact analysis results in a conservative analysis and tends to maximize of the finding of impacts.

Table 7-6
Existing Noise Levels For Building Attenuation Purposes (dBA)

Site	Height	Measurement Location	Time		L_{eq}	L_1	L_{10}	L_{50}	L_{90}
1	5 feet	44th Avenue between National Street and 97th Place	Weekday	72.4*	88.7	69.0	53.1	48.4	48.4
				59.3	70.7	63.6	51.9	46.6	46.6
1	12 feet	44th Avenue between National Street and 97th Place	Weekday	74.0*	90.4	68.7	54.1	50.1	50.1
				61.3*	72.6	59.9	52.3	47.9	47.9
2	5 feet	43rd Avenue between 97th Place and 99th Street	Weekday	62.4	72.5	65.2	59.5	52.5	52.5
				66.7	76.4	70.7	61.9	56.5	56.5

Notes: Field measurements were performed by AKRF, Inc. on April 22 and 27, 2010.
* L_{eq} values exceed L_{10} values due to train pass-bys.

Table 7-7
Lowest Existing Noise Levels for Site 2 (in dBA)

Site	Measurement Location	Time		L_{eq}	L_1	L_{10}	L_{50}	L_{90}
2	43rd Avenue between 97th Place and 99th Street	Weekday	AM	60.0	68.6	63.1	56.4	49.7
			PM	60.7	69.9	63.9	56.3	50.0

Notes: Field measurements were performed by AKRF, Inc. on April 22, 2010

At Site 1, traffic and rail noise were the dominant noise sources. At Site 2, traffic noise was the dominant noise source. Measured noise levels were low to moderate and reflect the level of vehicular activity on the adjacent streets. In terms of the CEQR criteria, the existing noise levels at Sites 1 would be in the "acceptable" category and existing noise levels at Site 2 would be in the "marginally unacceptable" category.

SCA P.S. 315 (Q315)

Noise Receptor Locations
Figure 7-1

E. NOISE FROM THE SCHOOL PLAYGROUND

METHODOLOGY

Table 7-8 shows the maximum hourly playground boundary noise levels for the two time periods analyzed. These values are based upon measurements made at a series of New York City school playgrounds for the New York City School Construction Authority (SCA).[1] The proposed school will be an elementary school. Therefore, the noise levels for elementary schools were used for this analysis.

Table 7-8
Maximum Hourly Playground Boundary Leq(1) Noise Levels (dBA)

Time Period	Elementary Schools
AM	69.3
PM	62.9
Source: SCA Playground Noise Study, AKRF, Inc., October 23, 1992.	

Geometric spreading and the consequent dissipation of sound energy with increasing distance from the playground decreases noise levels at varying distances from the playground boundary. Based upon measurements and acoustical principles, hourly noise levels were assumed to decrease by the following values at the specified distances from the playground boundary: 4.8 dBA at 20 feet, 6.8 dBA at 30 feet, and 9.1 dBA at 40 feet. For all distances between 40 and 300 feet, a 4.5-dBA drop-off per doubling of distances from the playground boundary was assumed.

IMPACT ANALYSIS

The playground area is expected to be located at the northern portion of the project site along 43rd Avenue. The closest noise sensitive receptors to the proposed playground would be the existing residences immediately across 43rd Avenue and the existing residences immediately across 97th Place, whose existing background noise levels are represented by noise receptor Site 2. The boundary of the proposed playground is approximately 60 feet south of the residences across 43rd Avenue and 40 feet west of the residences across 97th Place. **Table 7-9** shows the results of combining the projected playground noise levels with the measured existing levels at these locations.

At the closest sensitive noise receptor sites, the maximum increase in noise levels with the proposed playground would be approximately 3 dBA. This increase would be barely perceptible, and would not represent a significant impact according to SCA impact criteria.

[1] SCA Playground Noise Study, AKRF, Inc., October 23, 1992.

Table 7-9
Noise Levels due to School Playground (dBA)

Location	Time	Existing L_{eq}	Approximate Distance (feet)	Playground L_{eq} at Receptor	Combined L_{eq}	Change	Combined L_{10}
Residences on North Side of 43rd Avenue	AM	60.0	60	58.0	62.1	2.1	64.9
	PM	60.7		51.6	61.2	0.5	64.0
Residences on East Side of 97th Place	AM	60.0	40	60.2	63.1	3.1	65.9
	PM	60.7		53.8	61.5	0.8	64.3

F. NOISE ATTENUATION MEASURES

As shown in Table 7-5, the New York City *CEQR Technical Manual* has set noise attenuation quantities for buildings based on exterior $L_{10(1)}$ noise levels in order to maintain interior noise levels of 45 dBA or lower for classroom uses. The results of the building attenuation analysis are summarized in **Table 7-10**.

Using the school playground analysis methodology described above, the noise due to the proposed school playground was calculated at the facades of the proposed school that would have a line of the sight to the playground. The playground-generated noise levels were combined with measured traffic noise levels in order to determine the maximum L_{10} noise levels incident on these facades and thereby determine the required amounts of window/wall attenuation to comply with CEQR interior noise level criteria.

Table 7-10
CEQR Building Attenuation Requirements

Façade	Attenuation Required (in dBA)
North[1]	28
East	28
South	n/a
West[1]	28

Note: [1]The attenuation requirement for the north and west façades accounts for both the measured existing noise and noise associated with the proposed outdoor playground.
[2]The attenuation requirement for the east façade is conservatively based on the measurements performed at Site 2.

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 comprised of the wall, glazing, and any vents or louvers for HVAC/air conditioning units in various ratios or area. The proposed school's building façade design would include double glazed windows. Additionally, the proposed school would include an alternate means of ventilation (i.e., air conditioning). The proposed building's facades, including these elements should be designed to provide a composite Outdoor-Indoor Transmission Class (OITC) rating greater than or equal to the attenuation requirements referenced above. The OITC classification is defined by the American Society of Testing and Materials (ASTM E1332-90 [Reapproved 2003]) and provides a single-number rating that is used for designing a building façade including walls, doors, glazing, and combinations thereof. The OITC rating is designed to evaluate building elements by their ability to reduce the overall loudness of ground or air transportation noise. By adhering to these design requirements, the proposed development's building facades

will thus provide sufficient attenuation to achieve the CEQR interior noise level guideline of 45 dBA L_{10} for classroom uses.

Based upon the $L_{10(1)}$ values measured at the proposed development site (shown in Table 7-6), designing the proposed development based on the measures outlined in this report would provide sufficient attenuation to achieve the CEQR interior noise level requirements.

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

A. INTRODUCTION

This chapter addresses soil and groundwater conditions at the project site resulting from previous and existing uses on the site. To determine past and current uses on the site and adjacent area, a Phase I Environmental Site Assessment (ESA) of the project site was completed by Langan Engineering and Environmental Services, P.C. (Langan) in July 2010 on behalf of the New York City School Construction Authority (SCA). The main objective of the Phase I ESA was to identify the presence or likely presence, use, or release of hazardous substances or petroleum products, which are defined in American Society of Testing and Materials (ASTM) Standard Practice E 1527-05 as recognized environmental conditions (RECs). In addition, other environmental issues or conditions such as radon, asbestos-containing materials (ACM), lead-based paint (LBP), and polychlorinated biphenyl (PCB) containing equipment or materials were evaluated. The Phase I ESA included a site inspection, review of the existing data on geology and hydrology of the area, and review of historical maps, local agency records, and other documents to assess past and current uses of the project site and adjacent areas.

