SCA
School Construction Authority

NYC
Department of Education

Sharon L. Greenberger
President & CEO

sgreenberger@nycsca.org

February 18, 2010

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

Dear Speaker Quinn:

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

- New, Approximately 844-Seat Public School Facility, Staten Island
- Block 3168, Lots 4, 20 and 195
- 1034-1050 Targee Street, between Venice Avenue and Ralph Place
- Community School District No. 31
- Staten Island Community Board No. 2

The project site contains a total of approximately 96,720 square feet (2.22 acres) of lot area located on the block bounded by Targee Street, Ralph Place, Richmond Road and Venice Avenue in the Emerson Hill/Grasmere section of Staten Island. The site is occupied by two vacant buildings, the former Doctors' Hospital building and a former medical office building, located at 1034 and 1050 Targee Street. Under the proposed project, the Authority would acquire the privately-owned property, would demolish the existing on-site structures, and would construct a new, approximately 844-seat public school facility serving students in Community School District No. 31.

The Notice of Filing of the Site Plan was published in the Staten Island Advance and the City Record on August 28, 2009. At that time, the Authority proposed to acquire the site for the construction of a new, approximately 416-seat primary school facility. Staten Island Community Board No. 2 was notified on August 29, 2009, and was asked to hold a public hearing on the proposed Site Plan. Staten Island Community Board No. 2 held a public hearing on September 22, 2009 and submitted written comments in favor of the proposed Site Plan on September 23, 2009. The City Planning Commission was also notified on August 28, 2009, and in a letter dated October 10, 2009 recommended in favor of the proposed site.

30-30 Thomson Avenue
Long Island City, NY 11101-3045

718 472 8003 T
718 472 8009 F

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The Authority considered all comments received on the proposed project and has modified the proposed Site Plan pursuant to §1731.4 of the Public Authorities Law. The Authority now proposes to acquire and develop the site with a new, approximately 844-seat public school facility. In accordance with §1732 of the Public Authorities Law, the Authority 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 Authority 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) 472-8001 at your convenience.

Thank you for your attention to this matter.

Sincerely,

Sharon L. Greenberger
President & CEO

Ross J. Holden
Vice President and
General Counsel

Encl.

c: Hon. Michael R. Bloomberg (w/o attachments)
Hon. Leroy Comrie, Land Use Committee
Hon. Bradford Lander, Subcommittee on Landmarks, Public Siting and Maritime Uses
Hon. James S. Oddo, District Councilmember
Kathleen Grimm, Deputy Chancellor for Infrastructure and Portfolio Planning

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Mayor
City Hall
New York, New York 10007

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Vice President and
General Counsel

Encl.

c: Hon. Christine C. Quinn (w/o attachments)
Hon. Dennis M. Walcott
Kathleen Grimm, Deputy Chancellor for Infrastructure and Portfolio Planning

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

DATE: December 18, 2009

SEQR PROJECT NO.: 10-004

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: Targee Street Primary School
New, Approximately 844-Seat
Primary School Facility, Staten Island

LOCATION: 1034-1050 Targee Street
Richmond County
Tax Block 3168, Tax Lots 4, 20, and 195

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, acquisition, acceptance of construction funding, and construction of a new, approximately 844-seat primary school (P.S.) facility in the Emerson Hill/Grasmere section of Staten Island. The proposed facility would accommodate students in grades pre-Kindergarten through 5, as well as District 75 (special education) students. Acquisition, design and construction of this proposed facility would be conducted pursuant to DOE's Five-Year Capital Plan for Fiscal Years 2010-2014.

The site of the proposed school is located at 1034-1050 Targee Street, between Venice Avenue and Ralph Place (Block 3168, Lots 4, 20, and 195), and is privately-owned. The site contains a total of approximately 96,720 square feet of

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Long Island City, NY 11101 **718 472 8840 F**

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lot area, and is occupied by two vacant buildings, the former Doctors Hospital building and a former medical office building, and accessory parking lots.

The purpose of the proposed project is to provide additional long-term capacity in the area to meet needs identified in DOE's Five-Year Capital Plan for Fiscal Years 2010-2014. According to the Capital Plan, a total of 1,664 seats at the primary and intermediate school levels are required in School District No. 31 in order to address existing overcrowding and forecast changes in student enrollments, and also to support DOE's policies to implement class-size reduction. During the 2008-2009 school year, School District No. 31's existing primary school facilities collectively operated at 102 percent of their target capacity.

Under the proposed project, the SCA would acquire the site, demolish the existing on-site structures, and construct a new primary school building on the site. The proposed new facility would contain approximately 108,230 gross square feet, consisting of classrooms, special educational facilities, library, gymnasium, cafeteria, kitchen, medical suite, storage facilities, custodial spaces and an administrative/support space. A new, one-way eastbound access roadway, providing a connection between Richmond Road and Targee Street, would be located along the northern edge of the project site; the main bus drop-off/pickup area for students would be along this new access roadway. The proposed school building would be located in the southern portion of the project site. The outdoor recreational area may be located immediately south of the new access driveway, or in the southern portion of the project site along with the school building.

Reasons Supporting This Determination:

A comprehensive Environmental Assessment Form (EAF) and Supplemental Environmental Studies for this action were completed and issued on December 18, 2009. 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 archaeological resources; urban design and visual resources; neighborhood character; natural resources; hazardous materials; waterfront revitalization program; infrastructure; solid waste and sanitation services; energy; traffic and parking; transit and pedestrians; air quality; noise; construction impacts; and, public health.

The key findings of related to the analyses of the following two environmental impact areas in the Environmental Assessment are discussed in greater detail below.

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Traffic

For the streets in the vicinity of the site, future intersection volumes would generally increase over existing traffic volumes, but those increases could be accommodated by the street capacities for the majority of the locations. However, based on City Environmental Quality Review (CEQR) standards, the proposed project could result in a significant impact requiring traffic improvements at one (1) local intersection during the analyzed peak periods. The traffic analysis also indicated that the necessary improvements would consist of relatively simple, low-cost, and conventional traffic engineering methods, as described below. Such improvements are subject to review and approval by the New York City Department of Transportation (NYCDOT):

Richmond Road and Spring Street

An impact due to the project-generated traffic will occur at the southbound approach in the PM peak hour with a change in the Level-of-Service (LOS) from LOS C with 28.1 seconds of delay in the No-Build condition to LOS D with 52.3 seconds of delay in the Build condition. To improve traffic operating conditions at this intersection, two (2) seconds of green time would be shifted from the eastbound phase to the southbound phase during the PM peak hour.

As part of the proposed project, the SCA will petition NYCDOT to implement this traffic signal timing adjustment.

Noise

The noise analysis shows that noise generated by the proposed school playground could potentially impact the residences to the south of the project site. Noise level increases at this receptor site, located on Venice Avenue between Richmond Road and Targee Street, would be as great as 7.7 dBA, which would be clearly perceptible and significant according to SCA criteria. To ensure that the noise level increase due to the proposed playground would be less than 5.0 dBA, the playground's boundary would need to be located at least 24 feet away from the adjacent residences on the southern end of the project site. The conceptual design schemes currently under consideration provide a minimum distance of at least 24 feet between the playground areas and these adjacent residences, and the SCA would ensure that the final design includes this minimum distance. Therefore, the proposed school playground would not result in any significant adverse impacts.

Soil and Groundwater Conditions

As part of the evaluation of the site's soil and groundwater conditions, a Phase I Environmental Site Assessment (ESA) was prepared in August 2006 and updated in June 2009. In addition, a Phase I ESA for Lot 20, in the northwestern portion of the project site, was completed in September 2009. The Phase I ESAs identified recognized environmental conditions (RECs) associated with the historic presence of hospital operations on the site, and related to underground

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storage tanks (USTs) on the site and petroleum spills—both on-site and off-site—that were closed without meeting cleanup standards.

Based on the Phase I ESA, further study in the form of a Phase II Environmental Site Investigation (ESI) was completed in July 2009. The Phase II ESI identified elevated concentrations of semi-volatile organic compounds (SVOCs) and metals in soil samples, attributable to the historic fill identified at this site, as well as elevated concentrations of petroleum-related volatile organic compounds (VOCs) and tetrachloroethene (PCE) in soil vapor and formaldehyde in the groundwater, all potentially attributable to former site uses.

Based on the results of the Phase II ESI, the SCA has identified and developed measures that will be incorporated into the construction of the new school facility. Prior to the construction of the project, the known USTs and suspected UST (if encountered) would be removed along with any associated petroleum-impacted soil in accordance with all applicable regulations. The SCA will install a soil vapor barrier and an active sub-slab depressurization system as part of the new school's construction to prevent potential migration of organic vapors into the new building. Also, during construction, the SCA's contractor shall properly manage excavated soils in accordance with all applicable local, State and Federal regulations. For areas of the site where exposed soils may exist (e.g., landscaped areas), a twenty-four (24) inch thick layer of certified-clean fill will be placed over those soils. In addition, to minimize the potential for construction workers' exposure, standard industry practices, including appropriate health and safety measures, will be utilized. Since these measures will be implemented as part of the proposed project, no adverse impacts would occur to construction workers or school occupants.

The proposed project would have the beneficial impact of providing approximately 844 additional seats of permanent public school capacity at the primary school level in CSD 31 and the Borough of Staten Island.
For further information contact:

Contact: Ross J. Holden
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

Sharon L. Greenberger
President and CEO

December 18, 2009
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.

Targee Street Primary School

Name of Action

New York City School Construction Authority

Name of Lead Agency

~~Ross J. Holden~~ Kenneron

Print or Type Name of Responsible Officer in Lead Agency

Director, Real Estate Services
~~Vice President and General Counsel~~

Title of Responsible Officer

Signature of Responsible Officer in Lead Agency

Signature of Preparer (if different from responsible officer)

December 18, 2009

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 Targee Street Primary School		
LOCATION OF ACTION (INCLUDE STREET ADDRESS, MUNICIPALITY AND COUNTY) 1034-1050 Targee Street, Staten Island, NY (Block 3186, Lots, 4, 20, 195)		
NAME OF APPLICANT/SPONSOR New York City School Construction Authority	BUSINESS TELEPHONE (718) 472-8273	
ADDRESS 30-30 Thomson Avenue		
CITY/PO Long Island City	STATE NY	ZIP CODE 11101
NAME OF OWNER (IF DIFFERENT) Staten Island University Hospital	BUSINESS TELEPHONE (718) 226-8077	
ADDRESS 450 Seaview Avenue		
CITY/PO Staten Island	STATE NY	ZIP CODE 10305
DESCRIPTION OF ACTION The applicant seeks to construct an approximately 844-seat primary school for students in pre-kindergarten through fifth grades at 1034-1050 Targee Street on Block 3168, Lots 4, 20, and 195 in the Emerson Hill/Grasmere section of Staten Island.		

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 Vacant, partially vegetated (Lot 20)

2. Total acreage of project area: 2.22 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	2.13	acres	2.13	acres
Other (Indicate type) Vegetated vacant parcel	0.09	acres	0.09	acres

3. What is predominant soil type(s) on the project site? Silty sand and clay; urban fill
   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 200 ft
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? > 8 ft (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? N/A

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

16. Lakes, ponds, wetland areas within or contiguous to project area: N/A

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: 2.22 acres initially; 2.22 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 N/A %

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

g. Maximum vehicular trips generated per hour 545 (upon completion of project)?

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

	One Family	Two Family	Multiple Family	Condominium
Initially				
Ultimately				

i. Dimensions (in feet) of largest proposed structure: Approx. 75' height; TBD width; TBD length.

j. Linear feet of frontage along a public thoroughfare project will occupy is? ± 376' on Targee Street; ± 150' on Venice Avenue; ± 332' on Richmond Road ft.

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? 0.09 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 Approx. 36 months, (including demolition)

7. If multi-phased:

   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. 84

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: 25,320 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? 5.1[2] tons

    b. If yes, will an existing solid waste facility be used? ☒ Yes ☐ No

    c. If yes, give name TBD ; location All waste would be collected and sent to a designated disposal facility.

    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

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[1] 844 students x 30 gallons per day = 25,320 gpd

[2] 844 students x 3 pounds per week (ppw) = 2,532 x 4 weeks = 10,128 pounds per month

21. Will project result in an increase in energy use? ☒ Yes ☐ No

If yes, indicate type(s): Electric , gas

22. If water supply is from wells, indicate pumping capacity N/A gallons/minute

23. Total anticipated water usage per day 36,143[1] gallons/day

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

If yes, explain: Acquisition, design, and construction costs would 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

26. 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 could potentially require a zoning override from the Deputy Mayor for Education and Community Development

27. What is the zoning classification(s) of the site? Residential R3-2

28. What is the maximum potential development of the site if developed as permitted by the present zoning?
96,720 square feet (sf) x 1.0 FAR (permitted floor area ratio for community facility uses in R3-2 district) = 96,720 sf.

29. What is the proposed zoning of the site? The proposed project does not include a change in the zoning of the site.

30. What is the maximum potential development of the site if developed as permitted by the proposed zoning?
N/A

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

32. What are the predominant land use(s) and zoning classifications within a ¼-mile radius of proposed action?
Land Use: Residential, commercial, open space, manufacturing, and institutional
Zoning: R1-1, R1-2, R2, and the Special Natural Area District (NA-1)

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

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

a. What is the minimum lot size proposed?

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

36. 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

37. 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] 844 students x 30 gpd = 25,320 gpd + (0.10 x 108,230 sf) = 36,143 gpd

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 December 18, 2009

Signature  Title Senior Planner

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
. Will Proposed Action affect any water body designated? (Under Articles 15, 24, 25 of the Environmental Conservation Law, ECL) ■ NO ☐ YES			
xamples that would apply to column 2			
evelopable area of site contains a protected water body.	☐	☐	☐ YES ☐ NO
redging more than 100 cubic yards of material from channel of a protected stream.	☐	☐	☐ YES ☐ NO
xtension of utility distribution facilities through a protected water body.	☐	☐	☐ YES ☐ NO
onstruction in a designated freshwater or tidal wetland.	☐	☐	☐ YES ☐ NO
	☐	☐	☐ YES ☐ NO
ther impacts			
. Will Proposed Action affect any non-protected existing or new body of water? ■ NO ☐ YES			
xamples that would apply to column 2			
10% increase or decrease in the surface area of any body of water or more than a 10-acre increase or decrease.	☐	☐	☐ YES ☐ NO
onstruction of a body of water that exceeds 10 acres of surface area.	☐	☐	☐ YES ☐ NO
	☐	☐	☐ YES ☐ NO
ther impacts			
. Will Proposed Action affect surface or ground water quality or quantity? ■ NO ☐ YES			
xamples that would apply to column 2			
roposed Action will require a discharge permit.	☐	☐	☐ YES ☐ NO
roposed Action requires use of a source of water that does not have approval to serve proposed (project) action.	☐	☐	☐ YES ☐ NO
roposed Action requires water supply from wells with greater than 45 gallons per minute pumping capacity.	☐	☐	☐ YES ☐ NO
onstruction or operation causing any contamination of a water supply system.	☐	☐	☐ YES ☐ NO
roposed Action will adversely affect groundwater.	☐	☐	☐ YES ☐ NO
iquid effluent will be conveyed off the site to facilities which presently do not exist or have inadequate capacity.	☐	☐	☐ YES ☐ NO
roposed Action would use water in excess of 20,000 gallons per day.	■	☐	☐ YES ☐ NO
roposed 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
roposed Action will require the storage of petroleum or chemical products greater than 1,100 gallons.	☐	☐	☐ YES ☐ NO
roposed Action will allow residential uses in areas without water and/or sewer services.	☐	☐	☐ YES ☐ NO
roposed Action locates commercial and/or industrial uses which may require new or expansion of existing waste treatment and/or storage facilities.	☐	☐	☐ YES ☐ NO
	☐	☐	☐ YES ☐ NO
ther impacts			

	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? ■ 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			
1. Will Proposed Action affect aesthetic resources? (If necessary, use the Visual EAR Addendum Section 617.20, Appendix B.) ■ NO ☐ YES			
xamples that would apply to column 2			
roposed 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
roposed 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
roject components that will result in the elimination or significant screening of scenic views known to be important to the area.	☐	☐	☐ YES ☐ NO
	☐	☐	☐ YES ☐ NO
ther impacts			
IMPACT ON HISTORIC AND ARCHEOLOGICAL RESOURCES			
2. Will Proposed Action impact any site or structure of historic, prehistoric or paleontological importance? ■ NO ☐ YES			
ee Chapter 5, "Historic Resources."			
xamples that would apply to column 2			
roposed Action occurring wholly or partially within or substantially contiguous to ny facility or site listed on the State or National Register of Historic places.	☐	☐	☐ YES ☐ NO
ny impact to an archeological site or fossil bed located within the project site.	☐	☐	☐ YES ☐ NO
roposed Action will occur in an area designated as sensitive for archeological sites n the NYS Site Inventory.	☐	☐	☐ YES ☐ NO
	☐	☐	☐ YES ☐ NO
ther impacts			
IMPACT ON OPEN SPACE AND RECREATION			
3. Will Proposed Action affect the quantity or quality of existing or future open spaces or recreational opportunities? ■ NO ☐ YES			
:xamples that would apply to column 2			
he permanent foreclosure of a future recreational opportunity.	☐	☐	☐ YES ☐ NO
major reduction of an open space important to the community.	☐	☐	☐ YES ☐ NO
	☐	☐	☐ YES ☐ NO
ther impacts			

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 6, "Traffic and Parking."

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 9, "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

3. Will Proposed Action affect public health and safety? ■ NO ☐ YES

xamples that would apply to column 2			
roposed Action may cause a risk of explosion or release of hazardous substances .e. oil, pesticides, chemicals, radiation, etc.) in the event of accident or upset onditions, or there may be a chronic low level discharge or emission.	☐	☐	☐ YES ☐ NO
roposed Action may result in the burial of "hazardous wastes" in any form (i.e. xic, poisonous, highly reactive, radioactive, irritating, infectious, etc.)	☐	☐	☐ YES ☐ NO
torage facilities for one million or more gallons of liquefied natural gas or other ammable liquids.	☐	☐	☐ YES ☐ NO
roposed Action may result in the excavation or other disturbance within 2,000 feet f a site used for the disposal of solid or hazardous waste.	☐	☐	☐ YES ☐ NO

ther impacts

IMPACT ON GROWTH AND CHARACTER OF COMMUNITY OR NEIGHBORHOOD

9. Will Proposed Action affect the character of the existing community? ■ NO ☐ YES

xamples that would apply to column 2			
he permanent population of the city, town or village in which the project is located is kely to grow by more than 5%.	☐	☐	☐ YES ☐ NO
he municipal budget for capital expenditures or operating services will increase by ıore than 5% per year as a result of this project.	☐	☐	☐ YES ☐ NO
roposed Action will conflict with officially adopted plans or goals.	☐	☐	☐ YES ☐ NO
roposed Action will cause a change in the density of land use.	☐	☐	☐ YES ☐ NO
roposed Action will replace or eliminate existing facilities, structures or areas of istoric importance to the community.	☐	☐	☐ YES ☐ NO
evelopment will create a demand for additional community services (e.g. schools, police and fire, etc.)	☐	☐	☐ YES ☐ NO
roposed Action will set an important precedent for future projects.	☐	☐	☐ YES ☐ NO
roposed Action will create or eliminate employment.	☐	☐	☐ YES ☐ NO

)ther impacts

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

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

TARGEE STREET
PRIMARY SCHOOL

Environmental Assessment Form and Supplemental Environmental Studies

Prepared for:
New York City School Construction Authority

Prepared by:
AKRF, Inc.
Historical Perspectives, Inc.

December 2009

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 844 seats in the Emerson Hill/Grasmere section of Staten Island. The proposed facility would serve Community School District (CSD) 31 and would accommodate children in pre-kindergarten through grade five, with facilities to serve District 75 (special education) students. The project site is an approximately 96,720-square-foot (sf) lot located at 1034-1050 Targee Street, between Venice Avenue and Ralph Place (Block 3168, Lots 4, 20, and 195). The project site currently contains two vacant buildings.

Since design plans for the proposed project have not yet been finalized, a reasonable worst-case development scenario (the "Build" scenario) was developed for the purposes of environmental review. It is expected that the proposed school building would contain approximately 108,230 gross square feet and would be up to five stories (approximately 75 feet) in height. A new, one-way eastbound access roadway to be located along the northern edge of the project site would provide a connection between Richmond Road and Targee Street. The main bus drop-off/pickup area for students would be along this new access roadway. The proposed school building would be located in the southern portion of the project site. The proposed playground area may be located immediately south of the new access driveway, or in the southern portion of the project site along with the school building.