The Phase I ESA identified on-site RECs related to dry wells; suspect buried structures; evidence of a petroleum storage tank; and historical site usage, including metal works, wood works, and garment, electronics, lamp, artificial tree, and paper manufacturing facilities. On-site environmental concerns include the potential presence of ACM, LBP, and PCBs in building materials. The Phase I ESA identified off-site RECs associated with petroleum bulk storage at adjoining and surrounding properties; an abandoned borehole indicative of a potential environmental investigation on the adjoining 44th Avenue sidewalk; automobile repair facilities and a gasoline filling station at surrounding properties; solvent-impacted groundwater and soil vapor at a surrounding property; and historical usage of adjoining and surrounding properties, including metal works, glass works, furnace manufacturing, printing, garage, moulding, and furnace repair facilities.

A Phase II Environmental Site Investigation (ESI) was completed by Langan in October 2010 to assess the RECs identified in the Phase I ESA and to characterize the material anticipated to be excavated in support of construction of the proposed school. The Phase II ESI consisted of a geophysical survey, the advancement of soil borings, installation of soil vapor points and temporary groundwater monitoring wells, and the collection of subsurface soil, sediment, soil vapor, and groundwater samples for laboratory analyses. The geophysical survey identified a 7,500-gallon underground storage tank (UST). The investigation identified elevated concentrations of the chlorinated volatile organic compounds (VOCs) trichloroethylene (TCE), 1,2-dichloroethane (1,2-DCA), and tetrachloroethylene (PCE), as well as petroleum constituents, in soil vapor samples collected throughout the site. Concentr ations of PCE and petroleum constituents also exceeded regulatory standards in samples collected from temporary groundwater monitoring wells. A source of these contaminants was not identified, based on their general absence in soil samples. The Phase II ESI also identified hazardous concentrations of

lead and conc entrations of several metals in soil at concentrations in excess of applicable standards.

Based on the results of the Phase II ESI, Langan completed a Supplemental Phase II ESI in July 2011. The Supplemental Phase II ESI consisted of a geophysical survey, the advancement of soil borings, installation of temporary groundwater monitoring wells, and the collection of subsurface soil and groundwater samples for laboratory analyses. The investigation identified evidence of a petroleum release from an off-site source located to the west of the site. The New York State Department of Environmental Conservation (NYSDEC) was notified of a petroleum release on July 12, 2011 and Spill No. 11-04018 was assigned. The investigation also confirmed the presence of chlorinated VOCs in groundwater; however, a source of chlorinated VOCs has not been identified. Selected metals were detected in groundwater at concentrations greater than their applicable regulatory criteria and are indicative of the general quality of the aquifer.

As described in this chapter, certain measures—including proper management of excavated soils and appropriate health and safety measures—would be implemented during project construction. Further, certain design measures would be incorporated into the plans for the proposed building to prevent potential migration of organic vapors. Finally, for areas of the site where exposed soils may exist (i.e., landscaped areas), a 24-inch thick layer of environmentally clean fill would be placed over the soils. With these measures in place, no significant adverse impacts due to the presence of hazardous materials would be expected to occur either during or following construction at the site.

B. EXISTING CONDITIONS

The project site is located at 96-18 43rd Avenue (Block 1613, Lot 17) in Corona, Queens, and consists of an approximately 55,000-square-foot lot containing four contiguous, two- and three-story commercial buildings occupied by multiple tenants. The buildings occupy a footprint of approximately 44,000 square feet. A concrete-paved courtyard and parking area are located in the central portion of the site, and a narrow walkway extends from the southwestern portion of the site to a gated entrance on 44th Avenue. The three site buildings that front 97th Place and 44th Avenue (Buildings 1 through 3) are occupied by multiple garment manufacturing companies that assemble pre-dyed fabric. The building that fronts 43rd Avenue (Building 4) is occupied by a live poultry distribution facility/slaughter house, a room used for indoor soccer, a garment manufacturing company, a cabinet making facility, and a retail bicycle shop. The project site has been occupied by manufacturing facilities, including metal working, wood working, and/or garment manufacturing facilities since at least 1902.

Phase II ESI field activities included a geophysical survey, an asbestos floor core survey, and the completion of 22 soil borings, 6 temporary monitoring wells, and 7 soil vapor sampling points. A total of 24 grab soil samples, 4 composite soil samples, 3 sediment samples, 6 groundwater samples, and 7 soil vapor samples were collected for laboratory analyses. The Supplemental Phase II ESI field activities were performed from the sidewalks adjacent to the north (43rd Avenue), east (97th Place) and south (44th Avenue) of the site. The Supplemental Phase II ESI consisted of a geophysical survey, the completion of four soil borings and four temporary monitoring wells. Twelve grab soil samples and four groundwater samples were collected for laboratory analyses.

Based on the Phase II ESI and Supplemental Phase II ESI, the project site and vicinity is underlain by historic fill material, consisting of brown fine- to medium-grained sand with gravel, silt, clay, and fragments of brick, concrete, coal, and wood. Historic fill was observed through

depths of 6 to 16 feet below grade surface (bgs). Native soil generally consisted of brown fine- to coarse-grained sand with silt, clay, and gravel. Bedrock was not encountered during the investigations.

Groundwater was encountered at depths ranging from approximately 17 to 38 feet bgs in the temporary monitoring wells and 25 to 32 feet bgs in permanent wells, which reflects the approximately 15 foot variation in elevation between the northeastern and southwestern corners of the project site. Based on the permanent well gauging data, groundwater in the vicinity of the project site was calculated to flow towards the east. Regional groundwater flow is assumed to be to south-southeast towards Meadow Lake, approximately 5,600 feet southeast of the project site.

All soil vapor, soil, sediment, and groundwater samples were field screened for organic vapors with a photoionization detector (PID). Field indications of contamination were generally not observed during the Phase II ESI; however, evidence of petroleum-contaminated soil was noted at depths greater than 25 feet bgs in borings advanced in the sidewalks north and south of the site as part of the Supplemental Phase II ESI. A 7,500 gallon UST was identified during a geophysical survey in the southwest corner of the courtyard at the project site.

Thirty-two grab soil samples were analyzed for Target Compound List (TCL) / Spill Technology and Remediation Series (STARS) VOCs, TCL/STARS semi-volatile organic compounds (SVOCs), and Target Analyte List (TAL) metals. Twenty grab soil samples were analyzed for PCBs. Grab samples collected around the suspect 7,500-gallon UST were analyzed for STARS VOCs, STARS SVOCs, and TAL metals. Based on the results of the TAL metals analyses, four soil samples were also analyzed for lead via the Toxicity Characteristic Leaching Procedure (TCLP). In addition, four composite waste characterization samples were analyzed for total petroleum hydrocarbons (TPH) diesel-range organics (DRO), TPH gasoline-range organics (GRO), TAL metals, pesticides, hexavalent chromium, and total cyanide.

VOCs indicative of petroleum contamination were detected at concentrations that exceed the NYSDEC Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs) in soil samples collected from borings advanced in the sidewalk adjacent to the north and south of the site. SVOCs attributable to the presence of historic fill were detected in three grab samples collected from beneath the site at concentrations above the Unrestricted Use SCOs. Metals were detected at concentrations above the Unrestricted Use SCOs at 15 sample locations. The detected metals are generally constituents of historic fill; however, based on the magnitude of lead, copper, silver, and zinc, soil underlying portions of the site may have been affected by historical operations associated with the former bronze works and foundry. The lead concentrations in two samples collected from the central and eastern portion of the site met the regulatory criteria for classification as a hazardous waste. PCBs were not detected in soil at concentrations that exceed the NYSDEC Part 375 Unrestricted Use SCOs.

TCL pesticides, cyanide, TPH GRO, and TPH DRO were not detected in any of the waste characterization soil samples. Hexavalent chromium was detected in one waste characterization soil sample at a concentration that marginally exceeds the Unrestricted Use SCO, and was not detected in the other three waste characterization samples. The hexavalent chromium detection may be attributable to historic plating operations at the project site.

Six sub-slab soil vapor samples and one sub-surface soil vapor sample were analyzed for VOCs. Analytical results indicate that 14 of the 26 analyzed petroleum- and chlorinated solvent-related VOCs were detected at concentrations that exceed the anticipated background concentrations. The New York State Department of Health (NYSDOH) has established Air Guideline Values

(AGVs) for three of the VOCs analyzed: methylene chloride, tetrachloroethene (PCE) and trichloroethene (TCE). PCE was detected in five soil vapor samples at concentrations which exceed the corresponding NYSDOH AGV. TCE was detected in four soil vapor samples at concentrations above the AGV. A source of the chlorinated solvent impacts was not identified.

Sediment samples collected from two catch basins were analyzed for TCL VOCs, TCL SVOCs, PCBs, and TAL metals. A sediment sample from the UST vault was analyzed for TCL VOCs and TCL SVOCs. PCBs were not detected in the sediment samples. Reported VOC concentrations in sediment samples did not exceed Unrestricted Use SCOs. SVOC concentrations in the sediment sample collected from the UST vault exceed the Unrestricted Use SCOs, indicating impact from a petroleum release within the vault. The metals cadmium, lead, nickel, copper, silver, and/or zinc were detected in sediment samples collected from the catch basins. Metal concentrations in sediment collected from the catch basins may be attributable to historical plating, metal working, or other activities associated with the former foundry.

As part of the Phase II ESI, six groundwater samples were collected and analyzed for TCL/STARS VOCs, TCL/STARS SVOCs, PCBs, and TAL filtered metals. As part of the Supplemental Phase II ESI, four groundwater samples were collected and analyzed for TCL/STARS VOCs, TCL/STARS SVOCs, and TAL filtered metals. VOC analysis identified PCE-impacted groundwater at concentrations that exceed the NYSDEC Class GA (drinking water) groundwater standards throughout the site. In addition, TCE and petroleum related compounds, such as xylene, methyl tert-butyl ether (MTBE), and 1,2,4-trimethylbenzene, were detected at concentrations that exceed their respective NYSDEC Class GA standards in groundwater samples. Only one SVOC, naphthalene, in two samples, was detected at a concentration that marginally exceeded the corresponding NYSDEC Class GA standard. The source of the petroleum related VOCs and SVOCs is attributed to a petroleum release from an off-site source located west of the site. The source of chlorinated VOCs was not identified, based on the absence of VOCs at concentrations above soil cleanup guidance values in soil and sediment samples. The metals cadmium, copper, magnesium, manganese, mercury, nickel, selenium, and zinc were detected above NYSDEC Class GA standards. Metals in groundwater are attributable to the general quality of the aquifer.

C. THE FUTURE WITHOUT THE PROPOSED PROJECT

In the future without the proposed project, the project site is expected to remain in its current condition and would not be redeveloped as a public school.

D. PROBABLE IMPACTS OF THE PROPOSED PROJECT

The proposed project would not result in impacts from contaminated media and building materials. Prior to construction, an additional investigation would be performed to further characterize soil and groundwater conditions. To minimize the potential for construction workers' exposure, standard industry practices, including appropriate health and safety measures, would be utilized. In addition, a Community Air Monitoring Program would be implemented during all excavation activities.

Spill case closure would be pursued with the NYSDEC and any dewatering required during construction would be minimized to mitigate potential influx of contaminated water from off-site sources toward the site. Treatment of any dewatering effluent would be conducted as required prior to discharge to the municipal sewer. Soil and water generated during building construction

would be properly characterized and managed in accordance with all applicable local, State and Federal regulations. All known and suspected USTs, along with any associated petroleum-impacted soil, would be removed and transported to an appropriately permitted off-site disposal facility. Any suspect ACM, LBP, and PCB-containing materials affected by the proposed development of the site would be identified and properly managed during construction activities.

As a preventative measure, a soil vapor barrier and active sub-slab depressurization system (SSDS) would be incorporated into the design of the proposed school to prevent potential migration of organic vapors into the proposed school building. For areas of the project site where exposed soil may exist (i.e., landscaped areas), a 24-inch thick layer of environmentally clean fill would be placed over the soil.

With these measures in place, no significant adverse impacts due to the presence of hazardous or petroleum-contaminated materials would be expected to occur either during or following construction at the site. ✳

A. INTRODUCTION

Construction activities, although temporary in nature, can sometimes result in significant adverse environmental impacts. This chapter summarizes the construction plan for the proposed project and assesses the potential for construction-period impacts. The stages of construction and their associated activities and equipment are described first, followed by the types of impacts likely to occur. The assessment also describes methods that may be employed to minimize construction-period impacts.

As described below, the analysis concludes that the proposed project would not result in extensive con struction-related effects with respect to any of the analysis areas of concern. Therefore, no significant adverse impacts are expected to occur as a result of construction.

B. DESCRIPTION OF CONSTRUCTION ACTIVITIES

It is anticipated that construction of the proposed project would require a total of approximately 36 months to complete, although the major external construction activities are expected to be completed within approximately 30 months. Based on current plans, construction would begin in 2012 and be completed in 2015. A breakdown of the anticipated construction program is shown below in **Table 9-1.**

Table 9-1
On-Site Construction Activities

Construction Activity	Months of Construction
Mobilization, Demolition, Excavation and Foundation	Months 6
Superstructure and Exterior Work	Months 9
Interior Construction and Fit-out	Months 12
Exterior Finishing and Landscaping	Months 3
Source: New York City School Construction Authority, July 2010.	