The proposed project is located within a residential R3-2 zoning district, in which schools are permitted as-of-right as per Section 22-00 of the Zoning Resolution. Should the final design of the project result in zoning bulk non-compliance, the SCA would seek a zoning override from the Deputy Mayor for Education and Community Development. Funding for acquisition, design, and construction of this project would be provided from the New York City Department of Education's Capital Plan for Fiscal Years 2010 to 2014.

For the purpose of this environmental review, it is assumed that construction of the proposed project would begin in 2010 and the student occupancy would begin in September 2013. Accordingly, 2013 has been selected as the Build Year for which the environmental assessment areas have been analyzed per the *City Environmental Quality Review (CEQR) Technical Manual.*

B. PROBABLE IMPACTS OF THE PROPOSED PROJECT

LAND USE

PROJECT SITE

Under the proposed project, the SCA would demolish the existing on-site buildings, clear the site of trees and vegetation, and construct a new primary school building and outdoor playground area. The proposed school building, which would be up to five stories (75 feet) in height, would be taller than but compatible with adjacent buildings. The proposed project would replace the vacant buildings on site with a new community facility use.

STUDY AREA

The proposed school facility would be compatible with the surrounding uses in the study area, which are primarily residential and include P.S. 48, which is across the street. The proposed project 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 contains vacant buildings. At up to five stories in height, the proposed facility would be slightly taller than, but generally consistent with structures in the study area, including the four-story apartment building to the north of the site along Targee Street. Therefore, the development of the proposed facility would not have a significant adverse impact on adjacent land uses.

ZONING

The proposed facility would conform to the use requirements of R3-2 zoning district, which permits community facility uses—including schools—as-of-right. Should the final design of the proposed building result in any zoning bulk non-compliance, the SCA would seek approval of a zoning override from the Deputy Mayor for Education and Community Development to permit the project to proceed. If the zoning override is 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 proposed project would replace a vacant site with a new primary school facility that would be similar in scale to existing buildings and compatible with surrounding land uses. The proposed project would benefit the area by bringing new community facility uses to the neighborhood. The increase in traffic volumes expected to result from the proposed school would not result in any significant adverse community character impacts.

COMMUNITY FACILITIES

The Police and Fire Departments would adjust their services as they deem necessary, and no significant adverse impacts to police or fire services are expected to result from the proposed project.

SHADOWS

Naples Playground, which is located east of and adjacent to P.S. 48 William G. Wilcox School on Targee Street, would experience new shadow from the proposed project in the spring,

summer and fall, ranging from a few minutes up to a half-hour at most. This very limited extent and duration of new shadow would occur at the end of the analysis day and would not cause significant adverse impacts to Naples Playground.

The Children's Garden of Tranquility is an approximately 4,675–sf lawn area with trees, benches and tables, located north of P.S. 48 on Targee Street. It is not considered a resource of concern under CEQR guidelines, due to the fact that it is fenced off from and not accessible to, the public. The analysis showed that from May through August, all areas within the Garden that would be affected by new shadow from the potential development envelope would still experience at least five hours of direct sunlight over the course of the analysis day. On the March and September analysis day most of the Garden would continue to experience more than four hours of direct sunlight, while two small sections would experience about three and a quarter hours of sun rather than four and a half hours due to shadow from the potential development envelope. In the winter the Garden would experience only about an hour of project-generated shadow.

URBAN DESIGN AND VISUAL RESOURCES

The proposed project would replace two vacant buildings, an unused surface parking lot, and an overgrown vacant lot with a new school facility, landscaping, and a recreation area. The new school would be similar in bulk to other institutional buildings in the study area but would be taller than existing buildings in the study 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 the proposed building could obscure some views in the study area to the Verrazano-Narrows Bridge, this change would not result in any significant adverse impacts to visual resources. Overall, the proposed project would not result in any significant adverse impacts to urban design or visual resources on the project site or in the study area.

HISTORIC RESOURCES

ARCHAEOLOGICAL RESOURCES

The archaeological disturbance memorandum concluded that the project has a low sensitivity for archaeological resources dating to precontact and historic periods. Therefore, the proposed project would not impact archaeological resources and no further evaluation is required. The New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) concurred that the proposed project would not impact cultural resources in a letter dated November 5, 2009.

ARCHITECTURAL RESOURCES

There are no known or potential architectural resources on the project site, so the proposed project would have no adverse impacts on architectural resources on the project site. The project site is located approximately 110 feet from the one architectural resource in the study area; namely, P.S. 48. Due to this distance, no adverse construction-related impacts on this resource are expected as a result of the proposed project.

The proposed project is not expected to result in any visual or contextual impacts on P.S. 48. The proposed school building would have an institutional footprint that would be in keeping with that of the building presently on the project site, the residential building north of the project site, and P.S. 48. The new school would be built within an existing block and across Targee Street from P.S. 48. As such, the proposed project would not isolate this architectural resource from its

setting or alter its visual prominence on Targee Street. The proposed project would also not obstruct views to P.S. 48, or introduce a use or structure that would be incompatible with the setting of P.S. 48. The new school would be clad in brick and masonry, and therefore would utilize materials that would be consistent with the character of P.S. 48. Therefore, the proposed project would not result in any adverse visual or contextual impacts on P.S. 48. Overall, the proposed project is not expected to adversely affect architectural resources.

TRAFFIC AND PARKING

TRAFFIC CONDITIONS

According to the criteria presented in the *CEQR Technical Manual*, impacts at the study area intersections are considered significant and require examination of mitigation if they result in an increase of 5 or more seconds of delay in a lane group over No Build levels beyond mid-LOS D. For No Build LOS E, a 4-second increase in delay is considered significant. For No Build LOS F, a 3-second increase in delay is considered significant. Also, if the No Build LOS F condition already corresponds with a delay in excess of 120 seconds, an increase of 1.0 or more seconds of delay is considered significant, unless the proposed project generates fewer than five vehicle trips through that intersection in the peak hour. 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. If such impacts occur, potential mitigation measures will be examined.

For the streets around the site, capacities at most of the approaches would be sufficient to accommodate these increases. The proposed project could, however, require traffic improvements at the southbound approach of Richmond Road and Spring Street during the PM peak hour. This approach would drop from LOS C with 28.1 seconds of delay in the No-Build condition to LOS D with 52.3 seconds of delay in the Build condition during the PM peak hour. To improve traffic operating conditions at this intersection, a 2-second signal re-timing would be required. Specifically, 2 seconds of green time would be shifted from the eastbound phase to the southbound phase during the PM peak hour to improve the traffic operating conditions. With this measure in place, the impacted intersection approach/lane group would operate at acceptable level of service conditions.

PARKING

The proposed school would provide up to approximately 15 on-site parking spaces. Since the off-street parking utilization in the study area in the 2013 No Build conditions is expected to be at 45 percent during the midday peak hour, there would be no significant adverse project-generated impact on parking conditions. The parking demand generated by the proposed project could 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 47 percent in the future with the proposed project.

PEDESTRIAN SAFETY

Accident data for the study area intersections were obtained from the New York State Department of Transportation (NYSDOT) for the period between February 1, 2006 and January 31, 2009. The data obtained quantify the total number of reportable accidents (involving fatality, injury, or more than $1,000 in property damage), fatalities, and injuries during the study period, as well as a yearly

breakdown of pedestrian- and bicycle-related accidents at each location. According to the *CEQR Technical Manual*, a high pedestrian-accident location is one where there were five or more pedestrian-related accidents in any year of the most recent three-year period for which data are available. During this period, a total of 150 reportable accidents, no fatalities, 171 injuries, and 7 pedestrian-related accidents occurred at the study area intersections. Therefore, none of the study area intersections are classified as a high pedestrian-accident location in the 2006 to 2009 period.

TRANSIT AND PEDESTRIANS

Based on travel demand estimates, the proposed project would not exceed the *CEQR Technical Manual* thresholds for detailed transit analyses of 200 peak hour transit riders at any given transit facility. As such, the proposed project would not have any significant adverse impacts on transit.

Based on the analysis results, all the sidewalks, crosswalks, and corner reservoir analysis locations would continue to operate at acceptable levels (fewer than 13 pedestrians per foot per minute [PFM] for sidewalks; greater than 20 square feet per pedestrian [SFP] for corners and crosswalks) during the AM and PM peak 15-minute periods. Therefore, the proposed project would not result in any significant adverse impacts to the study area's pedestrian facilities.

AIR QUALITY

MOBILE SOURCE ANALYSIS

The proposed project would result in increased mobile source emissions caused by increased traffic in the immediate vicinity of the project. The results of the air quality analysis indicated that the proposed school would not result in concentrations that would exceed the carbon monoxide (CO) *de minimis* criteria or a violation of national CO standards, nor would it result in any violations of the particulate matter (PM_{10}) standard.

The results also show that the annual and daily (24-hour) $PM_{2.5}$ increments are predicted to be well below the interim guidance criteria and, therefore, the proposed actions would not result in significant $PM_{2.5}$ impacts at the analyzed receptor locations. Therefore, the proposed school would not result in any significant adverse impacts from mobile sources.

HEATING VENTILATION AND AIR CONDITIONING SYSTEM SCREENING ANALYSIS

A screening analysis was performed to assess the potential for air quality impacts from the proposed school's heating ventilation and air conditioning (HVAC) systems. The analysis was based on the use of natural gas, total square footage (i.e., 108,230 gsf) of the proposed school, and an exhaust height of 78 feet (3 feet above the anticipated height of the proposed school). The nearest distance to a building of a similar or greater height was determined to be beyond 400 feet; therefore, in accordance with the guidance provided in the *CEQR Technical Manual,* the 400-foot distance was chosen for the analysis.

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 recommended by the *CEQR Technical Manual.*

NOISE

The principal impacts on ambient noise levels would result from the use of the proposed school playground. Noise levels were analyzed at four receptor sites within or adjacent to the project site. Noise level increases at one receptor site, located on Venice Avenue between Richmond Road and Targee Street, would be as great as 7.7 dBA, which would be clearly perceptible and significant according to SCA criteria. To ensure that the noise level increase due to the proposed playground would be less than 5.0 dBA, the playground would need to be located at least 24 feet away from the adjacent residences. The conceptual design schemes currently under consideration include a minimum distance of at least 24 feet between the playground areas and adjacent residences on the southern end of the project site, and the SCA would ensure that the final design includes this minimum distance. Therefore, the proposed school playground would not result in any significant adverse impacts.

In addition, the *CEQR Technical Manual* has set noise attenuation quantities for buildings based on exterior noise levels in order to maintain interior noise levels of 45 dBA or lower for residential, school, and hotel uses. The proposed school would be designed with an Outdoor-Indoor Transmission Class (OITC) of at least 35, including double-glazed windows and central air conditioning. These design measures would provide sufficient attenuation to achieve the CEQR requirements. The building mechanical system (heating, ventilation, and air conditioning systems) would also 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

A Phase I Environmental Site Assessment (ESA) was completed by Whitman Companies, Inc. on behalf of the SCA in August 2006. A subsequent Phase I ESA Update was completed by Shaw Environmental Inc. (Shaw) on behalf of the SCA in June 2009. In addition, a Phase I ESA for Lot 20, in the northwestern portion of the project site, was completed by Shaw in September 2009. Based on the Phase I ESA, further study in the form of a Phase II Environmental Site Investigation (ESI) was completed by Shaw on behalf of the SCA in July 2009 in order to assess the recognized environmental conditions (RECs) identified in the Phase I ESAs.

Hazardous materials, including semi-volatile organic compounds (SVOCs), metals, and petroleum-based materials, were shown to be present on the site; therefore, the SCA would enact certain measures during construction, including properly managing excavated soils, in accordance with all applicable local, State and Federal regulations. Prior to the construction of the project, the 10,000-gallon and 550-gallon underground storage tanks (USTs) would be removed, along with any associated petroleum-impacted soil in accordance with all applicable regulations. If it is encountered, the suspected UST would also be removed along with any associated petroleum-impacted soil in accordance with all applicable regulations. As a preventative measure, a soil vapor barrier and a sub slab depressurization system would be installed below the proposed school building to prevent any soil vapor intrusion into the building. Prior to construction, any suspect mold, asbestos-containing materials (ACM), lead-based paint (LBP), lead-core doors, and polychlorinated biphenyl- (PCB-) containing materials affected by the preparation of the site for use as a public school would be identified and would be properly managed during construction activities. 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. In addition, to minimize the potential for construction workers' exposure, standard industry practices, including an appropriate health and safety plan, would be utilized.

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.

NATURAL RESOURCES

With the proposed project, the existing vegetation on the project site would be cleared and the site would be redeveloped with a new school building, playground areas, and landscaping. Invasive species dominate the vegetated area, and no threatened or endangered species were observed or expected to use the habitat provided on the project site. No wetlands are present. Therefore, no significant adverse impacts to natural resources would occur as a result of the proposed project. ✳

Chapter 1: Project Description

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 844 seats in the Emerson Hill/Grasmere section of Staten Island (see Figure 1-1). The proposed facility would serve Community School District (CSD) 31 and would accommodate children in pre-kindergarten through grade five, with facilities to serve District 75 (special education) students. The project site is an approximately 96,720-square-foot (sf) lot located at 1034-1050 Targee Street, between Venice Avenue and Ralph Place (Block 3168, Lots 4, 20, and 195). (See Figure 1-2.) The project site currently contains two vacant buildings.

Since design plans for the proposed project have not yet been finalized, a reasonable worst case development scenario (i.e. the "Build" scenario) was developed for the purposes of the environmental review. It is expected that the proposed school building would contain approximately 108,230 gross square feet and would be up to five stories (approximately 75 feet) in height. A new, one-way eastbound access roadway, providing a connection between Richmond Road and Targee Street, would be located along the northern edge of the project site. The main bus drop-off/pickup area for students would be along this new access roadway. The proposed school building would be located in the southern portion of the project site (see Figure 1-3). The playground area may be located immediately south of the new access driveway, or in the southern portion of the project site along with the school building.

The proposed project is located within a residential R3-2 zoning district, in which schools are permitted as-of-right as per Section 22-00 of the Zoning Resolution. Should the final design of the project result in zoning bulk non-compliance, the SCA would seek a zoning override from the Deputy Mayor for Education and Community Development. Funding for acquisition, design, and construction of this project would be provided from the New York City Department of Education's Capital Plan for Fiscal Years 2010 to 2014.

For the purpose of this environmental review, it is assumed that construction of the proposed project would begin in 2010 and the student occupancy would begin in September 2013. Accordingly, 2013 has been selected as the Build Year which the environmental assessment analyzes. It is assumed that if the proposed project does not proceed, the project site would remain in its current vacant state ("No Action" scenario).

B. PURPOSE AND NEED

Construction of the new school facility has been proposed to provide additional public primary school capacity in Community School District 31. According to the latest DOE school utilization profile for 2008 to 2009, primary schools in CSD 31 are operating at 88 percent capacity, with a district-wide capacity of 33,247 and a district-wide enrollment of 29,099. P.S. 48, which is

located across Targee Street from the project site, is operating at 108 percent capacity, with 453 enrolled students. Other primary schools in close proximity to the project site include P.S. 57 located at 140 Palma Drive (1.2 miles from the project site), P.S. 35 located at 60 Foote Avenue (1.3 miles from the project site), and P.S. 46 located at 41 Reid Avenue (1.3 miles from the project site). P.S. 57, with 1,010 seats, is operating at 67 percent capacity. P.S. 35, with 349 seats, is operating at 100 percent capacity. Finally, P.S. 46, with 339 seats, is operating at 92 percent capacity.

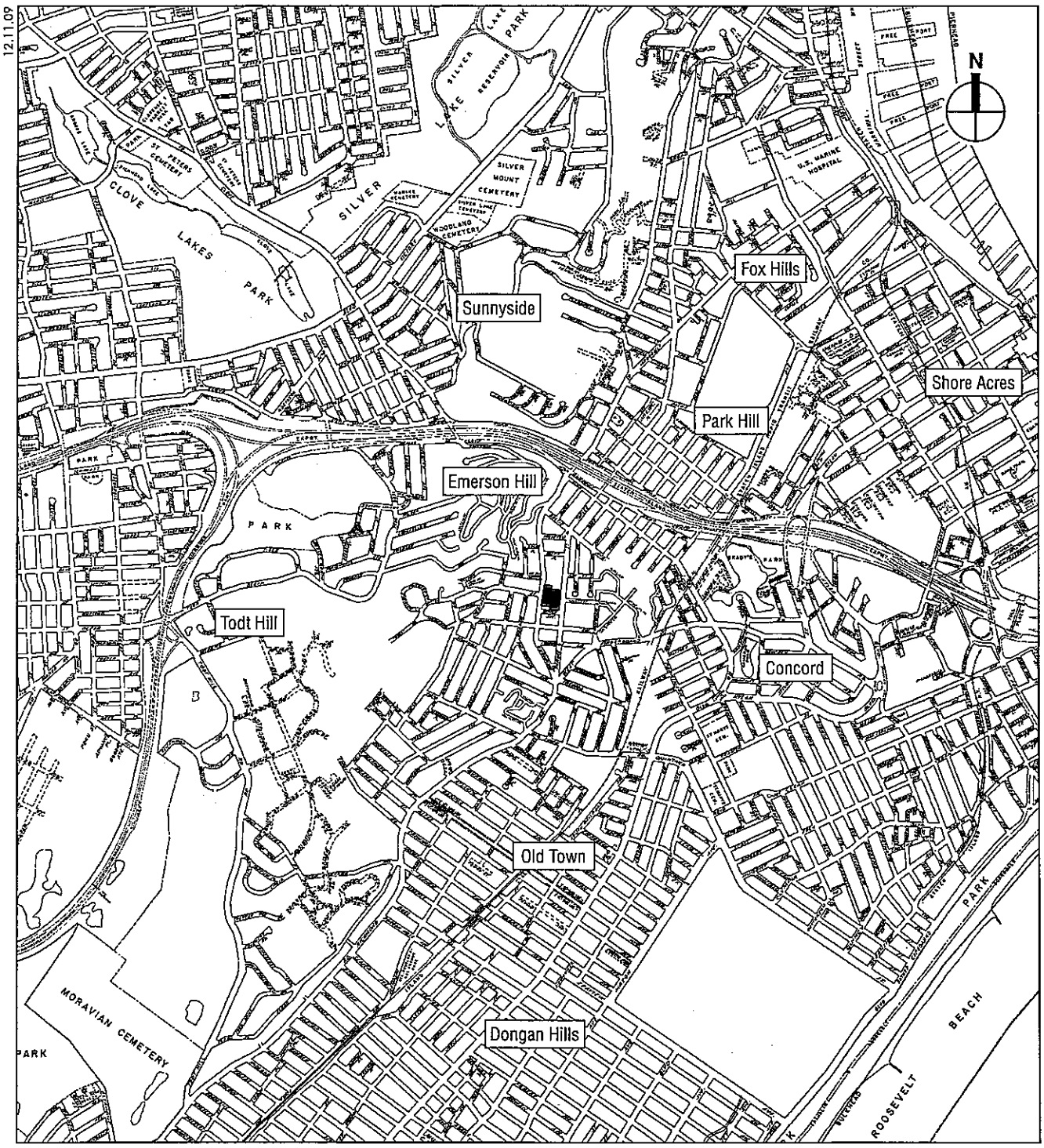
C. PROJECT SITE AND PROPOSED SCHOOL

The approximately 96,720-square-foot (2.2-acre) project site is located in the Emerson Hill/Grasmere section of Staten Island. The site, consisting of Block 3168, Lots 4, 20, and 195, extends from Richmond Road to Targee Street north of Venice Avenue. The project site is currently occupied with two vacant buildings—Lot 4 contains the 63,870-sf former Doctors Hospital building and paved surface parking areas; Lot 195 contains a 9,140-sf office building and paved parking. Lot 20, on the northwestern part of the site, contains trees and shrubs. An approximately 25-foot-wide New York City sewer easement bisects the site and extends from Richmond Road to Targee Street between the two buildings. The majority of the project site is slightly below the grade of the surrounding streets and properties.

The project site is located in a primarily residential area, and residential uses abut the site to the north and south. East of the project site, across Targee Street, is P.S. 48, and directly east of P.S. 48 is the 2.9-acre Naples Playground.

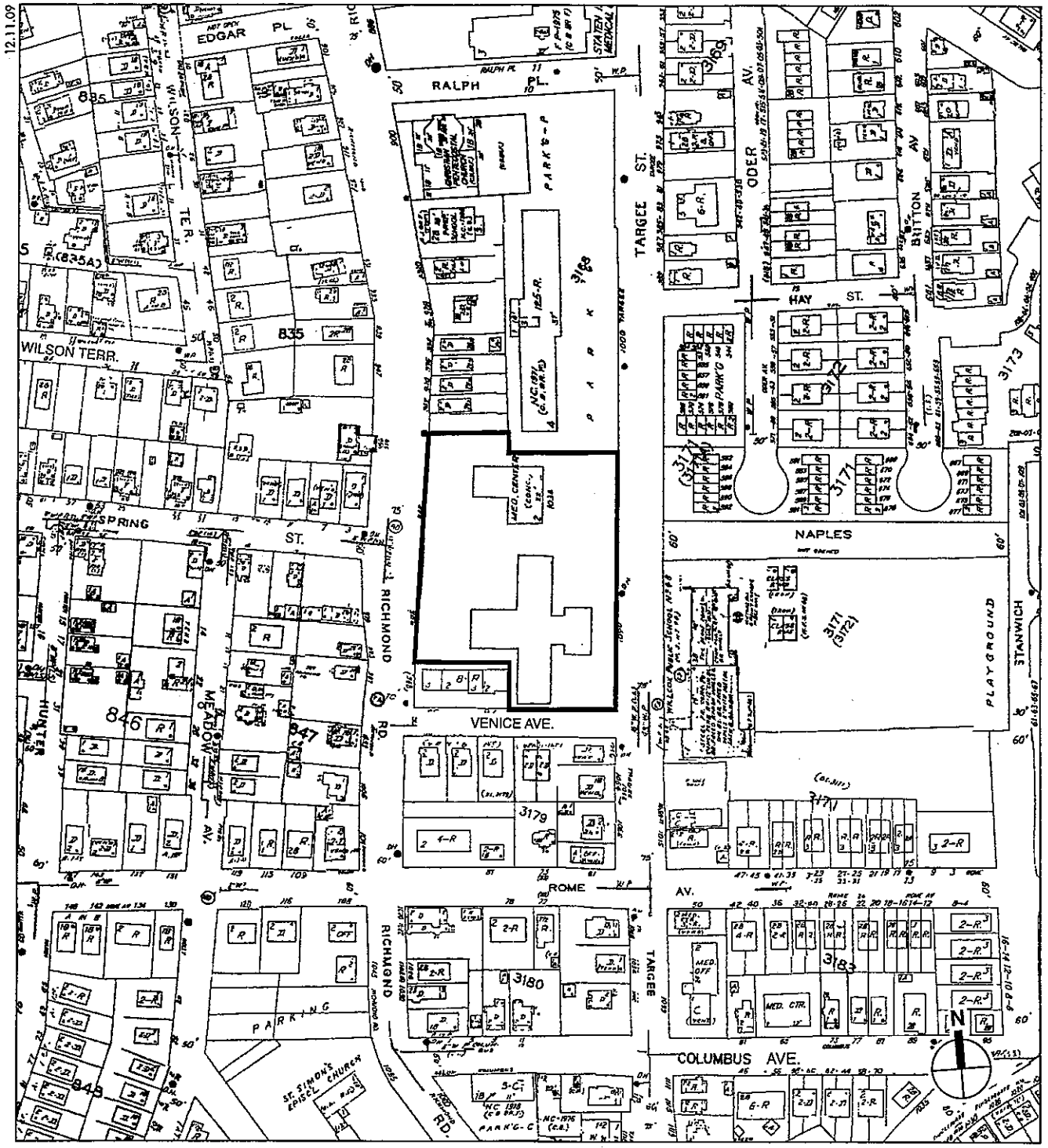
With the proposed project, the existing buildings on the project site would be demolished and the trees and vegetation would be cleared. As mentioned above, design plans for the proposed project are not yet finalized; therefore the environmental analyses consider a reasonable worst-case development scenario. It is expected that the proposed school building would contain approximately 108,230 gross square feet and would be up to five stories (approximately 75 feet) in height. A new, one-way eastbound access roadway, providing a connection between Richmond Road and Targee Street, would be located along the northern edge of the project site. The main bus drop-off/pickup area for students would be along this new access roadway. The proposed school building would be located in the southern portion of the project site. The playground area may be located immediately south of the new access driveway, or in the southern portion of the project site along with the school building.

The new school facility would contain approximately 844 seats for students in pre-kindergarten through fifth grade, and would contain classrooms, administrative spaces, a gymnasium, library, cafeteria and kitchen facilities. The new school would employ approximately 84 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. ✳



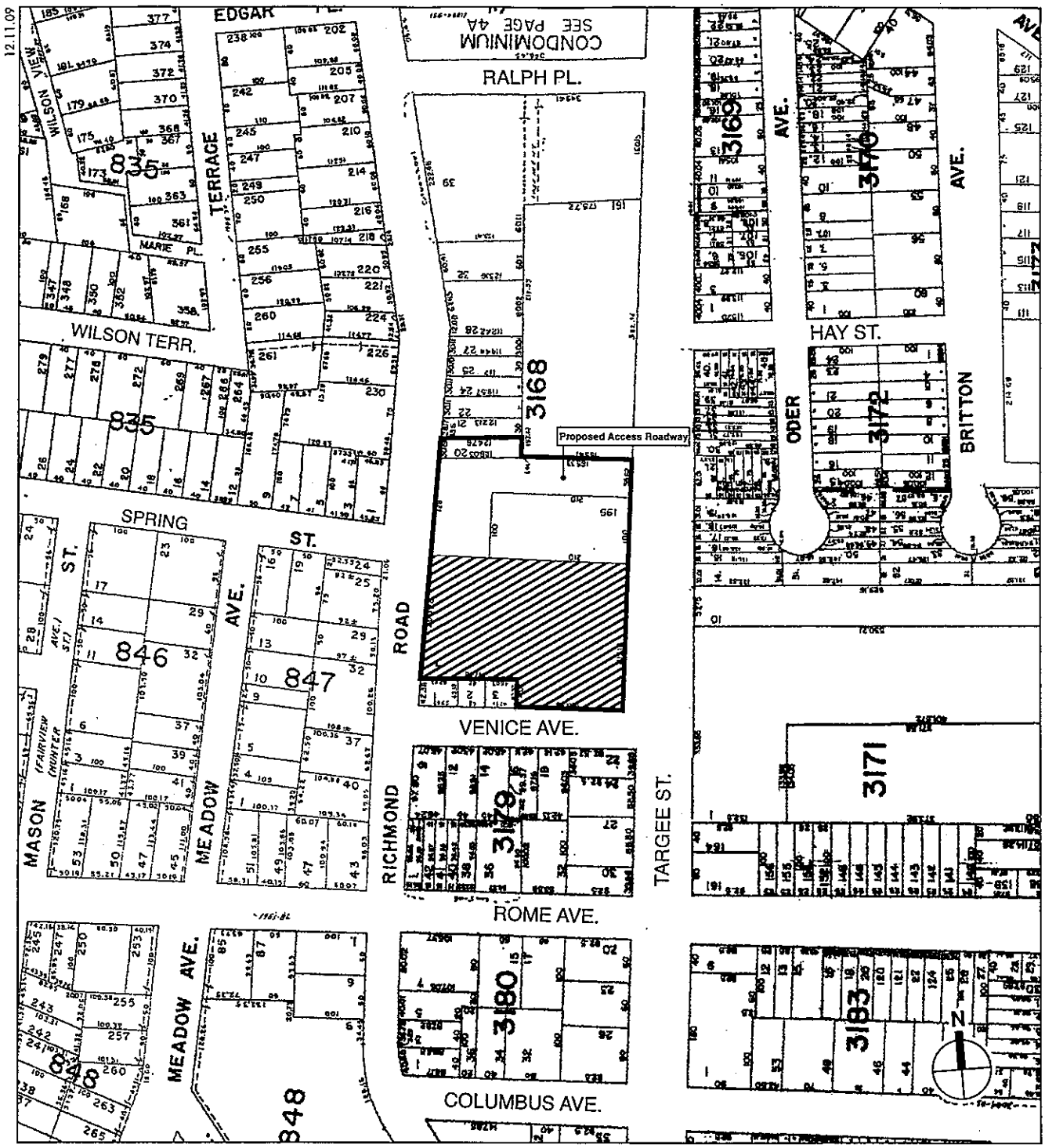
TARGEE STREET
PRIMARY SCHOOL

Project Location
Figure 1-1



TARGEE STREET
PRIMARY SCHOOL

Sanborn Map
Figure 1-2



TARGEE STREET
PRIMARY SCHOOL

Location of Proposed School

Figure 1-3

Chapter 2: Land Use, Zoning, and Community Character

A. INTRODUCTION

This analysis of land use, zoning, and community character considers the existing conditions of the project area, anticipates and evaluates those changes in land use and zoning that are expected to occur independently of the proposed project by 2013, the project's build year, and identifies and addresses any potential impacts to land use, zoning, and community character associated with the proposed project.

To determine existing conditions and assess the potential for impacts, the land use study area has been defined as the area roughly bounded by Ralph Place to the north, Britton Avenue to the east, Columbus Avenue to the south, and Hunter Street to the west (see Figure 2-1). This is the area in which the project has the greatest potential to affect land use or land use trends. Various sources have been utilized to prepare a comprehensive analysis of land use, zoning, and community character, including field surveys, evaluation of land use and zoning maps, and consultation of other sources, such as municipal documents and regulations.

As described below, this analysis concludes that 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. 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 situated on the block bounded by Ralph Place to the north, Targee Street to the east, Venice Avenue to the south, and Richmond Road to the west. The project site consists of Block 3168, Lots 4, 20, and 195, and contains a total of 96,720 square feet (sf). Lot 4 is a through-lot that extends between Targee Street and Richmond Road. The project site is currently occupied with two vacant buildings—Lot 4 contains the 63,870-sf former Doctors Hospital building and paved parking; Lot 195 contains a 9,140-sf office building and paved parking. Lot 20, located in the northwestern part of the site, contains trees and shrubs. A New York City sewer easement bisects the site and extends from Richmond Road to Targee Street between the two buildings. The majority of the project site is slightly below the grade of the surrounding streets and properties.

STUDY AREA

The land use study area is predominantly residential, with some commercial and institutional uses located throughout the area. The project site is surrounded by residential uses, including single-family homes and a four-story, 98-unit residential building located north of the site on Targee Street. P.S. 48 William G. Wilcox School is located to the east of the project site across Targee Street.

In the western portion of the study area, residential buildings generally consist of large detached single-family homes with front and rear yards. In the northern and southern portions of the study area, residential buildings are generally detached one- and two-family residences, and east of Targee Street residential buildings are generally two-story semi-detached one- and two-family residences. Just outside the study area to the east is Stonegate at Grasmere, a condominium complex with approximately 313 townhouses.

Commercial uses in the study area primarily consist of medical and dental offices interspersed throughout the residential buildings. A larger, two-story medical office building is located north of Ralph Place. In addition to P.S. 48, there are two other institutional uses located in the study area—Christian Pentocostal Church and its associated high school are located at 900 Richmond Road, and St. Simon's Episcopal Church is located at 1055 Richmond Road.

There is one publicly-accessible open space within the study area—Naples Playground is adjacent to P.S. 48, with an entrance on Stanwich Street. This 2.9-acre park contains a playground, baseball fields, basketball and handball courts, and a lawn with benches. Naples Playground is jointly operated by the New York City Department of Parks and Recreation and the New York City Department of Education. On either side of P.S. 48 on Targee Street are open spaces accessible to the students. The Children's Garden of Tranquility, a lawn area with trees, benches and tables, is located north of the school and playground equipment is located south of the school building.

ZONING AND PUBLIC POLICY

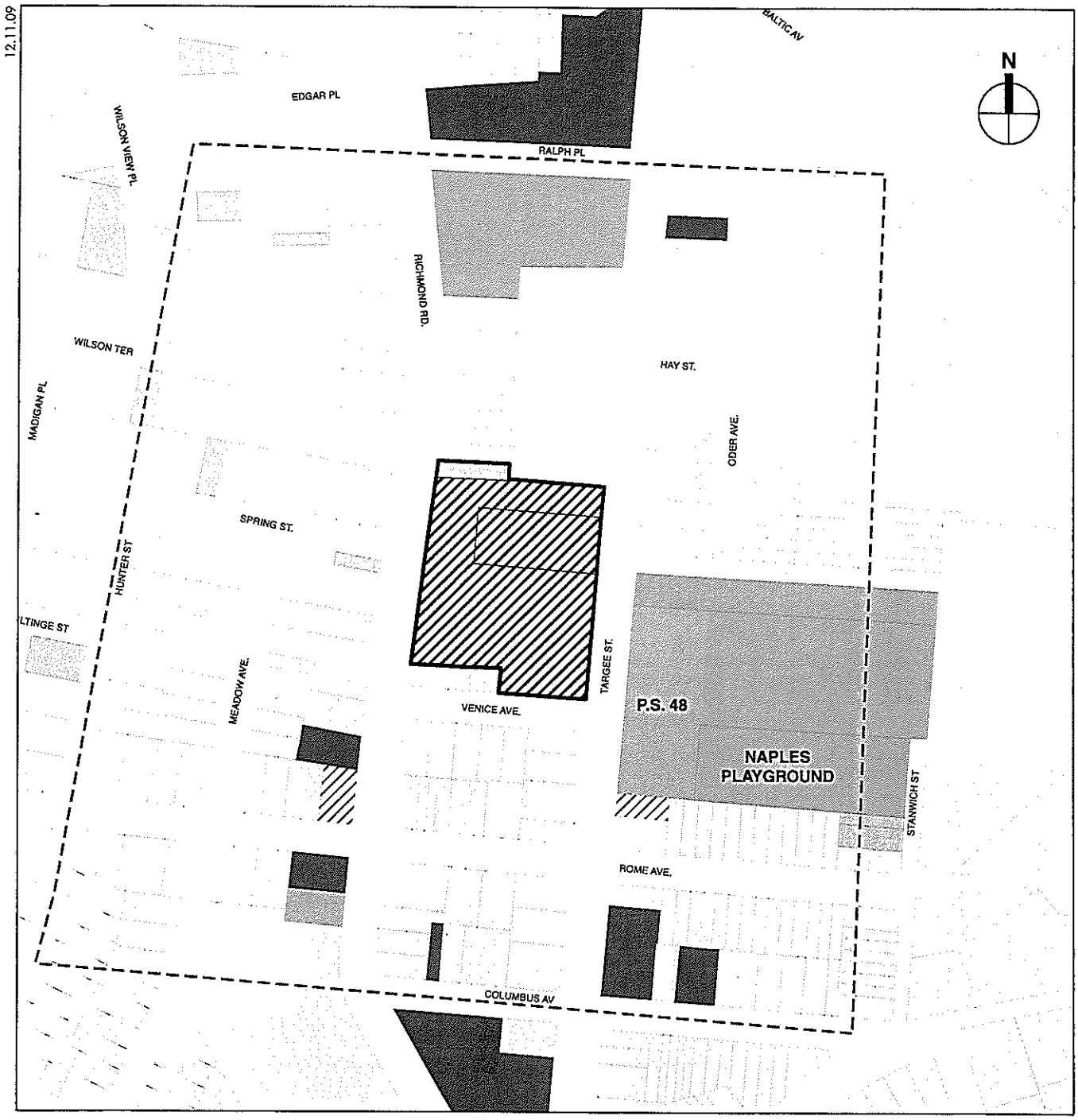
ZONING

Project Site

The project site is located in a R3-2 residential zoning district (see Figure 2-2). R3-2 zoning districts are low-density residential districts that allow a variety of housing types, with a maximum residential floor area ratio (FAR) of 0.5 for residential uses (or 0.6 with an attic) and a maximum community facility FAR of 1.0. R3-2 districts allow community facilities, including schools, to be built as-of-right.

Study Area

The eastern portion of the study area lies predominantly within a R3-2 residential district, described above. West of Richmond Road, the study area is within a R1-2 residential district. R1-2 zoning districts are low-density districts that allow single-family homes on large lots, with a maximum residential FAR of 0.5 for both residential and community facility uses. A small portion of the study area along Columbus Avenue east of Targee Street is zoned R2. R2 residential districts allow single-family detached houses with a maximum residential FAR of 0.5 for both residential and community facility uses.



Project Site Boundary

Land Use Study Area Boundary

Residential

Residential with Commercial Below

Commercial and Office Buildings

Industrial and Manufacturing

Public Facilities and Institutions

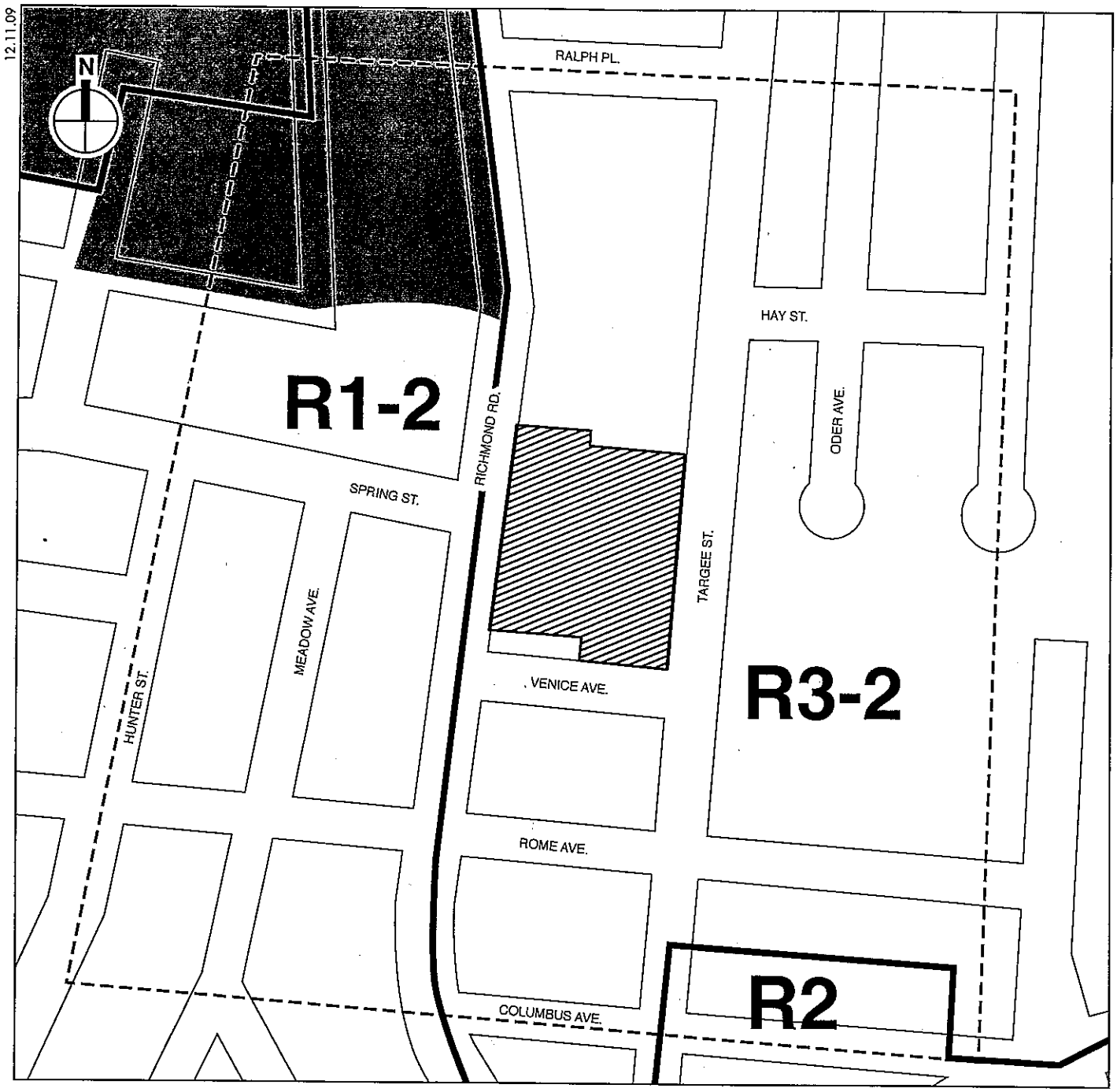
Open Space and Outdoor Recreation

Vacant Land

Vacant Building

TARGEE STREET
PRIMARY SCHOOL

Land Use
Figure 2-1



TARGEE STREET
PRIMARY SCHOOL

Zoning
Figure 2-2

The northwestern portion of the study area is within the Special Natural Area District (NA-1). The purpose of this special district is to guide new development and site alterations with the purpose of preserving the unique natural characteristics, such as forests, rock outcrops, steep slopes, creeks, and a variety of botanic and aquatic environments. In these districts, the City Planning Commission reviews proposals for all new development, enlargements, and site alterations to determine if they comply with these objectives. In this review it must be determined that natural features are protected by limiting modifications in topography, preserving tree, plant, and marine life, and natural water courses, and encouraging clustered development.

COMMUNITY CHARACTER

Community character is defined as an amalgam 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 a project's compatibility with its community setting can be presented and assessed.