Construction would begin with the fencing and screening of the site followed by site demolition, excavation and grading. First any economically salvageable materials are removed. Then the building is deconstructed using large equipment. Typical demolition requires solid temporary walls around the building to prevent accidental dispersal of building materials into areas accessible to the general public. As the building is being deconstructed, bulldozers and front-end loaders would be used to load materials into dump trucks. The demolition debris would be sorted prior to being disposed at landfills to maximize recycling opportunities. Soil would be excavated from the project site and removed by truck to a licensed landfill or recycling facility. If soil containing petroleum or other contaminated materials is discovered during excavation activities, it would be segregated and disposed of in accordance with all applicable Federal, State, and local regulations and guidelines. Additionally, all material that needs to be removed from the site

would be disposed of in accordance with applicable requirements. Piles would be driven, as necessary, to support the building, and pile caps would be formed and concrete poured to build the foundations for the building. Next, the project's structural frame and exterior façade would be erected. Construction of the exterior enclosure, or "shell" of the building would include construction of the building's framework (installation of beams and columns), floor decks, facade (exterior walls and cladding), and roof construction. In the final one to two years of construction, interior finishing would proceed, including electrical work, plumbing, wall and ceiling construction, painting, floorwork, and other finishing items along with the completion of the remaining exterior work, such as utility and façade work. During this time, most work would occur inside, and operation of heavy on-site equipment would be infrequent. As construction nears completion on the interior of the project, final site work would commence and would include construction of the outdoor courtyard and play areas and any landscaping.

The estimated average number of workers on site by phase would be: 40 workers for mobilization, demolition, excavation and foundation; 60 workers for superstructure and exterior work; 120 workers for interior construction and fit-out; and 40 workers for exterior finishing and landscaping.

Typical equipment used for demolition, excavation, and foundation work would include excavators, bulldozers, backhoes, compaction equipment, tractors, jackhammers, and concrete pumping trucks. Other equipment that would be used include hoist complexes, dump trucks and loaders, concrete trucks, and back hoes. Trucks would deliver concrete and other building materials, and remove excavated material as well as demolition and construction debris. The construction equipment likely to be used during erection of the superstructure would include compressors, cranes, derricks, hoists, bending jigs, and welding machines. During facade and roof construction, hoists may continue to be used. Trucks would remain in use for material supply and construction waste removal. Interior and finishing work would employ a large number of construction workers, and a wide variety of fixtures and supplies would have to be delivered to the site. It is anticipated that trucks would access the project site from 43rd Avenue (if accessing the project area from Junction Boulevard) and 44th Avenue (if accessing the project area from National Street).

The majority of construction activities would take place Monday through Friday, although if necessary, the delivery or installation of certain equipment could occur on weekend days. Hours of construction are regulated by the New York City Department of Buildings (DOB) and apply in all areas of the City. These requirements are reflected in the collective bargaining agreements with major construction trade unions. In accordance with those regulations, almost all work could occur between 7 AM and 6 PM on weekdays, although some workers would arrive and begin to prepare work areas before 7 AM. Occasionally, Saturday or overtime hours would be required to complete time-sensitive tasks. Weekend work requires a permit from the DOB and, in certain instances, approval of a noise mitigation plan from the New York City Department of Environmental Protection (NYCDEP) under the City's Noise Code. The New York City Noise Control Code, as amended in December 2005 and effective July 1, 2007, limits construction (absent special circumstances as described below) to weekdays between the hours of 7 AM and 6 PM, and sets noise limits for certain specific pieces of construction equipment. Construction activities occurring after hours (weekdays between 6 PM and 7 AM and on weekends) may be permitted only to accommodate: (1) emergency conditions, (2) public safety, (3) construction projects by or on behalf of City agencies, (4) construction activities with minimal noise impacts, and (5) undue hardship resulting from unique site characteristics, unforeseen conditions, scheduling conflicts and/or financial considerations. In such cases, the numbers of workers and

pieces of equipment in operation would be limited to those needed to complete the particular authorized task. Therefore, the level of activity for any weekend work would be less than a normal workday. The typical weekend workday would be on Saturday, beginning with worker arrival and site preparation at 7 AM, and ending with site cleanup at 5 PM. Movement of certain oversized materials, to comply with the requirements of the New York City Department of Transportation (NYCDOT), would occur at night.

Much of the proposed project's construction staging would occur within the project site, thereby limiting any effects on surrounding roadways and pedestrian elements. However, certain construction activities may require the temporary closing, narrowing, or otherwise impeding of 44th Avenue, the sidewalk along 44th Avenue, as well as the sidewalk and parking lane immediately adjacent to the project site along 43rd Avenue and 97th Place.

As described in Chapter 1, "Project Description," a new 785-seat I.S. may be constructed at 97-36 43rd Avenue, one block east of the proposed project. The environmental analysis considers two analysis scenarios for the future without the proposed project—Scenario One includes construction of the 785-seat I.S. by 2015, and Scenario Two assumes that the new I.S. is not constructed by 2015.

Under Scenario One, construction of the new I.S. at 97-36 43rd Avenue would proceed along the same timeframe with the construction schedule of the proposed project. It is assumed that while the major external construction activities associated with the two projects would occur at similar times, they would be short-term in nature (lasting less than two years). SCA would coordinate construction activities of the two projects to ensure that access is provided to nearby residences, businesses, and community facilities at all times.

Under Scenario Two, construction of the new I.S. at 97-36 43rd Avenue would proceed at some point in the future. While the construction timetable for the I.S. is unknown under this scenario, it is unlikely that the major external construction activities associated with the two projects would overlap (i.e. last longer than two consecutive years). Furthermore, as described below, the construction activities for both projects will be subject to New York City Local Law 77, which would require the use of best available technology (BAT) for equipment at the time of construction. Therefore, once one of the planned schools is operational, no construction-related impacts associated with the other planned school would occur with these measures in place.

C. PROBABLE IMPACTS DURING CONSTRUCTION

As with most development in New York City, construction of the proposed project may be disruptive to the surrounding area for limited periods of time throughout the construction period. The following analyses describe the proposed project's temporary effects on transportation systems, air quality, noise, historic resources, hazardous materials, natural resources, land use and neighborhood character, socioeconomic conditions, community facilities, open space, and infrastructure, as well as the economic benefits associated with the construction.

TRANSPORTATION

As described in the *CEQR Technical Manual*, construction activities may affect several elements of the transportation system, including traffic, transit, pedestrians, and parking. A transportation analysis of construction activities is predicated upon the duration, intensity, complexity and/or location of construction activity.

As described above, much of the proposed project's construction staging would occur within the project site, thereby limiting any affects on surrounding roadways and pedestrian elements. However, certain construction activities may require the temporary closing, narrowing, or otherwise impeding of 44th Avenue, the sidewalk along 44th Avenue, as well as the sidewalk and parking lane immediately adjacent to the project site along 43rd Avenue and 97th Place. These potentially affected locations are not along New York City Transit bus routes, nor are they areas of high vehicular or pedestrian activity. As detailed in Chapter 5, "Transportation," the analyzed intersections and studied pedestrian elements immediately surrounding the project site operate at acceptable levels of service, and would continue to operate at acceptable levels of service under the No-Action conditions except for the westbound approach at the intersection of 44th Avenue and Junction Boulevard, which operates at congested conditions (beyond mid-LOS D) during the AM and PM peak hours under the existing and No-Action conditions. Construction-related closures are anticipated to be the type of routine closure typically addressed by a permit (and pedestrian access plan) required by New York City Department of Transportation (DOT) Office of Construction Mitigation and Coordination (OCMC) at the time of closure. Additionally, the potentially-affected roadways and pedestrian elements are not located near sensitive land uses such as a hospital or school. The potential effects of construction activities on access to and from the New York City Fire Department's (FDNY's) firehouse located at 97-28 43rd Avenue are addressed under "Community Facilities" below. In the event that construction of the new I.S. at 97-36 43rd Avenue overlaps with the construction schedule of the proposed project (Scenario One), SCA would coordinate construction activities of the two projects to ensure that access is provided to nearby residences and businesses at all times. Furthermore, as described below, the SCA would develop Maintenance and Protection of Traffic Plans (MTP Plans) for both projects and consult with FDNY and DOT's OCMC to ensure that any street and sidewalk closures on 43rd Avenue would not impede access to or from the firehouse. Also, in the event that construction of the new I.S. at 97-36 43rd Avenue occurs after the proposed primary school is operational, SCA would coordinate construction activities to ensure that safe vehicular and pedestrian access is provided to the proposed project during the hours of operation.