The community character of the Emerson Hill/Grasmere section of Staten Island is generally that of a low-density residential area. Richmond Road and Targee Street are busy one-way collector streets that provide access to the Staten Island Expressway entrance/exit ramps located approximately ½-mile north of the project site. The remainder of the streets in the area are generally quite, tree-lined residential streets. The primary retail corridors in the area are Richmond Road to the south of the project site, and Hylan Boulevard, located to the south and east. Pedestrian traffic is relatively light.

The area is served by public transit. The S76, S74, x15 (with express service to Manhattan), S84 and S86 (with limited service to the St. George Ferry Terminal), run southbound on Richmond Road and northbound on Targee Street. The Grasmere station on the Staten Island Railway is located approximately 0.6 miles east of the project site, on Sheridan Avenue.

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 analysis focuses, therefore, on police and fire protection services.

The project is served by the 122nd Police Precinct. The precinct house is located at 2320 Hylan Boulevard in the New Dorp section of Staten Island, more than three miles from the project site. The project site is served by Engine 159, Satellite 5, located at 1592 Richmond Road, approximately one and ½ miles from the project site.

C. THE FUTURE WITHOUT THE PROPOSED PROJECT

LAND USE

In the future without the project, the project site is expected to remain unchanged by the 2013 build year. The two existing buildings on the site are expected to remain unoccupied. There are no known development projects planned in the study area by 2013.

ZONING

There are no zoning changes expected to occur on the project site or in the study area by the 2013 build year.

COMMUNITY CHARACTER

In the future without the proposed project, it is anticipated that the character of the area will remain as it is today. Any infill housing or commercial development that might occur in the study area is not expected to be substantially different from what currently exists, nor will it introduce a significant change in traffic or noise. Therefore, no change to the existing community character is expected.

COMMUNITY FACILITIES

The Police Department has no plans for any changes that will affect law enforcement services in this portion of the 122nd Precinct. Similarly, there are no other projects or changes in fire protection services or equipment expected by the 2013 build year.

D. PROBABLE IMPACTS OF THE PROPOSED PROJECT

LAND USE

PROJECT SITE

With the proposed project, the existing buildings on the project site would be demolished and the trees and vegetation would be cleared. The proposed project would result in the construction of an approximately 108,230 gross-square-foot primary school building and outdoor playground area on the project site. A new, one-way eastbound access roadway, providing a connection between Richmond Road and Targee Street, would be located along the northern edge of the project site. The main bus drop-off/pickup area for students would be along this new access roadway.

The proposed school building, which would up to five stories and 75 feet in height, would be located in the southern portion of the project site. The playground area may be located immediately south of the new access driveway, or in the southern portion of the project site along with the school building.

STUDY AREA

The proposed school facility would be compatible with the surrounding uses, which are primarily residential and include P.S. 48. The proposed project would improve land use conditions in the study area and enliven the project block by providing a new educational facility on a site that is currently vacant. At up to five stories in height, the proposed facility would be slightly taller but generally consistent with structures in the study area, including the four-story apartment building to the north of the site along Targee Street. Therefore, the development of the proposed facility is not expected to affect adjacent land uses.

ZONING

ZONING

The proposed facility would conform to the use requirements of R3-2 zoning district, which permits community facility uses, including schools, as-of-right. Should the final design of the proposed building result in any zoning bulk non-compliance, the SCA would seek approval of a zoning override from the Deputy Mayor for Education and Community Development. If the zoning override is 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 proposed project would replace a vacant site with a new primary school facility that would be similar in scale to existing buildings and compatible with surrounding land uses. The proposed project would benefit the area by bringing new community facility uses to the neighborhood. The increase in traffic volumes expected to result from the proposed school would not result in any significant adverse community character impacts.

COMMUNITY FACILITIES

The Police and Fire Departments would adjust their services as they deem necessary, and no significant adverse impacts to police or fire services are expected to result from the proposed project. ✳

A. INTRODUCTION

As described in Chapter 1, "Project Description," the proposed project would involve construction of a new school building that is expected to reach a maximum height of 75 feet. According to the 2001 *New York City Environmental Quality Review (CEQR) Technical Manual* guidelines, a shadow assessment is required for new structures 50 feet high or taller. If a proposed structure is adjacent to a park or other shadow-sensitive natural feature, shadows must be considered regardless of its height.

This chapter considers whether new shadows from the proposed school would fall on any sunlight-sensitive resources, and evaluates what impacts, if any, would likely result. This chapter also provides an overview of the methodology utilized in modeling the extent and duration of project-generated shadows and assessing the effects of those shadows on sunlight-sensitive resources.

The analysis presented below concludes that the proposed project would not cause any significant adverse shadow impacts to nearby publicly-accessible sun-sensitive resources.

B. METHODOLOGY

DAILY AND SEASONAL VARIATIONS IN SHADOWS

Shadows vary according to time of day and season. Morning and evening shadows are long, while midday shadows are shorter. Shadows in winter, when the sun arcs low across the southern sky, are longer throughout the day than at corresponding times in spring and fall, and in summer the high arc of the sun casts shorter shadows than at any other time of year. Early and late shadows in summer fall much further to the south than early and late shadows in winter.

SCREENING ANALYSIS

The first step in the assessment of a project's shadow impacts is to determine whether project shadows would be long enough to reach any publicly accessible open spaces, important natural features, or historic resources with sunlight-dependent features at any time of year. If this preliminary or screening analysis indicates they might, then a detailed shadow analysis is warranted.

DETAILED ANALYSIS

The approach to the detailed shadows analysis is to define the extent, or coverage, and duration of project-generated incremental shadows on any sun-sensitive uses and vegetation of open spaces, or sunlight-sensitive features of historic resources, and assess the effects of new shadows on such resources. Following the guidelines of the *CEQR Technical Manual*, the detailed analysis considers shadows on March 21 (equivalent to September 21, the equinoxes); June 21,

the summer solstice; and December 21, the winter solstice. These dates represent the full range of possible shadows over the course of the year. Additionally, CEQR guidelines recommend an additional representative date during the growing season (typically April through October in New York City) when focusing on an open space, specifically May 6 (equivalent to August 6, the midpoints between the equinoxes and summer solstice).

The CEQR methodology does not consider shadows and incremental increases in shadows within 1½ hours of sunrise or sunset to be significant. Therefore, the analysis period on each of the four representative days is between 1½ hours after sunrise and 1½ hours before sunset.

According to the *CEQR Technical Manual*, the uses and vegetation in an open space establish its sensitivity to shadows. Passive uses, such as sitting or sunning, and certain active uses, such as water features in playgrounds, rely on sunlight. Vegetation, including trees, shrubs and lawns, generally require at least four to six hours of sunlight. Conversely, certain areas within an open space might not be sunlight-sensitive, such as paved ball courts. When assessing shadows on historic resources, only features or landscapes that are dependent on sunlight need be assessed, for example stained-glass windows that are only visible in sunlight.

CEQR does not consider shadows on city streets, sidewalks, and other buildings to be significant.

ANALYSIS FRAMEWORK

As in other technical areas of a CEQR environmental assessment, the analysis compares conditions with the proposed project with conditions that would exist in the future Build year without the proposed project. In the analysis presented below, it was assumed that if the proposed project does not proceed, the project site would remain in its current vacant state by 2013 ("No Action" scenario). The detailed analysis in this chapter compares shadows that would be cast on sun-sensitive resources with the proposed project (the "Build" scenario) with those that would be cast in the No Action scenario.

Since design plans for this proposed project are not yet finalized, the shadows analysis conservatively analyzed a 75-foot-high building "envelope" (i.e., the "potential development envelope") spanning the entire southern portion of the project site. Such a structure would not actually be built, but it allows the analysis to account for the worst-case shadows that could result from the project on any particular sun-sensitive resource. Additionally, the 75-foot height of the proposed school was conservatively measured from the highest elevation currently found on the project site. Consequently, on the east side of the project site where the elevation is about six feet lower, the height of the building reaches approximately 81 feet above the adjacent curb level.

ANALYSIS TOOLS AND DATA SOURCES

GIS software and data, supplemented by AKRF field surveys, were used in the preliminary screening analysis to determine the extent of the study area and which open spaces and sunlight-sensitive historic resources could potentially be affected by project shadow.

For the detailed analysis, a three-dimensional computer model was developed using topographical and building data available from the New York City Department of Information Technology and Telecommunications. A three-dimensional model of the proposed project was developed by AKRF. Shadows were modeled using the solar rendering capabilities of MicroStation V8i software. Other known development projects in the study area were added to

the existing conditions model, as accurately as available information allowed, to correctly model the future baseline conditions.

DETERMINATION OF IMPACT SIGNIFICANCE

According to the CEQR Technical Manual, a significant shadow impact may occur when there is substantial reduction in sunlight to a sun-sensitive use or feature, threatening the survival of vegetation or significantly reducing the usability of the open space, or in the case of an architectural feature, obscuring the elements or details that make that resource significant. The determination of impact significance is based on an assessment of how a project's incremental shadows specifically would affect sun-sensitive features of individual resources.

C. SCREENING ANALYSIS

A preliminary screening analysis was conducted following *CEQR Technical Manual* guidelines. A map of the project site and surrounding area was prepared, and all sunlight-sensitive resources were noted on the map. Next, the maximum shadow length that could be cast by the proposed school was calculated and drawn on the map. The longest shadow that a building will cast will occur at the start of the analysis day on December 21, and will be equal to 4.3 times the building's height. Therefore, the longest shadow that the proposed school could cast would be 322.5 feet (4.3 X 75 feet).

RESOURCES OF CONCERN

The screening analysis identified one resource of potential concern: the Naples Playground, a publicly accessible playground east of and adjacent to P.S. 48 William G. Wilcox School, which is east of the project site across Targee Street (see Figure 3-1). Naples Playground contains a playground, baseball fields, basketball and handball courts, and a lawn with benches. The handball and basketball courts and the playground are paved, active recreation areas and as such are not generally considered shadow-sensitive under CEQR. The baseball field and the lawn with benches are too far east to ever be affected by project-generated shadow (see Figure 3-1). Naples Playground is jointly operated by the New York City Department of Parks and Recreation (DPR) and the New York City Department of Education (DOE).

On either side of P.S. 48 on Targee Street are open spaces accessible to the students. The Children's Garden of Tranquility, a lawn area with trees, benches and tables, is located north of the school, and playground equipment is located south of the school. The Children's Garden of Tranquility is fenced off and not accessible to the public, and therefore not a resource of concern under CEQR methodology. However, given the proximity of this open space to the project site and the fact that it is maintained by the City's Department of Education, it has been included in the shadows assessment for informational purposes, particularly since the design plans for the proposed project are not yet final. The playground equipment located south of the school is also fenced off and not accessible to the public; it is for use by P.S. 48 students only.

D. SHADOWS ANALYSIS

A three dimensional computer model was developed for the detailed shadows analysis. The model contains the buildings and topography within the study area delineated in the screening analysis above.

Existing buildings were used to determine the No Action shadows cast on the sun-sensitive resources. Then, shadows were rendered again using the potential development envelope to determine the extent and duration of new or incremental shadow on the resources of concern. As noted in "Methodology," above, shadows were examined on the representative days of the year set forth in the *CEQR Technical Manual*: the summer and winter solstices, the equinoxes, and May 6/August 6, the midpoints between the summer solstice and the equinoxes. Further, the analysis period for each representative day begins an hour and half after sunrise and ends an hour and a half before sunset.

Portions of the Children's Garden of Tranquility would experience new shadows from the potential development envelope in the late afternoon throughout the year, ranging from just over one hour in the winter to two and three quarters hours on June 21. The ball courts of Naples Playground would experience minimal new shadows at the end of the analysis day throughout the year.

Table 3-1 presents the entry and exit times and total duration of new shadow. Figures 3-2 through 3-14 depict the extent of shadows, both baseline and incremental, at representative times on the analysis days. The extent, duration, and effects of baseline and incremental shadows are discussed below.

Table 3-1
Incremental Shadow Durations

Resource	Equinoxes March 21 / Sept. 21 8:36 AM – 5:29 PM EDT	Midpoints between Equinoxes and Summer Solstice May 6 / August 6 7:27 AM – 6:18 PM EDT	Summer Solstice June 21 6:57 AM – 7:01 PM EDT	Winter Solstice December 21 8:51 AM – 2:53 PM EST
OPEN SPACES				
Children's Garden of Tranquility	3:30 PM–5:29 PM Total: 2h	3:45 PM–6:18 PM Total: 2h 33m	4:15 PM–7:01 PM Total: 2h 46m	1:45 PM–2:53 PM Total: 1h 8m
Basketball courts and adjacent landscaping	5:15 PM–5:29 PM Total: 14m	6:00 PM–6:18 PM Total: 18m	6:30 PM–7:01 PM Total: 31m	—
Handball courts	—	6:15 PM–6:18 PM Total: 3m	6:45 PM–7:01 PM Total: 16m	—
Playground south of handball courts	—	—	6:45 PM–7:01 PM Total: 16m	—

Notes:
EST—Eastern Standard Time
EDT—Eastern Daylight Time

MARCH 21 / SEPTEMBER 21

NO ACTION SCENARIO

Shadow from the existing P.S. 48 school building, located south and adjacent to the Children's Garden of Tranquility, moves west to east across the Garden from the start of the analysis day until the end. From 9:45 AM until 2:30 PM, more than half the space is in existing shadow.

12.14.09

Aerial photo courtesy USGS, Research foundation of CUNY, Hunter College Center for Analysis and Research of Spatial Information, and the New York City Department of Information Technology and Telecommunications (DoITT). Date of flight March 2004.

0 100 200 FEET
SCALE

Project Site Boundary

Potential Development Envelope

Open Space

322.5 Foot Perimeter around Envelope

TARGEE STREET
PRIMARY SCHOOL

Screening Analysis
Figure 3-1

BUILD SCENARIO (FIGURES 3-2 TO 3-4)

Shadows on the Garden and Naples Playground would be similar to the No Action scenario in the morning and early afternoon. Incremental shadow from the potential development envelope would enter the western side of the Garden at 3:30 PM. The new shadow would spread eastward, covering the western half of the Garden by 4:30 PM, while existing shadow covers a portion of the eastern half. From 5:15 PM to 5:29 PM, the end of the analysis day, incremental shadow would remove the remaining sun from the Garden, and reach beyond the Garden onto a small portion of the basketball court in Naples Playground.

MAY 6 / AUGUST 6

NO ACTION SCENARIO

Shadows are shorter in May and August than they are in March and September, and fall further to the south at the beginning and end of the day. From 7:27 AM until 9:00 AM the Children's Garden of Tranquility would be fully in sun. From 9:00 AM to 5:30 PM shadow from P.S. 48 would move west to east across the southern half of the space, leaving the northern half fully in sun throughout the day.

BUILD SCENARIO (FIGURES 3-5 TO 3-8)

Shadows on the Children's Garden of Tranquility and Naples Playground would be similar to the No Action scenario in the morning and early afternoon. Incremental shadow from the potential development envelope would enter the western side of the Garden at 3:45 PM. The new shadow would spread eastward, covering about the western third of the space at 4:30 PM and the western half at 5:00 PM; during these times the remaining eastern portion of the Garden would be mostly in sun. From 5:45 PM until the end of the analysis day at 6:18 PM incremental shadow would fall across the entire space. From 6:00 PM to 6:18 PM incremental shadow would fall on a small section of the basketball court east of the Garden. From 6:15 to 6:18 PM incremental shadow would also reach the handball courts.

JUNE 21

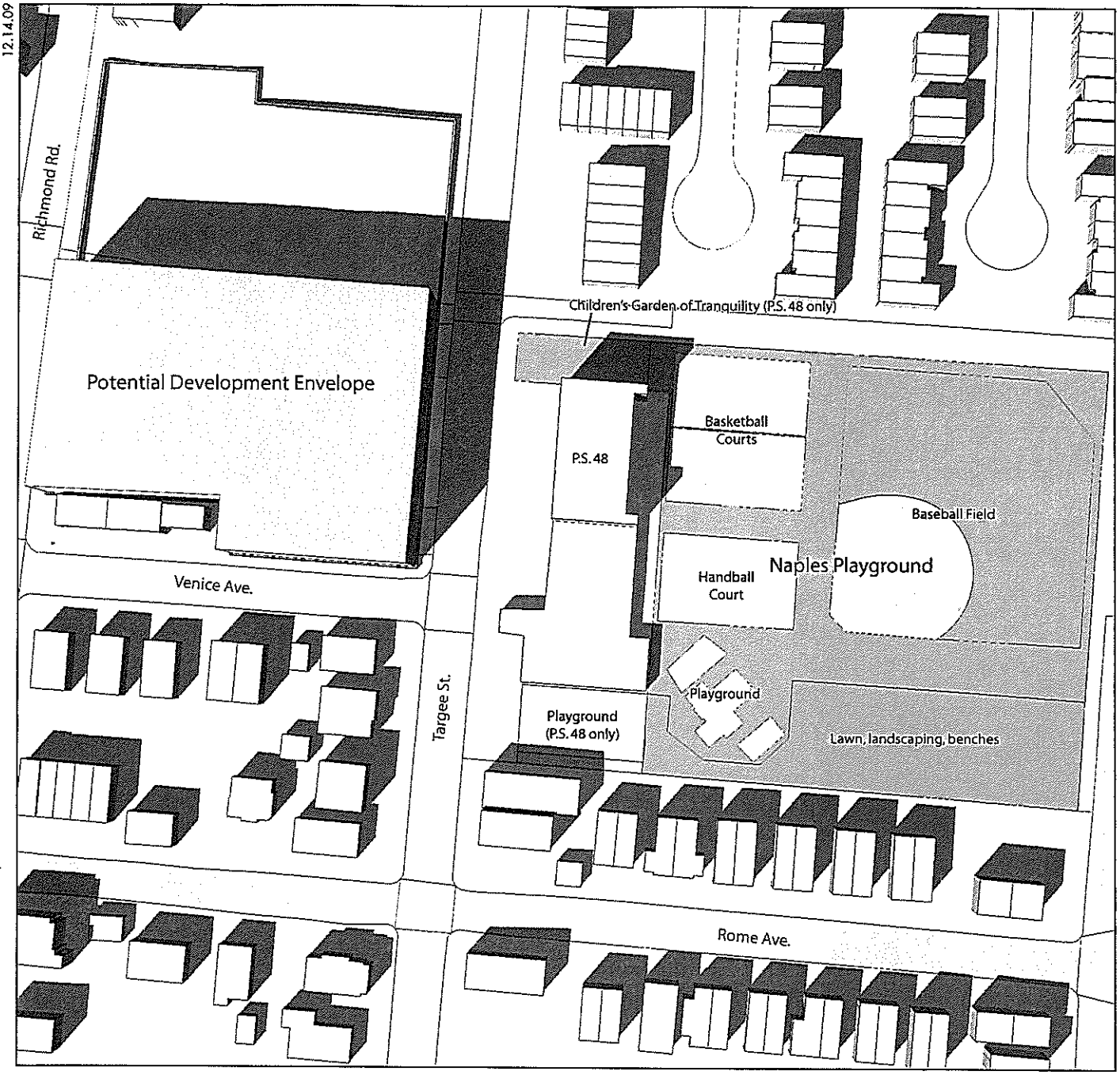
NO ACTION SCENARIO

Shadows are shortest on June 21. From 7:27 AM until 9:45 AM the Children's Garden of Tranquility would be fully in sun. From 9:45 AM to 5:00 PM shadow from P.S. 48 would move west to east across the southern portion of the space, leaving three-quarters or more of the space fully in sun throughout this period.

BUILD SCENARIO (FIGURES 3-9 TO 3-12)

Shadows on the Children's Garden of Tranquility and Naples Playground would be similar to the No Action scenario from the morning through the mid-afternoon. Incremental shadow from the potential development envelope would enter the western side of the Garden at 4:15 PM. The new shadow would spread eastward, covering about the western third of the space at 5:00 PM and the western two-thirds by 5:45 PM; during these times the remaining eastern portion of the space would be mostly or fully in sun. From 5:45 PM until the end of the analysis day at 7:01 PM incremental shadow would fall across most, though not all, of the Garden. From 6:30 PM to 7:01 PM incremental shadow would fall on a small section of the basketball court east of the

12.14.09



No project-generated shadow would reach the P.S. 48 spaces or Naples Playground at this time.

0 50 100 FEET
SCALE

Envelope within which proposed school would be located

Project site boundary

Open space

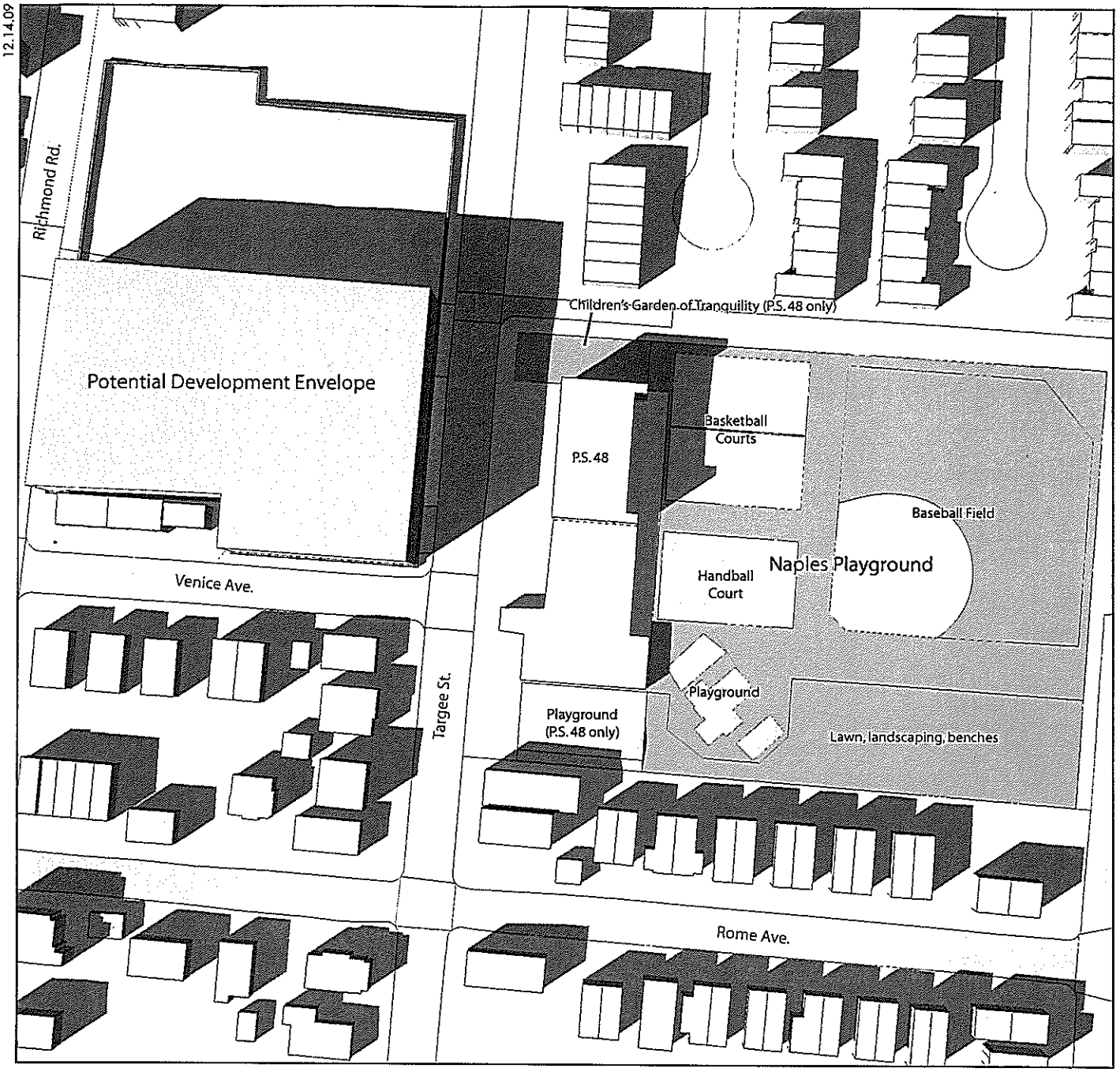
Shadows

N
shadow angle

TARGEE STREET
PRIMARY SCHOOL

March 21 / Sept. 21 - 3:00 PM EDT
Figure 3-2

12.14.09



Envelope within which proposed school would be located

Project site boundary

Open space

Shadows

Project-generated shadow on open space

0 50 100 FEET

SCALE

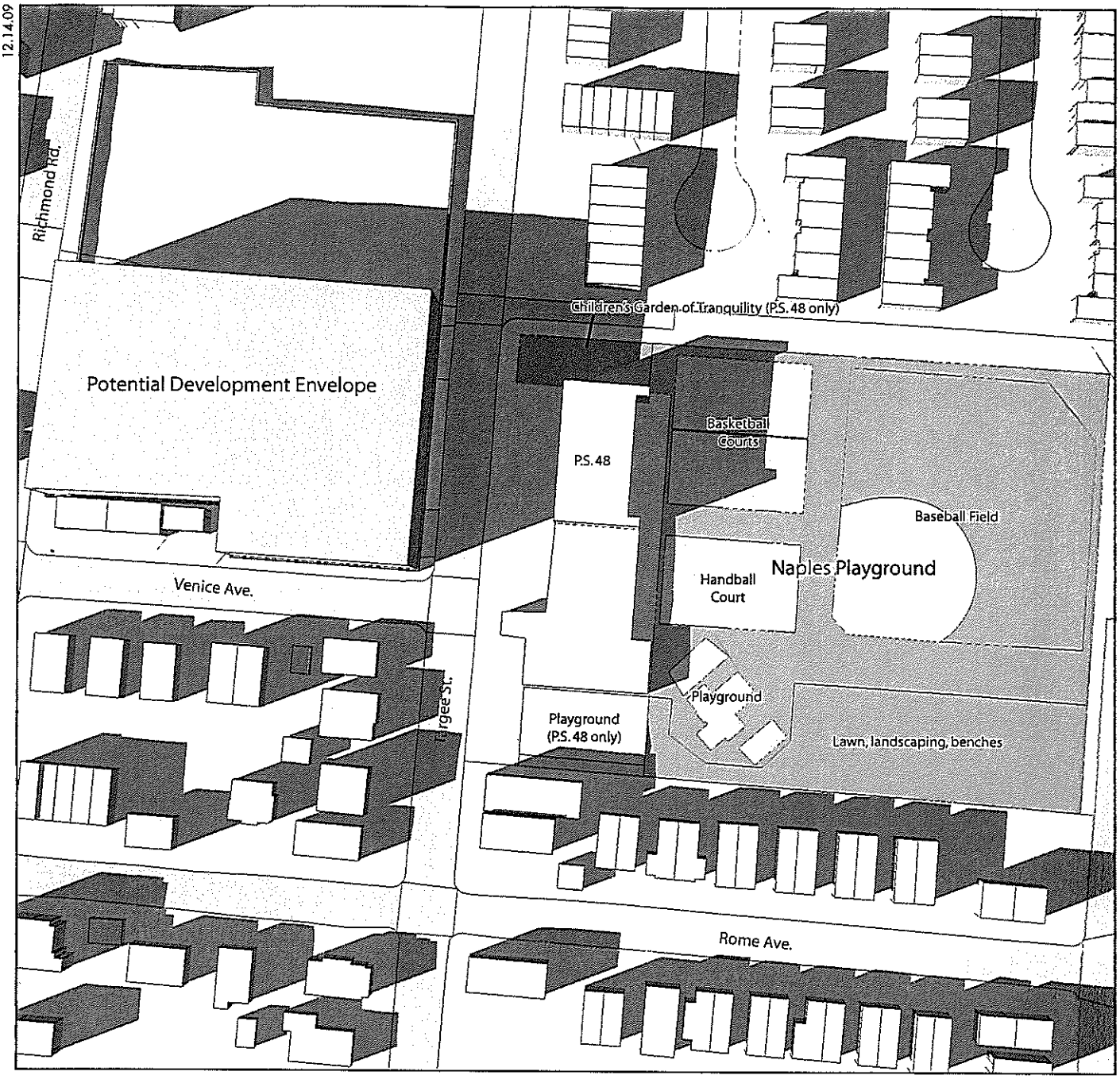
N

shadow angle

TARGEE STREET
PRIMARY SCHOOL

March 21 / Sept. 21 - 4:00 PM EDT
Figure 3-3

12.14.09



Envelope within which proposed school would be located

Project site boundary

Open space

Shadows

Project-generated shadow on open space

0 50 100 FEET

SCALE

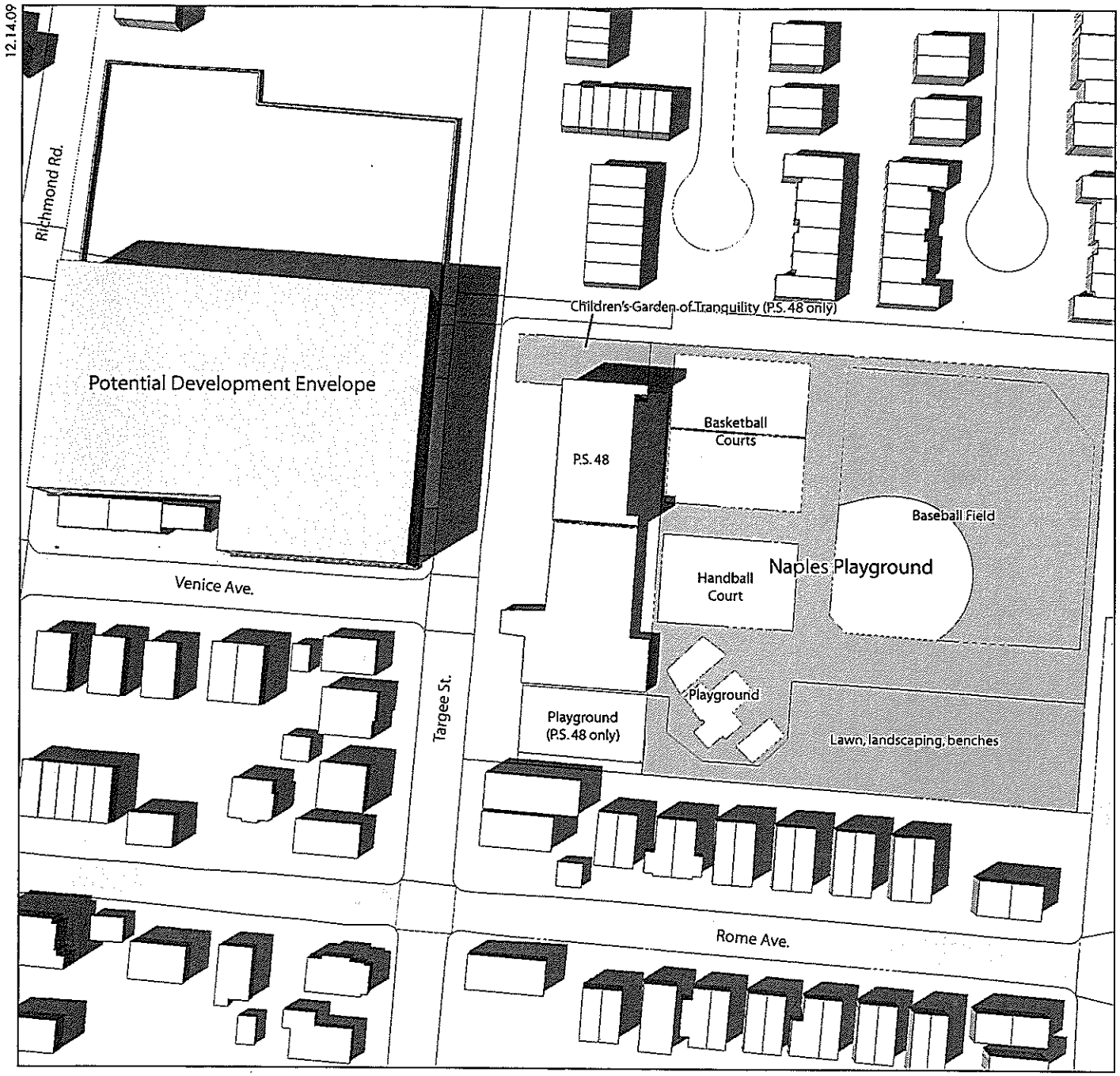
N

shadow angle

TARGEE STREET
PRIMARY SCHOOL

March 21 / Sept. 21 - 5:00 PM EDT

Figure 3-4



No project-generated shadow would reach the P.S. 48 spaces or Naples Playground at this time.