Throughout the construction process, construction workers would travel to and from the site by personal vehicle, bus, and subway. Given that construction worker commuting trips generally occur during off-peak hours, and that there would not be a substantial number of construction workers at the project site on any given day, the construction worker trips are not expected to result in significant adverse impacts to the area's traffic operations, parking supply and utilization, bus loading, or subway station conditions. Therefore, the proposed project's construction activities are not expected to result in significant adverse transportation impacts.

AIR QUALITY AND NOISE

Air quality and noise impacts can be generated by construction vehicles and delivery vehicles traveling to and from a site, as well as by stationary equipment used for on-site construction activities. According to the *CEQR Technical Manual*, an assessment of air quality or noise impacts from construction vehicles is warranted only when quantified transportation analysis is needed for construction activities. As described above, the proposed project's construction activities are not anticipated to result in extended impacts to any transportation systems requiring quantified analysis, and therefore, an assessment of air quality or noise impacts from construction vehicles is not warranted.

With regard to the air quality and noise impacts of other construction activities (such as demolition, rock drilling, and pile driving), the *CEQR Technical Manual* suggests that potential impacts should be analyzed only when construction activities would affect a sensitive receptor over a long period of time. Construction duration as defined by the *CEQR Technical Manual* is broken down into short-term (less than two years) and long-term (two or more years). As described above, the proposed project's major external construction activities, which generate the greatest potential for air quality and noise impacts, would be short-term in nature (lasting less than two years). Since the proposed project would not cause noisy and/or diesel-powered construction equipment to be operating within 1,500 feet of a receptor for a period of time exceeding two years, significant adverse air quality and noise impacts are not anticipated, and quantified analyses are not warranted. The following sections qualitatively discuss the likely effects of on-site construction activities on air quality and noise, and describe measures to minimize construction-period impacts.

STATIONARY SOURCE AIR QUALITY IMPACTS

Most construction engines are diesel-powered, and produce relatively high levels of sulfur oxides (SO_2), nitrogen oxides (NO_X) and particulate matter ($PM_{2.5}$ and PM_{10}). Construction activities also emit fugitive dust.

Technologies have been developed to substantially reduce SO_2 and PM emissions. These include ultra low-sulfur diesel fuel (ULSD), diesel particulate filters (DPFs), and cleaner engines (Tier 2 or better). These technologies have become more readily available in New York City as they are required for large, ongoing public projects. The construction activities will be subject to New York City Local Law 77, which would require the use of best available technology (BAT) for equipment at that time of construction.[1] Based on estimates calculated for construction of other projects, the diesel particulate emission reduction measures can reduce emissions by more than 93 percent, on average, as compared with construction emissions without such controls.

Furthermore, as early in the construction period as practicable, diesel-powered equipment would be replaced with electrical-powered equipment, such as electric scissor lifts and electric articulating forklifts (i.e., early electrification). It is expected that the SCA would employ best available technologies and utilize ultra low-sulfur diesel fuel for construction equipment and vehicles, following the requirements for New York City sponsored projects.

All necessary measures would be implemented to ensure that the New York City Air Pollution Control Code regulating construction-related dust emissions is followed. Appropriate fugitive dust control measures would be employed and would include:

- watering off trucks and excavation equipment prior to exiting the site;
- watering the areas surrounding the site (sidewalks, streets, etc.) at the end of every work day;

[1] New York City Administrative Code § 24-163.3, adopted December 22, 2003, also known as Local Law 77, requires that any diesel-powered non-road engine with a power output of 50 hp or greater that is owned by, operated by or on behalf of, or leased by a city agency shall be powered by ultra low sulfur diesel fuel (ULSD), and utilize the best available technology (BAT) for reducing the emission of pollutants, primarily particulate matter and secondarily nitrogen oxides. NYCDEP is charged with defining and periodically updating the definition of BAT.

- watering truck routes within the site as needed or, in cases where a route would remain in the same place for an extended duration, stabilizing, covering with gravel, or temporarily paving the route to avoid the resuspension of dust;
- equipping all trucks hauling loose material with tight fitting tailgates and covering the load prior to leaving the site;
- the use of closed chutes leading to covered bins for material drops during demolition;
- enforcement of an on-site vehicular speed limit of 5 mph;
- the use of water sprays for all excavation, demolition, and transfer of spoils to ensure that materials are dampened as necessary to avoid the suspension of dust into the air; and
- watering or covering loose materials, or stabilizing them with a biodegradable suppressing agent.

To reduce the resulting concentration increments at sensitive receptors, large emissions sources and activities, such as concrete trucks and pumps, would be located away from sensitive receptors to the extent practicable. Additional measures would be taken in accordance with applicable laws, regulations, and building codes. These include the restriction of on-site vehicle idle time to three minutes for all vehicles not using the engine to operate a loading, unloading, or processing device (e.g., concrete mixing trucks).

Under both New York State Environmental Quality Review Act (SEQRA) and New York City Environmental Quality Review (CEQR) requirements, the determination of the significance of impacts is based on an assessment of the predicted intensity, duration, geographic extent, and the number of people who would be affected by the predicted impacts. Guidelines for assessing potential impacts from NO_X, CO, and $PM_{2.5}$ are discussed in Chapter 6, "Air Quality." While it is possible that the construction activities may exceed certain thresholds used for assessing the potential for significant adverse air quality impacts, any exceedance would be limited in extent, duration, and severity. Based on the limited duration of these potential exceedances of threshold values, there would be no potential for significant adverse impacts from construction activities.

STATIONARY SOURCE NOISE IMPACTS

Noise and vibration levels at a given location are dependent on the kind and number of pieces of construction equipment being operated, the acoustical utilization factor of the equipment (i.e., the percentage of time a piece of equipment is operating), the distance from the construction site, and any shielding effects (from structures such as buildings, walls, or barriers). Noise levels caused by construction activities would vary widely, depending on the phase of construction and the location of the construction relative to receptor locations.

A wide variety of measures can be used to minimize construction noise and reduce potential noise impacts. A noise mitigation plan is required as part of the New York City Noise Control Code, and would include:

- Source controls;
- Path controls; and
- Receptor controls.