0 50 100 FEET
SCALE

Envelope within which proposed school would be located

Project site boundary

Open space

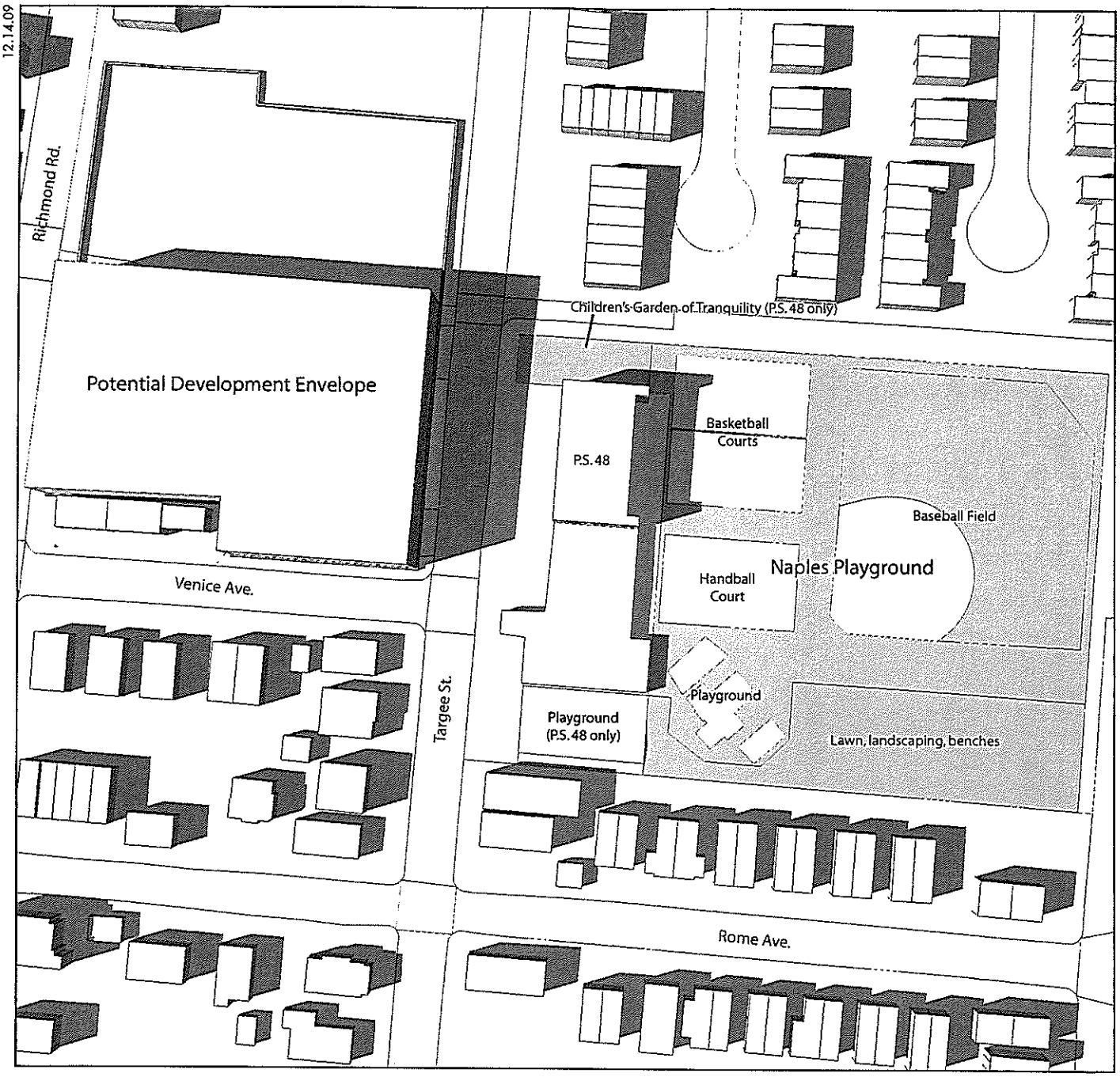
Shadows

N
shadow angle

TARGEE STREET
PRIMARY SCHOOL

May 6 / August 6 - 3:00 PM EDT
Figure 3-5

12.14.09



Envelope within which proposed school would be located

Project site boundary

Open space

Shadows

Project-generated shadow on open space

0 50 100 FEET

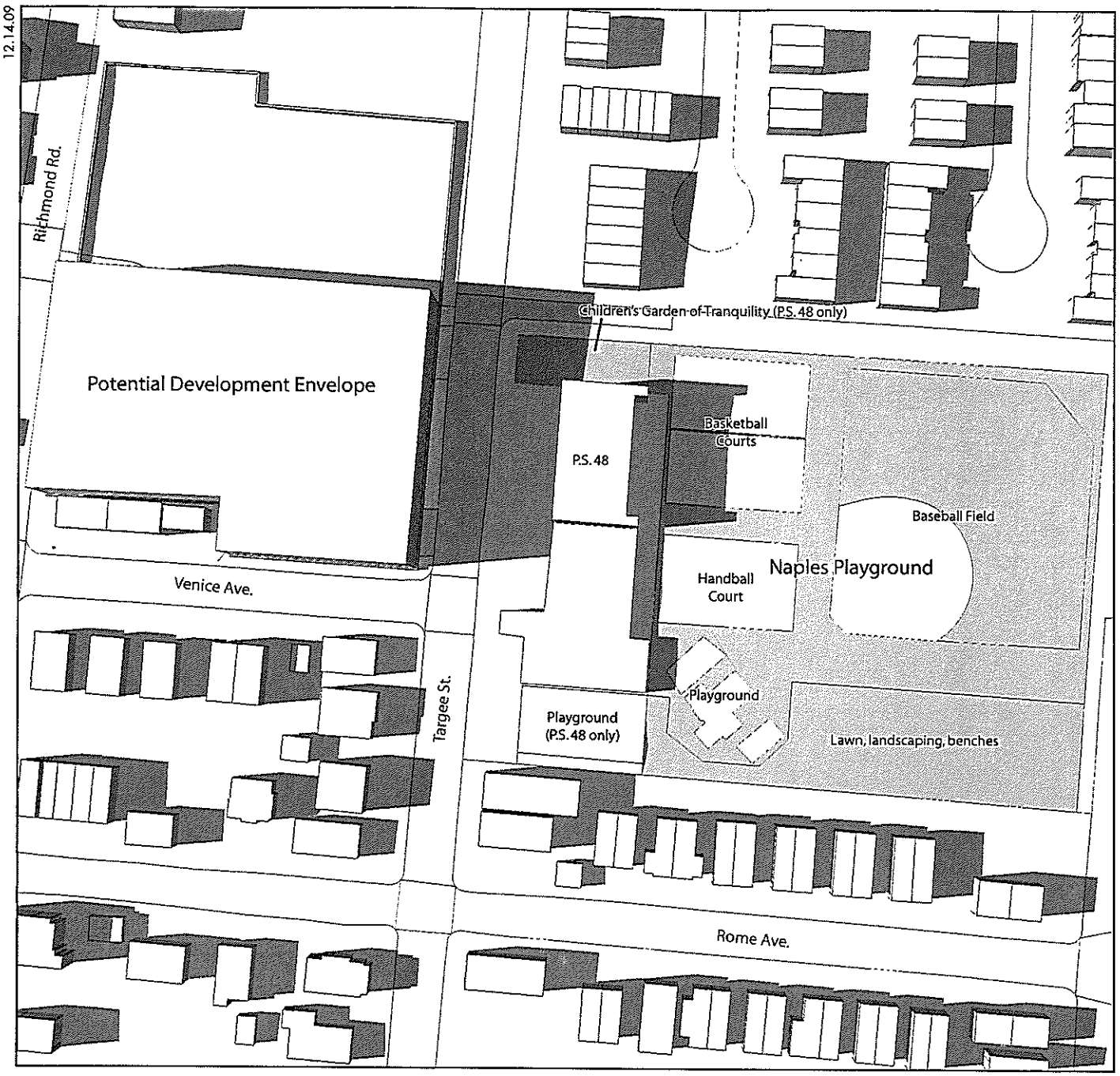
SCALE

N

shadow angle

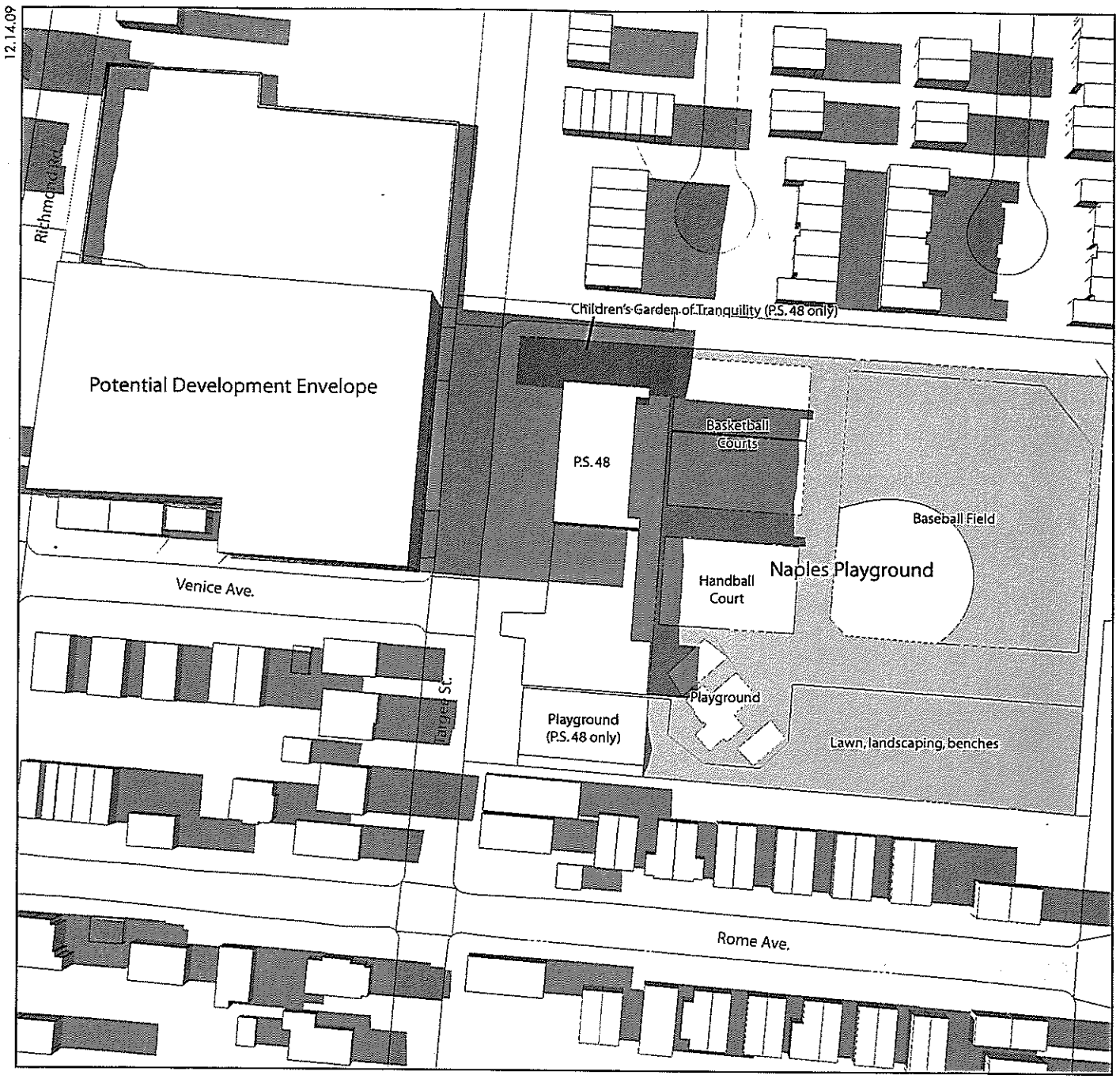
TARGEE STREET
PRIMARY SCHOOL

May 6 / August 6 - 4:00 PM EDT
Figure 3-6



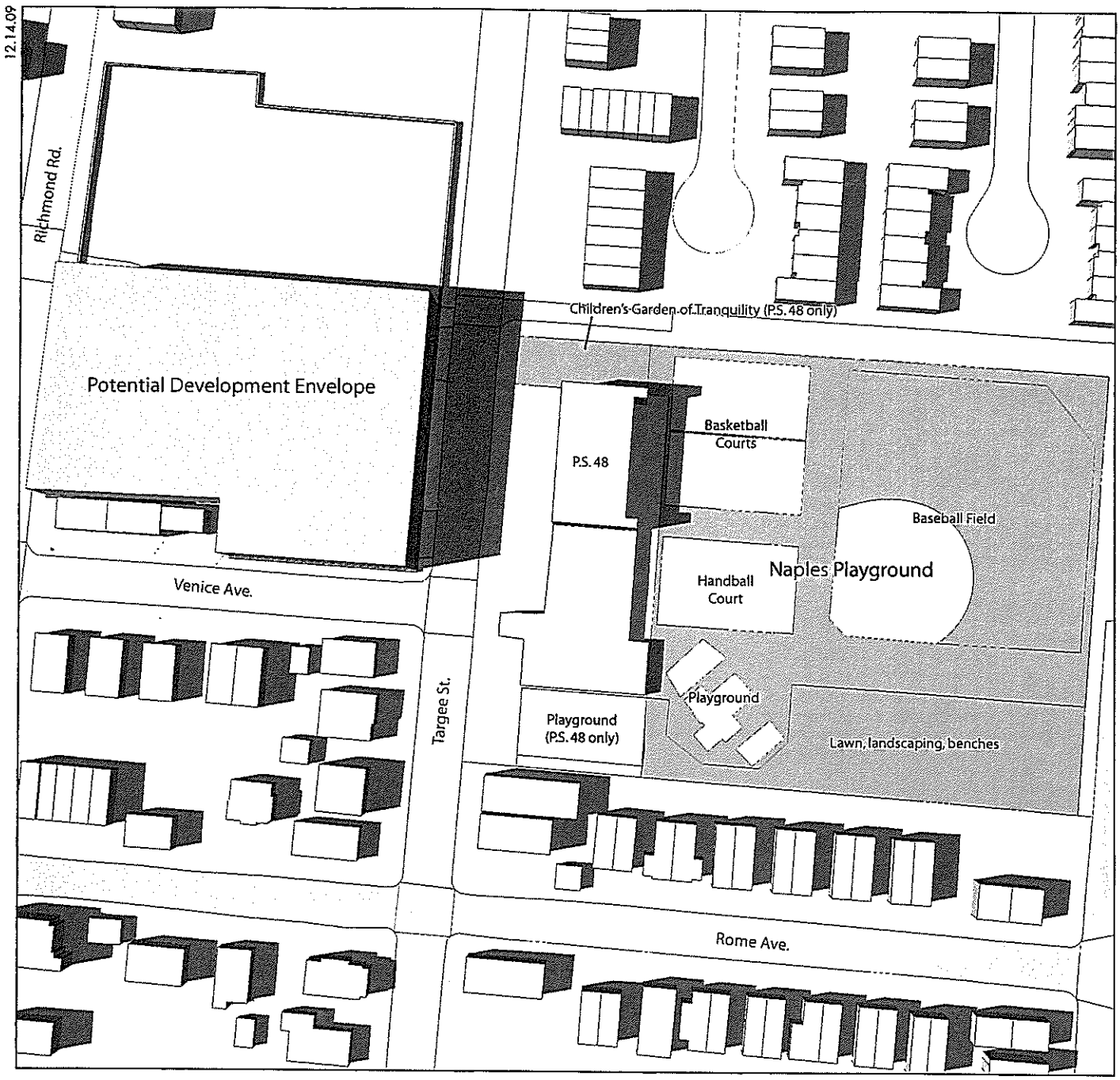
TARGEE STREET
PRIMARY SCHOOL

May 6 / August 6 - 5:00 PM EDT
Figure 3-7



TARGEE STREET
PRIMARY SCHOOL

May 6 / August 6 - 6:00 PM EDT
Figure 3-8



No project-generated shadow would reach the P.S. 48 spaces or Naples Playground at this time.

0 50 100 FEET
SCALE

Envelope within which proposed school would be located

Project site boundary

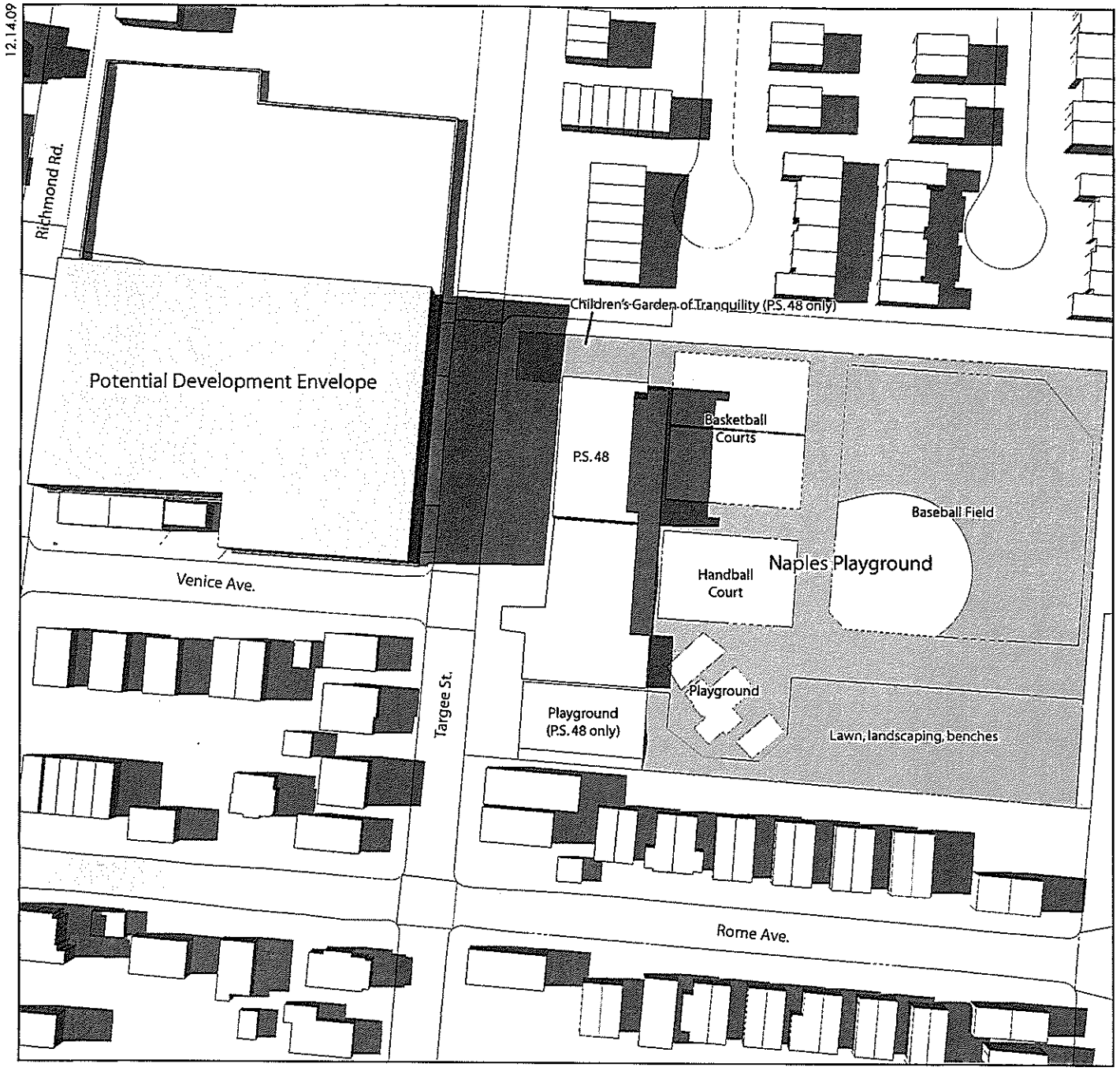
Open space

Shadows

N shadow angle

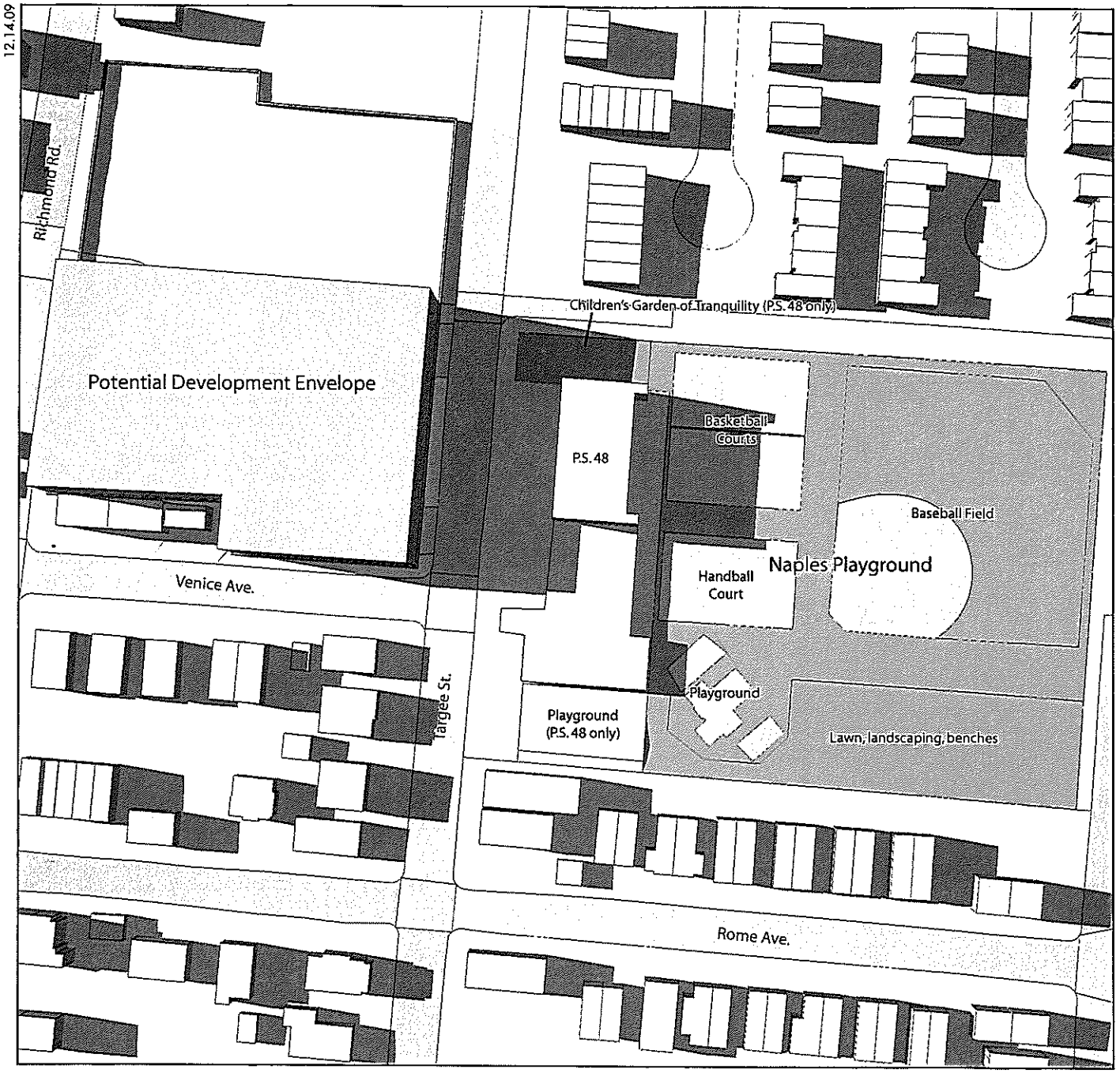
TARGEE STREET
PRIMARY SCHOOL

June 21 - 4:00 PM EDT
Figure 3-9



TARGEE STREET
PRIMARY SCHOOL

June 21 - 5:00 PM EDT
Figure 3-10

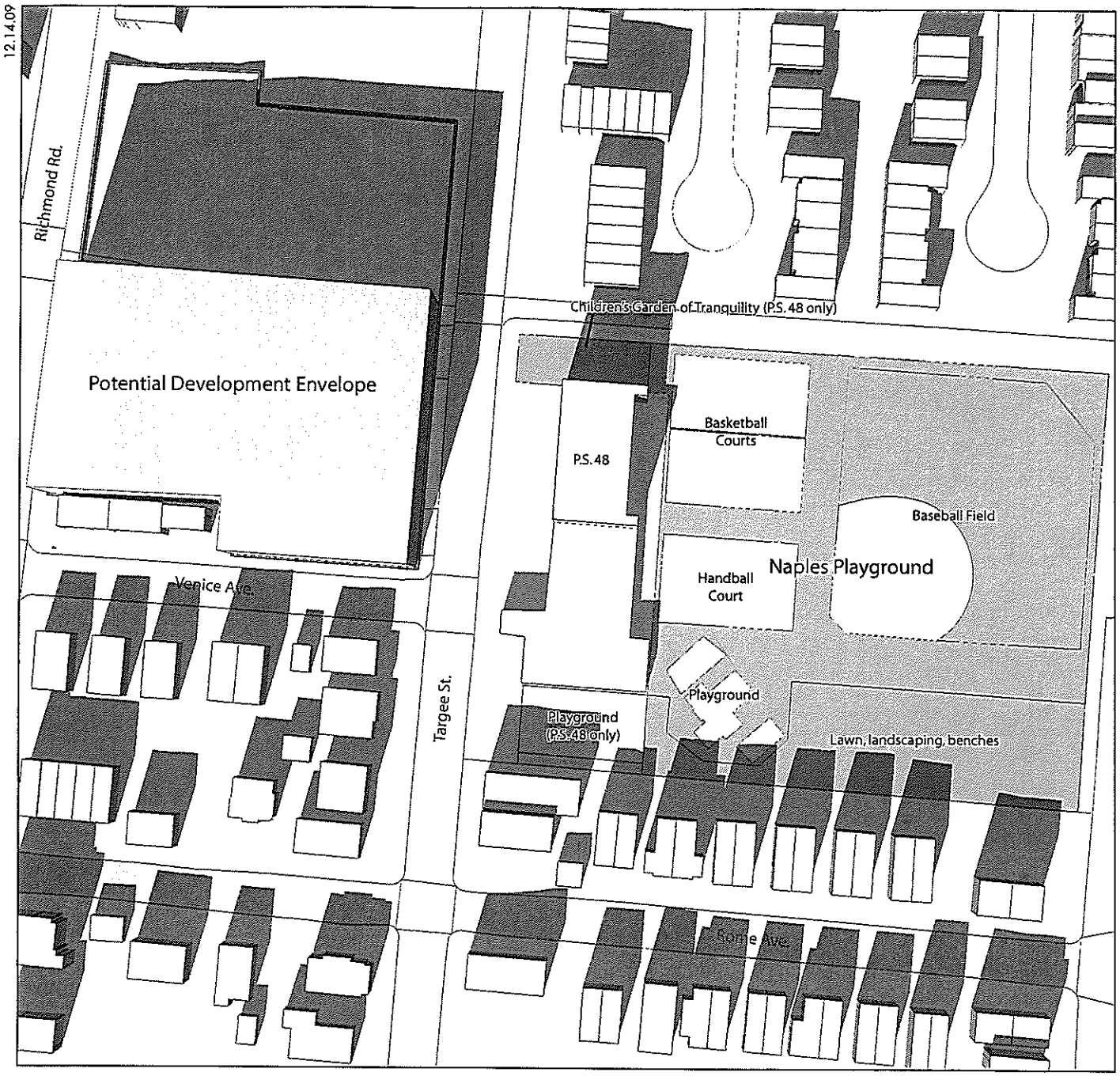


TARGEE STREET
PRIMARY SCHOOL

June 21 - 6:00 PM EDT
Figure 3-11

TARGEE STREET
PRIMARY SCHOOL

June 21 - 7:00 PM EDT
Figure 3-12



No project-generated shadow would reach the P.S. 48 spaces or Naples Playground at this time.

0 50 100 FEET
SCALE

Envelope within which proposed school would be located

Project site boundary

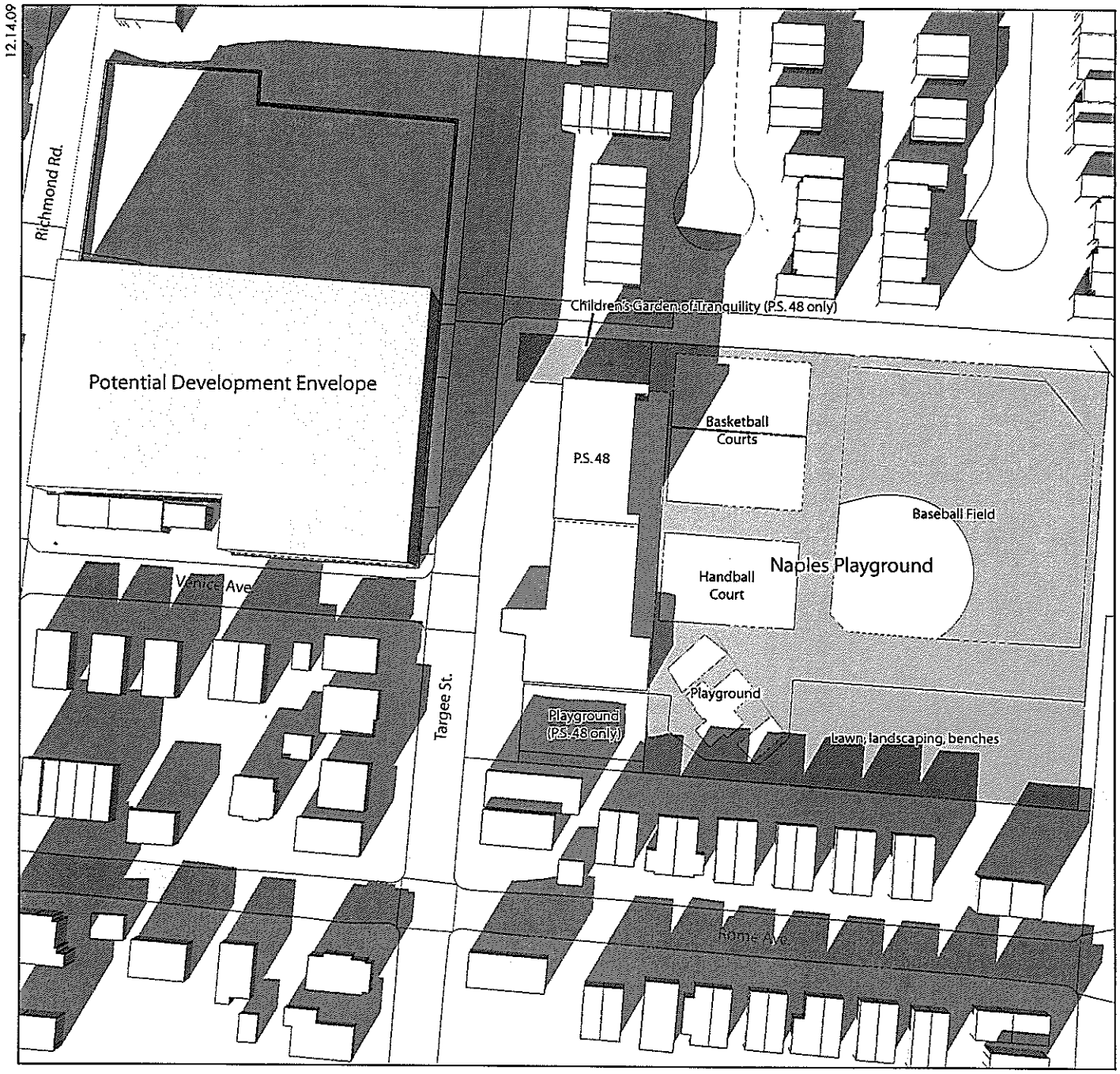
Open space

Shadows

N shadow angle

TARGEE STREET
PRIMARY SCHOOL

December 21 - 1:00 PM EST
Figure 3-13



TARGEE STREET
PRIMARY SCHOOL

December 21 - 2:00 PM EST
Figure 3-14

A. INTRODUCTION

This attachment considers the potential of the proposed project to affect urban design and visual resources. The project site is located on a large block bounded by Targee Street to the east, Venice Avenue to the south, Richmond Road to the west, and Ralph Place to the north in the Emerson Hill/Grasmere section of Staten Island. Because views of the project site are generally not available beyond 400 feet from the site, the urban design and visual resources study area has been defined as the area roughly bounded by Ralph Street to the north, Britton Avenue to the east, Columbus Avenue to the south, and Meadow Avenue/Wilson Terrace to the west (see Figure 4-1).

As defined in the 2001 *New York City Environmental Quality Review (CEQR) Technical Manual*, urban design components and visual resources determine the "look" of a neighborhood—its physical appearance, including the size and shape of buildings, their arrangement on blocks, the street pattern, and noteworthy views that may give an area its distinctive character. The following analysis addresses each of these characteristics for existing conditions and the future without and with the proposed action for the project's build year.

The New York City School Construction Authority (SCA) has not yet finalized project plans for the proposed school; thus, this analysis considers a reasonable worst case development scenario that would result in the construction of a five-story (approximately 75-foot-tall) primary school on the project site. As described below, the proposed project would replace two vacant buildings and an unused surface parking lot with a new school facility, landscaping, and a recreation area. The new school would be similar in bulk to other institutional buildings in the study area but would be taller than existing buildings in the study 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, this change would not result in any significant adverse impacts to visual resources. Overall, the proposed project would not result in any significant adverse impacts to urban design or visual resources on the project site or in the study area.

B. EXISTING CONDITIONS

PROJECT SITE

URBAN DESIGN

The project site is a through-block site with frontages on Richmond Road, Targee Street, and Venice Avenue. It is occupied by two vacant free-standing buildings—the former Doctors' Hospital and Spring Building—built in 1984 and 1960, respectively, with paved parking lots (see View 1 of Figure 4-2). There is also landscaping with trees and shrubs, and an undeveloped grassy lot on Richmond Road containing trees and miscellaneous debris. The

undeveloped lot is surrounded by a chainlink fence. Most of the project site is slightly below the grade of the surrounding streets and properties.

The northern portion of the project site is occupied by the former Spring Building, a two-story, gray stucco-faced L-shaped building with a flat roof and small rectangular windows (see View 2 of Figure 4-2). It is set back from both Richmond Road and Targee Street and is sited within an asphalt paved parking lot that connects to the west to the parking lot of the former Doctors' Hospital. A chainlink fence extends along the north, east, and west sides of the northern portion of the project site.

Located south of the former Spring Building is the two-story former Doctors' Hospital, a T-shaped building with a partially exposed basement level visible from Targee Street and Venice Avenue (see Views 3 and 4 of Figure 4-3). The building is set back from Richmond Road and Targee Street by paved parking and landscaping, respectively. A chainlink fence is located along the property lines south and west of this building. The building's east façade has a driveway that slopes up to a small, one-story entrance structure; a second driveway slopes down to the raised basement level. The building's narrow south façade extends nearly to the southern property line on Venice Avenue. The building's north and west facades face the site's paved surface parking lot. The east façade and a portion of the west façade have a dark glass and steel curtain wall with projecting vertical mullions. The building's north and south facades and a portion of the west façade are faced in gray brick.

A concrete sidewalk bordered by small grassy areas and shrubs extends east-west through the project site between the former Spring Building and the former Doctors' Hospital building. Similar landscaping is also located at the base of each existing project site building.

VISUAL RESOURCES

There are no visual resources on the project site. The two buildings on the project site are not architecturally distinctive or visually prominent.

One visual resource is visible from the project site—the Verrazano-Narrows Bridge. Specifically, a portion of the bridge's western tower is visible in the distance in views east from the western portion of the project site between the Spring Building and the Doctors' Hospital (see View 1 of Figure 4-2).

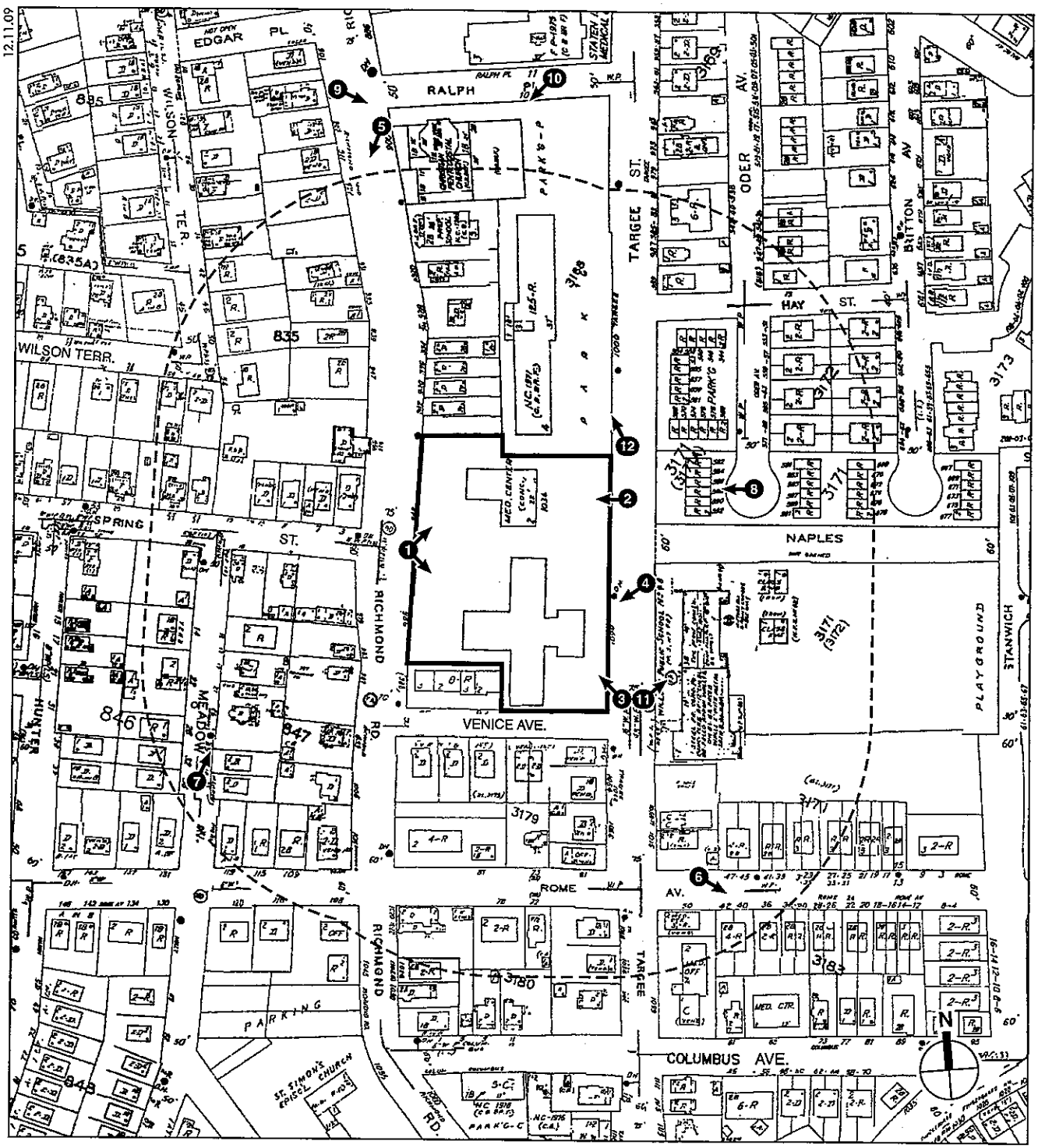
STUDY AREA

The discussion below focuses first on the area's urban design—basic layout and structures—and then describes visual resources.

URBAN DESIGN

Natural Features, Street Patterns, and Block Shapes

The topography of the study area is generally flat though the study area's northwest section along the west side of Richmond Road has a northwest incline. The incline continues beyond the study area and includes wooded areas with houses that are visible from the study area. Natural features include grassy yards with trees and landscaping on residential and commercial properties. The Public School (P.S.) 48 property, described below, includes the Children's Garden of Tranquility—a grassy area with trees, benches, and tables, located north of the school—and a playground located south of the school. East of the school is the Naples



Project Site Boundary

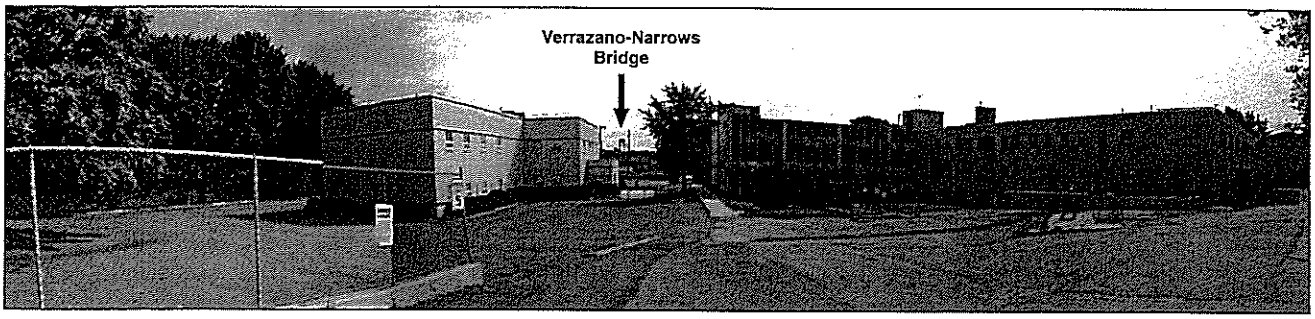
Study Area Boundary (400-Foot Perimeter)

Photograph View Direction and Reference Number

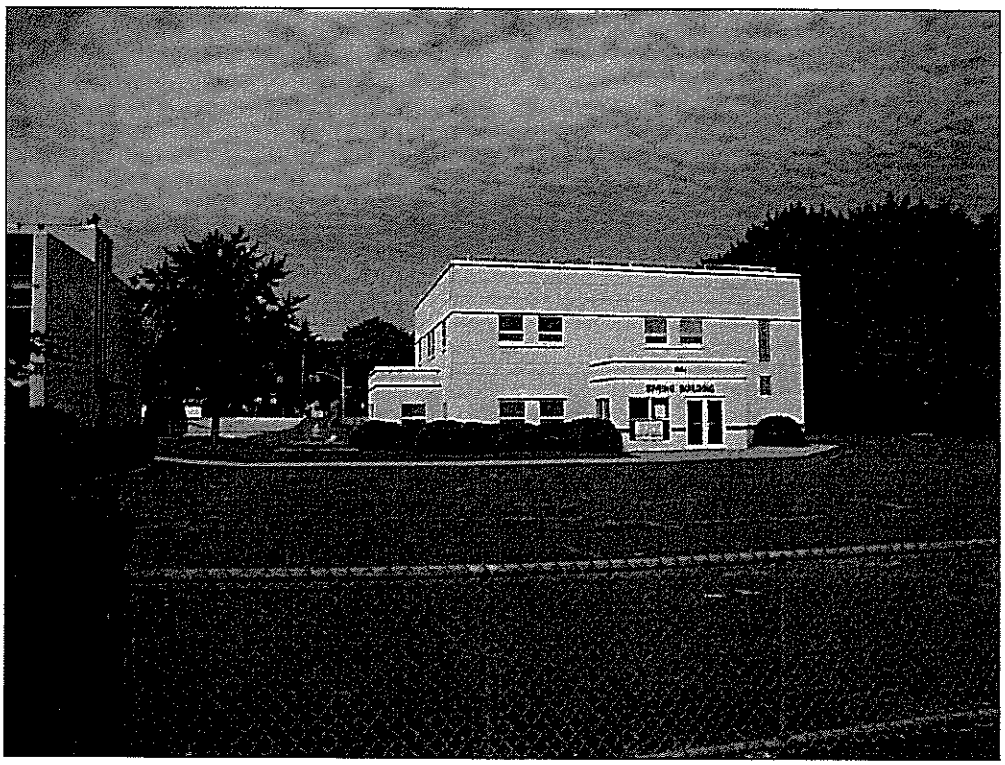
TARGEE STREET
PRIMARY SCHOOL

Urban Design and Visual Resources
Project Location and Study Area

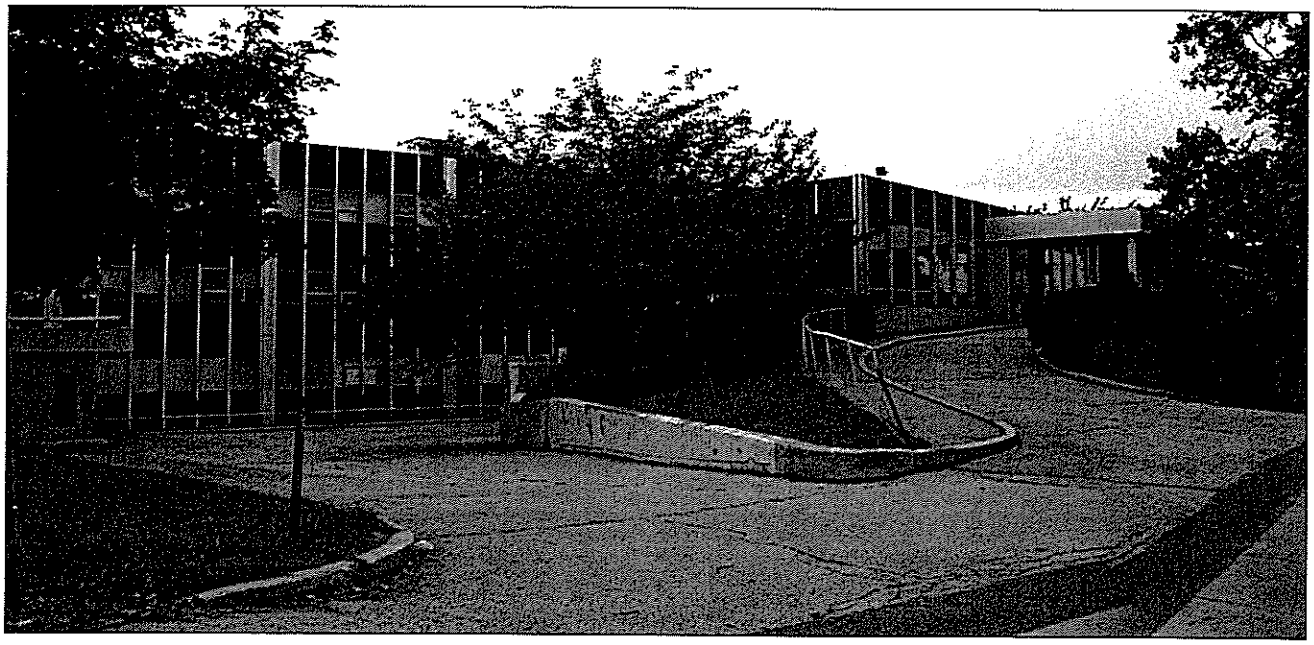
Figure 4-1



View to the former Spring Building and former Doctors' Hospital from Richmond Road **1**



View to the former Spring Building from Targee Street **2**



View to the former Doctors' Hospital from Targee Street **3**

View to the former Doctors' Hospital from Targee Street **4**

Playground, a 2.9-acre park with a playground, baseball fields, basketball and handball courts, and a lawn with benches. Street trees are also located throughout the study area.

The street pattern in the study area is somewhat irregular (see Figure 4-1). The two primary thoroughfares are Richmond Road and Targee Street. Richmond Road carries southbound traffic and generally extends north-south in the study area but curves to the northwest north of the project site. Targee Street is also a north-south street and carries northbound traffic. The streets east, west, and south of the project site are narrower residential streets that are much less trafficked. Some study area streets only extend between Richmond Road and Targee Street; other streets terminate at cul-de-sacs; and some streets are through-streets that extend through the study area to the east and west. Naples Street is a public walkway that extends east-west between Targee and Stanwich Streets. It includes an overgrown paved area near Targee Street and a paved sidewalk that extends its full length and includes decorative street lights.

Most blocks in the study area have irregular shapes and sizes. Smaller blocks in the study area are located south and west of the project site and include rectangular blocks and irregularly shaped blocks, most of which contain attached and detached houses. There are three large blocks in the study area. The project site is located on a large, irregularly-shaped block that contains larger buildings, including institutional and residential buildings, and also smaller residential buildings along Venice Avenue and Richmond Road. Another large, irregularly-shaped block is west if the project site and north of Spring Street and is occupied by free-standing houses set back from the sidewalk with grassy lawns. A third large block is on the east side of Targee Street. It includes attached houses and townhouses, small commercial buildings, Public School 48, part of the Naples playground, and the Naples Street public walkway.

Streetscape

The study area is generally suburban in character with primarily low-rise, free-standing and attached houses, small apartment buildings, and institutional buildings (see Views 5 and 6 of Figure 4-4 and Views 7 and 8 of Figure 4-5). Most buildings are set back from the street by a grassy lawn and a concrete sidewalk with curb cuts for driveways. Some sidewalks extend to the street while others are separated from the street by narrow grassy areas. The west side of Richmond Road northwest of the project site includes houses that are at a higher elevation than the road and have a steep driveway and/or steps leading to their front doors. Some of these properties have a low retaining wall along the sidewalk. Several properties on the east and west sides of Targee Street north and east of the project site have fences (chain link fences and black metal fences) along the property lines. Other streetscape elements include street lamps, most of which are standard cobra head lampposts, fire hydrants, bus stops (both signage and shelters), zebra crosswalks near the schools, street trees, and telephone poles with overhead lines.

Building Uses, Shapes, and Forms

Most buildings in the study area are one- to three-story houses, including free-standing, semi-detached, and attached houses. Free-standing houses are generally located north, west, and south of the project site while most buildings east and southeast of the project site are semi-detached and attached residences. North of the project site is a complex of institutional buildings, comprising the Christian Pentecostal Church, high school, and education building. Public School 48, another institutional building, is located across Targee Street east of the project site (see Views 9 and 10 of Figure 4-6 and View 11 of Figure 4-7). Some residential buildings on Richmond Avenue include commercial uses.