In terms of source controls (i.e., reducing noise levels at the source or during most sensitive time periods), the following measures for construction would be implemented:

- The contractors would use equipment that meets the sound level standards for equipment (specified in Subchapter 5 of the New York City Noise Control Code) from the start of construction activities and use a wide range of equipment, including construction trucks, that produce lower noise levels than typical construction equipment.
- Where feasible, the project sponsors would use construction procedures and equipment (such as generators, concrete trucks, delivery trucks, and trailers) that are quieter than that required by the New York City Noise Control Code.
- As early in the construction period as practicable, diesel-powered equipment would be replaced with electrical-powered equipment, such as electric scissor lifts and electric articulating forklifts (i.e., early electrification).
- All contractors and subcontractors would be required to properly maintain their equipment and have quality mufflers installed.

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

- Perimeter noise barriers would be constructed that satisfy New York City Noise Control Code requirements.
- To the extent feasible, noisy equipment, such as generators, cranes, trailers, concrete pumps, concrete trucks, and dump trucks, would be located away from and shielded from sensitive receptor locations.

For impact determination purposes, significant adverse noise impacts are based on whether maximum predicted incremental noise levels at sensitive receptor locations off-site would be greater than the impact criteria suggested in the *CEQR Technical Manual* for two consecutive years or more. The impact criteria are explained in detail in Chapter 7, "Noise." While increases exceeding the CEQR impact criteria for two years or less may be noisy and intrusive, they are not considered to be significant adverse noise impacts. The residential and institutional buildings in the immediate vicinity of the project site generally contain double-glazed windows and/or alternative ventilation (i.e., air conditioning), which would greatly reduce interior noise levels compared with exterior noise levels and may result in interior noise levels of 45 dBA or less. In addition, except under special circumstances night work is not expected, and any exceedences of the CEQR criteria at sensitive locations would occur during day. Therefore, no long-term, significant adverse noise impacts are expected from construction activities.

HISTORIC AND CULTURAL RESOURCES

The assessment of construction impacts on historic and cultural resources considers the possibility of physical damage to any architectural or archaeological resources. Impacts on archaeological resources from construction are assessed as part of the overall evaluation of the proposed project's effect on archaeological resources (see Chapter 3, "Historic and Cultural Resources").

As detailed in Chapter 3, "Historic and Cultural Resources," construction of the proposed project does not have the potential to adversely affect any archaeological resources. The existing building on the project site—the former Tiffany Studios Complex—is a known architectural resource that would be demolished with the proposed project. The demolition of this architectural resource would constitute an adverse impact under Section 14.09 of the New York

State Historic Preservation Law. As such, SCA would consult with the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) regarding the proposed project. An alternatives analysis would be prepared for submission to OPRHP documenting alternatives considered to avoid the adverse impact. Upon concurrence that there is no feasible alternative to the adverse impact based on OPRHP's review of the Alternatives Analysis, mitigation measures would be developed between the SCA and OPRHP to mitigate the adverse impacts. These measures would be established in a Letter of Resolution (LOR) between the SCA and OPRHP.

There is one known architectural resource within 400 feet of the project site: Fire Engine Company 289/Ladder Company 138, located at 97-28 43rd Avenue, approximately 310 feet east of the project site. This architectural resource is at too great a distance from the project site to be adversely affected by inadvertent construction-related impacts from the proposed project.

HAZARDOUS MATERIALS

Chapter 8, "Soil and Groundwater Conditions," describes the findings of the Phase I Environmental Site Assessment (ESA) and the Phase II Environmental Site Investigation (ESI) that were conducted for the project site.

Demolition and excavation activities could disturb hazardous materials and increase pathways for human exposure. The SCA and/or its contractors would develop management plans (e.g., soil management plan, groundwater management plan, construction health and safety plan, etc.) to address any hazardous materials that may be encountered during construction of the school. The management plans prepared or reviewed by SCA would include measures to protect the health and safety of construction workers, school staff and students, and the public in general during construction and at the time of occupancy. Specific measures that would be implemented to avoid impacts are as follows:

- Procedures would be developed for managing any potential underground storage tanks and any encountered contamination (including procedures for stockpiling and off-site transportation and disposal) and appropriate health and safety procedures including the need for dust and organic vapor monitoring.
- Any unregistered tanks discovered prior to or during demolition activities would be registered with the New York State Department of Environmental Conservation (NYSDEC). If applicable, spill reporting would be conducted, and contaminated soil/groundwater handled and disposed of in accordance with applicable requirements.
- A comprehensive asbestos survey of the affected areas would be conducted prior to demolition. If materials prove to contain asbestos, they would be properly removed and disposed of in accordance with all applicable regulations by a licensed asbestos abatement contractor.
- Any demolition activities with the potential to disturb lead-based paint would be performed in accordance with the applicable Occupational Safety and Health Administration regulation (OSHA 29 CFR 1926.62 - Lead Exposure in Construction).
- Prior to demolition, fluorescent light fixtures and other electrical equipment requiring disposal would be managed in accordance with applicable requirements.
- Any excavated soil requiring off-site disposal would be managed in accordance with applicable requirements, and, as necessary, tested in accordance with the requirements of the intended receiving facility. Transportation of all material leaving the site would be in

accordance with applicable requirements covering licensing of haulers and trucks, placarding, truck routes, manifesting, etc.

In addition, to minimize the potential for construction workers' exposure, standard industry practices, including appropriate health and safety measures, will be utilized.

NATURAL RESOURCES

According to the 2010 *CEQR Technical Manual*, a construction assessment is needed for natural resources only if the construction activities would disturb a site or be located adjacent to a site containing natural resources. The project site and adjacent sites do not contain any natural resources, and therefore, no further assessment is warranted.

LAND USE AND NEIGHBORHOOD CHARACTER

As is typical with construction projects, during periods of peak construction activity there would be some disruption, predominantly noise, to the nearby area. There would be construction trucks and construction workers coming to the site. There would also be noise, sometimes intrusive, from building construction as well as trucks and other vehicles backing, loading, and unloading.

While the predominant land use in the area is residential, the project site is within an M1-1 manufacturing zoning district, and there are several manufacturing and industrial uses located nearby. To the extent that construction activities are industrial in nature, the proposed project's construction activities would not present a new land use to the study area. There would be periods during which construction activities would be more obtrusive than what is typical of a light manufacturing district; however, those periods of time would be limited, and would not result in significant or long-term adverse impacts on the local land use patterns or character of the nearby area. In the event that construction of the new I.S. at 97-36 43rd Avenue (a No Build project) overlaps with the construction schedule of the proposed project, construction activities may be more obtrusive to the immediately surrounding uses; however, the construction periods would be limited, and would not result in significant or long-term adverse impacts.

SOCIOECONOMIC CONDITIONS

The *CEQR Technical Manual* suggests that if a project entails construction of a long duration that could affect the access to and therefore viability of a number of businesses, and the failure of those businesses has the potential to affect neighborhood character, then a preliminary assessment for construction impacts on socioeconomic conditions should be conducted. The proposed project would not have such effects. There are no commercial businesses at locations where construction activities could result in the temporary closing, narrowing, or otherwise impeding of roadways and sidewalks. The proposed project's construction activities would not impede access to any businesses, and therefore would not have any significant adverse impacts on socioeconomic conditions.

The proposed project's construction would create major direct benefits resulting from expenditures on labor, materials, and services, as well as substantial indirect benefits created by expenditures by material suppliers, construction workers, and other employees involved in the direct activity. Construction would also contribute to increased tax revenues for the City and State, including those from personal income taxes. Local businesses may also expect increased sales from construction worker spending (i.e., coffee, food, convenience products).

COMMUNITY FACILITIES AND SERVICES

According to the *CEQR Technical Manual*, a construction impact assessment should be conducted for any community facility that would be directly affected by construction (e.g., if construction would disrupt services provided at the facility or close the facility temporarily). There is one community facility that could potentially be affected by construction activities: Fire Engine Company 289/Ladder Company 138, which is located at 97-28 43rd Avenue, across 97th Place from the project site. Prior to construction of the proposed project, the SCA would coordinate with FDNY and DOT's OCMC to develop MTP Plans to ensure that any street and sidewalk closures on 43rd Avenue would not impede access to or from the firehouse. In the event that construction of the new I.S. at 97-36 43rd Avenue (a No Build project) overlaps with the construction schedule of the proposed project, the SCA would coordinate the MTP Plans for both projects and consult with FDNY and DOT's OCMC to ensure that any street and sidewalk closures on 43rd Avenue would not impede access to or from the firehouse. With these measures in place, the proposed project's construction activities would not have direct effects on community facilities, and no further analysis is warranted.

OPEN SPACE

According to the *CEQR Technical Manual*, a construction impacts analysis for open space should be conducted if an open space resource would be used for an extended period of time for construction-related activities, such as construction staging, or if access to the open space would be impeded for an extended period during construction activities. The proposed project would not have such effects. The proposed project's construction activities would not require the use of public open space, nor would construction affect access to or from a public open space. Therefore, there would be no significant adverse impacts to open space resources from construction, and no further assessment is warranted.

INFRASTRUCTURE

Prior to the start of construction, all utilities that may be present on site and that may be affected by construction activities would be relocated in accordance with all applicable New York City regulations.

The proposed project would receive some combination of electric and gas service via extensions of the existing Con Edison distribution system. During the superstructure stage of construction, some sidewalk and on-street construction activities would be required to connect the proposed buildings to existing utility networks. This may require short-term sidewalk excavations ranging from approximately 50 to 150 feet in length. The construction activities that would be required to connect the proposed project to existing energy systems are part of Consolidated Edison's normal operations for providing services to new customers, and occur on a regular basis throughout the city. ✳

APPENDIX A

OFFICE OF PARKS · RECREATION · HISTORIC PRESERVATION
NEW YORK STATE

New York State Office of Parks, Recreation and Historic Preservation

Historic Preservation Field Services • Peebles Island, PO Box 189, Waterford, New York 12188-0189
518-237-8643
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Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

May 5, 2011

Mr. Chris Perscheff
New York City School Construction Authority
30-30 Thomson Avenue
Long Island City, New York 11101

Re: NYCSCA – New PS
96-18 43rd Avenue
Corona, Queens County
11PR02417

Dear Mr. Perscheff:

Thank you for providing the Preliminary Archaeological Assessment for the property at 96-18 43rd Avenue in Corona, Queens. Our office has reviewed the information under Section 14.09 of the New York State Parks, Recreation and Historic Preservation Law and the Letter of Resolution between the New York City School Construction Authority and OPRHP dated April 2007.

The building complex even in its present state, as indicated in the AKRF report and sources cited therein, represents a significant link in the cultural and artistic heritage of the United States having functioned as part of the Tiffany Studios and later, the Roman Bronze Works. As you well know, our regulations are clear that demolition of historic properties, either eligible or listed on the National Register of Historic Places, is deemed an Adverse Impact. That finding requires an exploration of prudent and feasible alternatives that might avoid or reduce the project effects. As a matter of policy and practice, this exploration must occur before mitigation measures can be developed and before demolition can occur. If no prudent and feasible alternatives are identified, we then enter into a formal agreement document, a Letter of Resolution (LOR), which would identify proper mitigation measures to be incorporated into the work. Let us begin moving through the 14.09 process toward the preparation of the LOR by establishing in writing that the NYCSCA has made "every effort to reconcile [its] program" with the historic preservation goals of the State (saving and repurposing the historic building complex), then identifying the "prudent and feasible means to avoid or mitigate" the adverse impact.

During our site visit in late March we discussed a number of issues that would influence the NYCSCA's decision to demolish the existing complex and construct a new facility, two of which were;

1. The limited availability of properties suited for new schools and the significant population pressure in Queens which necessitates a new primary school facility.
2. The AKRF report states quite clearly that the site is likely contaminated owing to "its long industrial history." The condition of the site without adequate remediation would render it unsuitable for use as a school.

We will include these and other items in the "Whereas" portion of the LOR.

For mitigation, the OPRHP recommends HABS Level II documentation owing to the significance of the complex and review and approval of the design documents. Would it be possible to instruct the design team to use visual cues from the historic building?

We look forward to continued consultation with you. Should you have any questions, please contact me at (518)237-8643, ext. 3287. When corresponding with the OPRHP regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above. The number has changed for the new project.

Sincerely,

Elizabeth Martin
Historic Sites Restoration Coordinator

Via email only

APPENDIX B

SCA 43rd Ave Schools PCE Screening AM

			Existing Traffic		PS Increment					SCA Criteria	
			Total	PCE	Total	Bus		PCE	dBA	(dBA)	Impact?
						in	out				
1) Junction Blvd & Roosevelt Avenue				**2703.158**				**155**	**0.2**	5	no
Eastbound	EB	L	55		0	0	0				
		T	315		0	0	0				
		R	70		11	1	0				
Westbound	WB	L	50		0	0	0				
		T	320		0	0	0				
		R	50		0	0	0				
Northbound	NB	L	25		9	0	1				
		T	225		14	0	2				
		R	30		0	0	0				
Southbound	SB	L	45		0	0	0				
		T	370		19	2	0				
		R	50		0	0	0				
2) Junction Blvd & 43rd Avenue				**1861.053**	0	0	0	**308**	**0.7**	5	no
Westbound	WB	L	35		0	0	0				
		T	185		0	0	0				
		R	30		0	0	0				
Northbound	NB	L	35		0	0	0				
		T	250		26	0	3				
		R	80		58	2	3				
Southbound	SB	L	75		37	3	0				
		T	395		0	0	0				
		R	20		0	0	0				
3) Junction Blvd & 44th Avenue				**1515.789**	0	0	0	**306**	**0.8**	5	no
Westbound	WB	L	15		33	0	3				
		T	50		2	0	0				
		R	25		53	0	6				
Northbound	NB	L	40		0	0	0				
		T	340		31	2	0				
Southbound	SB	T	415		0	0	0				
		R	15		0	0	0				
4) Junction Blvd & 45th Avenue				**1440**	0	0	0	**149**	**0.4**	5	no
Eastbound	EB	L	25		0	0	0				
		T	10		31	2	0				
		R	10		0	0	0				
Northbound	NB	T	355		11	0	1				
		R	25		22	0	2				
Southbound	SB	L	55		0	0	0				
		T	375								
5) Junction Blvd &Corona				**2223.158**	0			**121**	**0.2**	5	no
Eastbound	EB	L	75		14	1	0				
		T	155		0	0	0				
		R	65		0	0	0				
Westbound	WB	L	25		0	0	0				
		T	180		0	0	0				
		R	15		0	0	0				
Northbound	NB	L	75		0	0	0				
		T	290		17	1	0				
		R	55		0	0	0				
Southbound	SB	L	10		0	0	0				
		T	320		12	0	1				
		R	55		10	0	1				
6) 97th Place & 44th Avenue				**168.4211**	0	0	0	**251**	**4.0**	5	no
Westbound	WB	T	70		45	3	0				
		R	10		0	0	0				
Southbound	SB	R	20		53	6	0				
7) National Street & 44th				**1187.368**	0	0	0	**96**	**0.3**	5	no
Westbound	WB	L	30		0	0	0				
		T	40		3	0	0				
		R	0		0	0	0				
Northbound	NB	L	25		14	1	0				
		T	270		0	0	0				
Southbound	SB	T	325		0	0	0				
		R	15		28	2	0				
8) National Street& 45th Avenue				**1288.421**	0	0	0	**55**	**0.2**	5	no
Eastbound	EB	L	5		0	0	0				
		T	45		2	0	0				
		R	35		5	0	1				
Northbound	NB	T	290		14	1	0				
		R	35		0	0	0				
Southbound	SB	L	15		0	0	0				
		T	340		0	0	0				

9) 97th Place & 43rd Avenue				766.3158				257	1.3	5	no
Eastbound	EB	L	5		0	0	0				
		T	140		27	0	3				
		R	10		68	5	0				
Westbound	WB	L	10		9	1	0				
		T	235		0	0	0				
		R	10		0	0	0				
Northbound	NB	L	5		0	0	0				
		T	0		0	0	0				
		R	5		0	0	0				
Southbound	SB	L	25		0	0	0				
		T	0		0	0	0				
		R	10		0	0	0				

SCA 43rd Ave Schools PCE Screening PM

			Existing Traffic		PS Increment					SCA Criteria	
			Total	PCE	Total	Bus		PCE	dBA	(dBA)	Impact?
1) Junction Blvd & Roosevelt				2016.091		in	out	156	0.3	5	no
Eastbound	EB	L	85		0	0	0				
		T	285		0	0	0				
		R	90		9	1	0				
Westbound	WB	L	60		0	0	0				
		T	260		0	0	0				
		R	80		0	0	0				
Northbound	NB	L	35		12	0	1				
		T	230		19	0	2				
		R	50		0	0	0				
Southbound	SB	L	40		0	0	0				
		T	385		14	2	0				
		R	55		0	0	0				
2) Junction Blvd & 43rd Avenue				1480.091	0	0	0	309	0.8	5	no
Westbound	WB	L	60		0	0	0				
		T	200		0	0	0				
		R	30		0	0	0				
Northbound	NB	L	45		0	0	0				
		T	285		36	0	3				
		R	60		59	2	3				
Southbound	SB	L	90		27	3	0				
		T	420		0	0	0				
		R	25		0	0	0				
3) Junction Blvd & 44th Avenue				1040	0	0	0	331	1.2	5	no
Westbound	WB	L	25		47	0	3				
		T	80		2	0	0				
		R	20		73	0	6				
Northbound	NB	L	65		0	0	0				
		T	370		22	2	0				
Southbound	SB	T	470		0	0	0				
		R	10		0	0	0				
4) Junction Blvd & 45th Avenue				1218.182	0	0	0	154	0.5	5	no
Eastbound	EB	L	35		0	0	0				
		T	25		22	2	0				
		R	10		0	0	0				
Northbound	NB	T	400		16	0	1				
		R	35		31	0	2				
Southbound	SB	L	70		0	0	0				
		T	425								
5) Junction Blvd &Corona				1973.455				121	0.3	5	no
Eastbound	EB	L	90		10	1	0				
		T	265		0	0	0				
		R	80		0	0	0				
Westbound	WB	L	45		0	0	0				
		T	190		0	0	0				
		R	15		0	0	0				
Northbound	NB	L	90		0	0	0				
		T	330		12	1	0				
		R	80		0	0	0				
Southbound	SB	L	20		0	0	0				
		T	355		17	0	1				
		R	60		14	0	1				
6) 97th Place & 44th Avenue				164.4545	0	0	0	265	4.2	5	no
Westbound	WB	T	115		35	3	0				
		R	10		0	0	0				
Southbound	SB	R	10		77	6	0				
7) National Street & 44th				968.4545	0	0	0	86	0.4	5	no
Westbound	WB	L	35		0	0	0				
		T	65		2	0	0				

		R	10		0	0	0				
Northbound	NB	L	40		10	1	0				
		T	345		0	0	0				
Southbound	SB	T	280		0	0	0				
		R	20		23	2	0				
8) National Street& 45th Avenue				**1023.273**	0	0	0	**54**	**0.2**	5	no
Eastbound	EB	L	30		0	0	0				
		T	55		3	0	0				
		R	30		7	0	1				
Northbound	NB	T	355		10	1	0				
		R	55		0	0	0				
Southbound	SB	L	35		0	0	0				
		T	280		0	0	0				
9) 97th Place & 43rd Avenue				**584.7273**	0	0	0	**243**	**1.5**	5	no
Eastbound	EB	L	10		0	0	0				
		T	135		37	0	3				
		R	5		49	5	0				
Westbound	WB	L	5		4	1	0				
		T	280		0	0	0				
		R	10		0	0	0				
Northbound	NB	L	5		0	0	0				
		T	0		0	0	0				
		R	5		0	0	0				
Southbound	SB	L	20		0	0	0				
		T	0		0	0	0				
		R	5		0	0	0				

Residences Across 43rd Ave

Time	Existing L_{eq}	Playground L_{eq}	Approximate Distance (feet)	Playground L_{eq} at Receptor	Combined L_{eq}	Change
AM	60	69.3	60	58	62.1	2.1
PM	60.7	62.9		51.6	61.2	0.5

Residences Across 97th Pl

Time	Existing L_{eq}	Playground L_{eq}	Approximate Distance (feet)	Playground L_{eq} at Receptor	Combined L_{eq}	Change
AM	60	69.3	40	60.2	63.1	3.1
PM	60.7	62.9		53.8	61.5	0.8

School Northern Façade

Time	Existing L_{eq}	Playground L_{eq}	Approximate Distance (feet)	Playground L_{eq} at Receptor	Combined L_{eq}	Combined L10	Required Atten
AM	62.4	69.3	0	69.3	70.1	72.9	28.0
PM	66.7	62.9		62.9	68.2	71.0	28.0

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card | 20105361

I intend to appear and speak on Int. No. _____ Res. No. _____

☐ in favor ☐ in opposition

Date: 7/25/11

(PLEASE PRINT)

Name: ANDREW RICH

Address: 336 E 77 #5 NY NY 10075

I represent: WAL-RICH CORP

Address: 97-36 43RD AVE CORONA

Please complete this card and return to the Sergeant-at-Arms