Houses in the study area include older and newer buildings that have a variety of shapes and footprint sizes. Most older buildings are free-standing houses faced in brick or wood clapboards. Newer buildings are generally semi-detached or attached houses faced in vinyl siding (see Figures 4-4 and 4-5). Most houses have hip or gable roofs. Detached houses typically are square or rectangular in shape. Semi-detached and attached houses have smaller individual footprints than the free-standing houses. There is one larger residential building in the study area—a four-story, long rectangular apartment building located immediately north of the project site (see View 12 of Figure 4-7). The building is faced in white vinyl siding with a black asphalt roof and is set back from Targee Street by a paved surface parking lot.

Other larger study area buildings are institutional buildings, including the Christian Pentecostal Church and its associated buildings and P.S. 48. These buildings have large footprints compared to the smaller footprints of the residential buildings that are more typical of the study area. The two-story church occupies the southeast corner of Richmond Road and Ralph Place. It is a modern structure with an irregular shape. It is faced in red brick and white stucco and has a tall white steeple. The church's high school is a newer two-story building. It is also faced in red brick and stucco and fronts onto both Ralph Place and Targee Street, however, it is set back from Targee Street by a paved surface parking lot. The church complex also includes an attached one-story portion extending south along Richmond Road and a free-standing education building, also to the south on Richmond Road. Both buildings are faced in red brick. Another institutional building in the study area is P.S. 48 located across Targee Street from the project site. It is a three-story brick- and stone-faced rectangular building that dates to 1930. It also includes a later one-story addition to the south. It is set back from Targee Street by a grassy lawn and iron fence.

VISUAL RESOURCES

There are no notable view corridors in the study area. Views north and south on Richmond Road and Targee Street extend for long distances, but do not have any notable focal points. Views on study area streets are generally limited to adjacent buildings and trees.

There are no visual resources in the study area. Study area buildings include a mix of older and newer residential and institutional buildings. There is one visual resource visible from the study area—the Verrazano-Narrows Bridge. The bridge is located at a distance east of the project site but its western steel pier is partially visible in views east from limited vantage points on Spring Street and Richmond Road west of the project site. However, other views to this visual resource are obstructed by intervening two- to three-story buildings.

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 2013 build year. The two vacant buildings on the project site are expected to remain unoccupied. Therefore, the urban design character of the project site would not be altered.

OTHER FUTURE PROJECTS

There are no known development projects planned in the study area that are expected to be completed by 2013. Therefore, the urban design and visual character of the study area is expected to remain unchanged.

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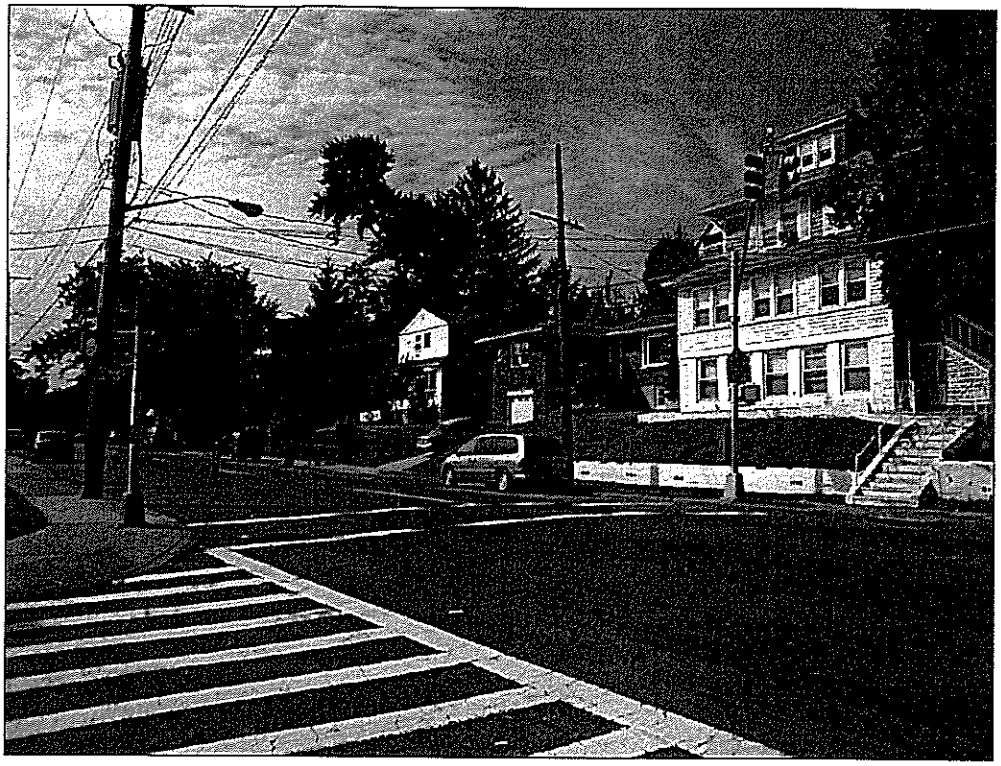
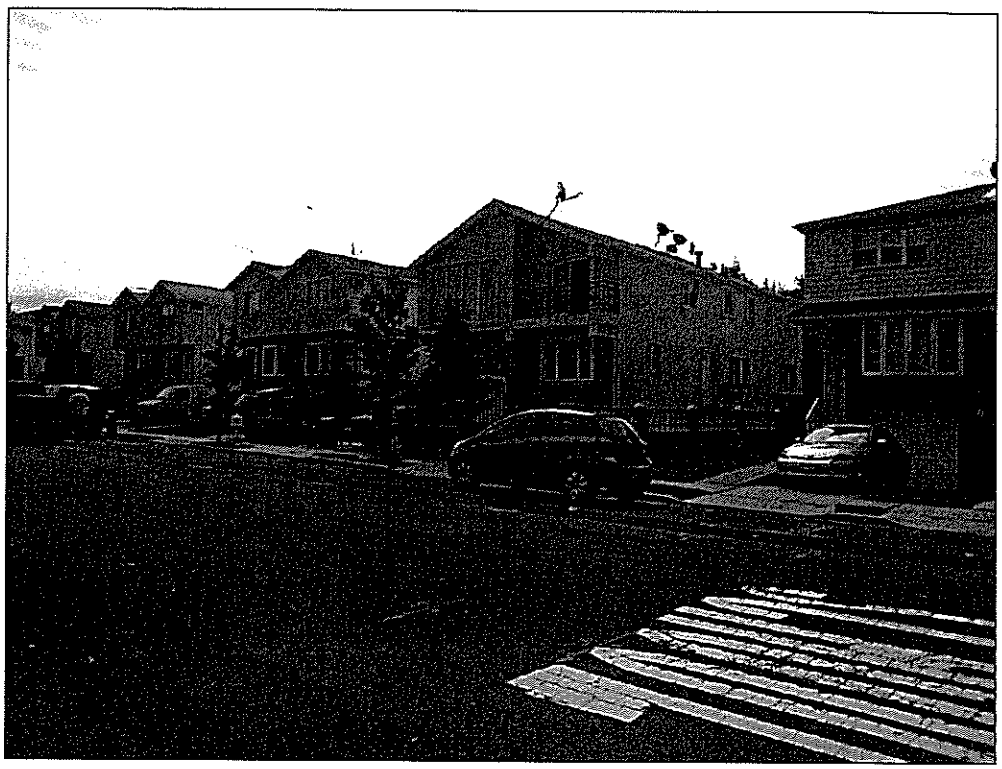


View southwest on Richmond Road **5**



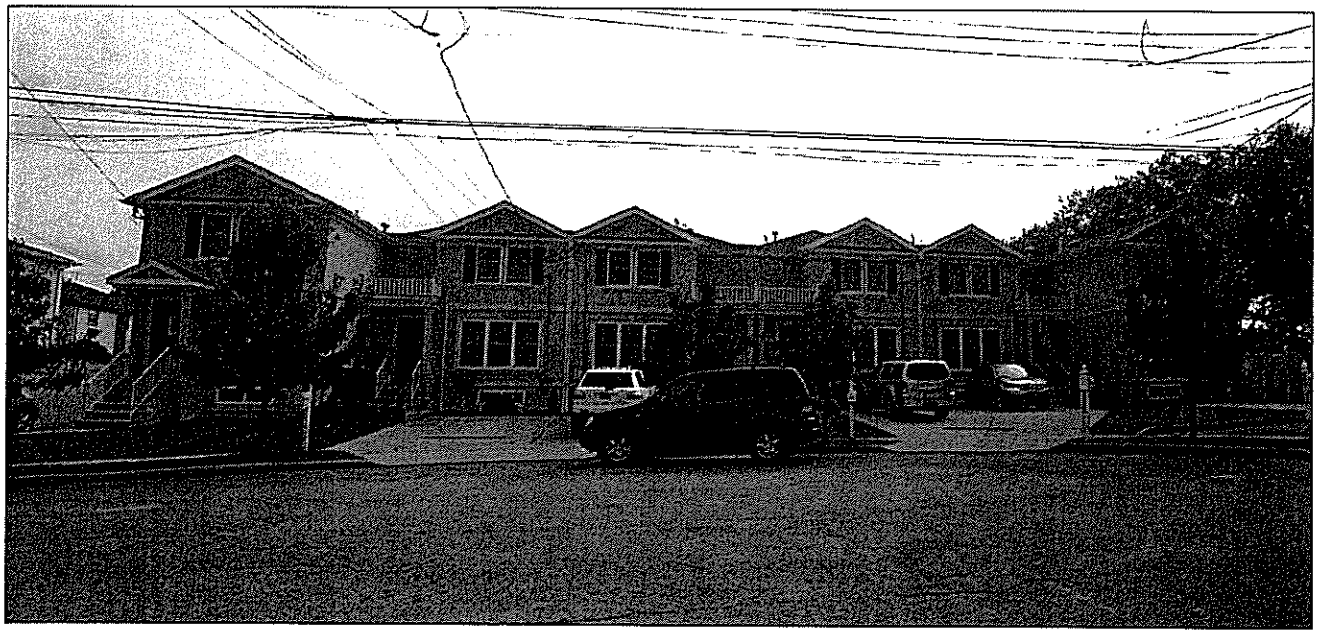
View southeast on Rome Avenue **6**

TARGEE STREET
PRIMARY SCHOOL

Study Area Views
Figure 4-4

12.11.09

View northeast on Meadow Avenue **7**

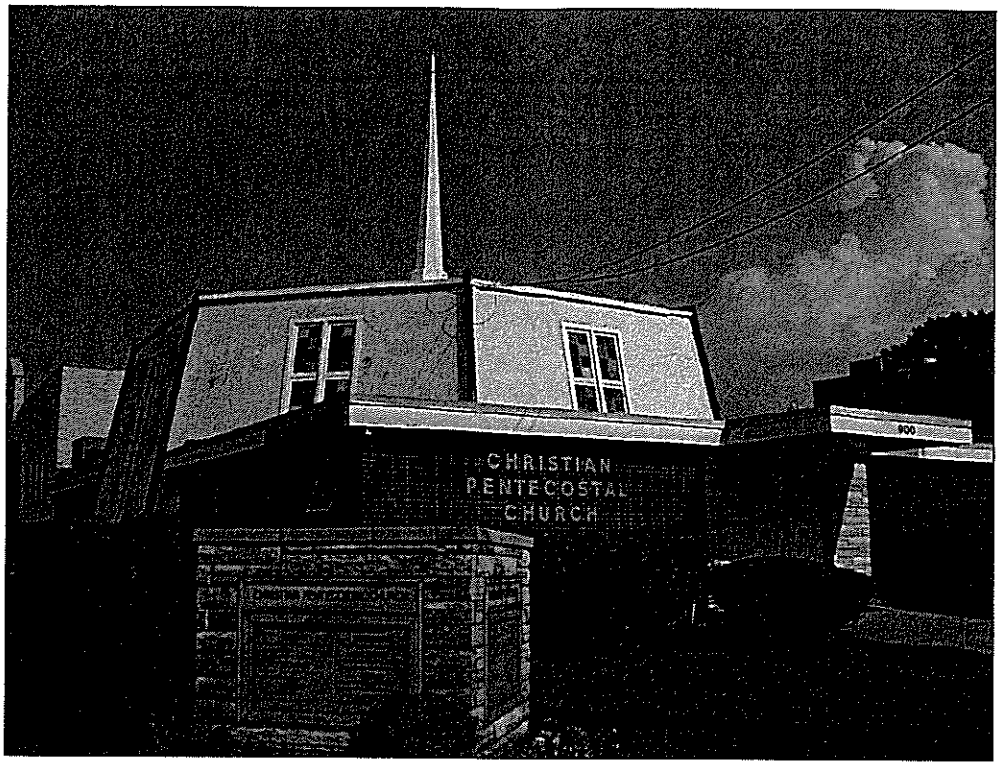


View west on Oder Avenue **8**

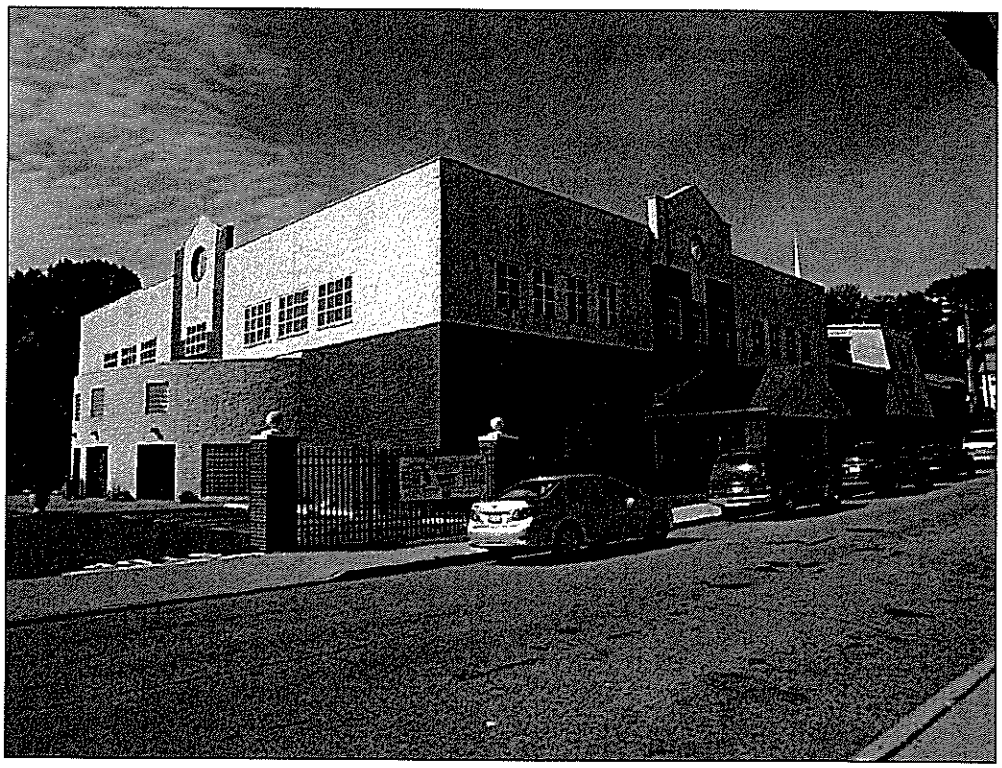
TARGEE STREET
PRIMARY SCHOOL

Study Area Views
Figure 4-5

12.11.09



Christian Pentecostal Church - 900 Richmond Road **9**



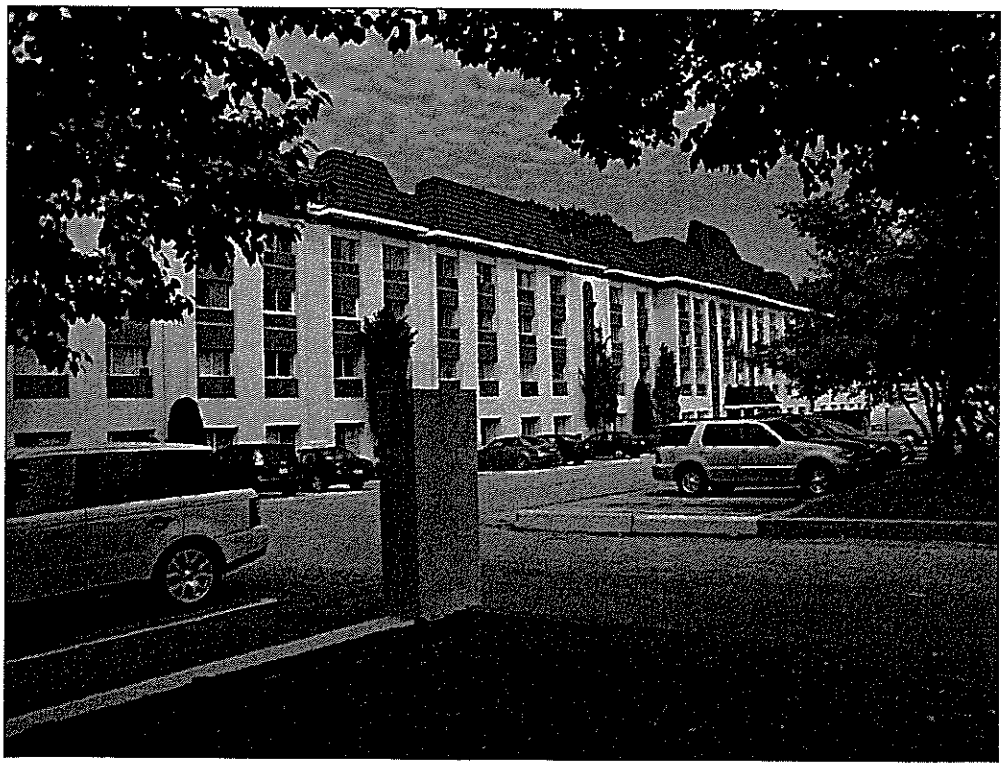
Christian Pentecostal Church High School - 10 Ralph Place **10**

TARGEE STREET
PRIMARY SCHOOL

Study Area Views
Figure 4-6

12.11.09

Public School 48 - 1055 Targee Street **11**



Apartment building at 1000 Targee Street **12**

TARGEE STREET
PRIMARY SCHOOL

Study Area Views
Figure 4-7

D. PROBABLE IMPACTS OF THE PROPOSED PROJECT

PROJECT SITE

URBAN DESIGN

As described above, since design plans for the proposed project are not yet finalized, a reasonable worst case development scenario (i.e., the "Build" scenario) was developed for the purposes of the environmental review. The two existing buildings and surface parking on the project site would be removed and the project site would be redeveloped with a new school building that would contain approximately 108,230 gross square feet and would be up to five stories (approximately 75 feet) in height. The new school facility would be located on the southern portion of the project site. It is anticipated to have a larger footprint and be taller than either of the two existing buildings on the project site. The new building would most likely be a free-standing structure set back from the lot lines like most buildings in the study area.

A new one-way eastbound internal access road would be located along the project site's northern boundary, providing a connection between Richmond Road and Targee Street. The driveway entrance would be from Richmond Road and would exit onto Targee Street. The main bus drop-off/pickup area for students would be from the internal driveway. The remainder of the site would contain outdoor playground areas that would either be located immediately south of the new access driveway or in the southern portion of the project site along with the school building. The new school use would introduce new pedestrian activity to the project site and would positively affect the character of the surrounding streetscape.

The existing trees and shrubs on the project site would be removed as the project site would be redeveloped with a new school building, playground areas, and landscaping. The removal of these natural features from the project site would not be considered adverse as they are not prominent or significant natural features. Further, the proposed project would develop new landscaping elements that would enhance the appearance of the project site.

VISUAL RESOURCES

As there are no visual resources on the project site, the proposed project would have no adverse impacts on such resources. Partial views to the Verrazano-Narrows Bridge's western tower—visible from the western portion of the project site between the project site's two existing buildings—would be obscured from some vantage points by the new school building. However, views to this visual resource would remain available from other vantage points on the project site north of the new school building. Further, some eastward views could be improved with the removal of the project site's existing northern building (the Spring Building). No other views from the project site include visual resources.

STUDY AREA

URBAN DESIGN

Natural Features, Street Patterns, and Block Shapes

The proposed building would be constructed on an existing block that is already largely developed with two buildings and a paved parking lot. Therefore, the proposed actions would

not alter any natural features, street patterns, or block shapes in the study area, and there would be no impacts to these urban design features as a result of the proposed project.

Streetscape

As described above, the proposed building would most likely be set back from the lot lines on Richmond Road, Targee Street, and Venice Avenue, similar to existing buildings throughout the study area. The new school facility would have driveways similar to conditions in the study area. The new building would be occupied by an active use that would enliven the streetscape.

The proposed project would not affect the Naples Playground as the project site, due to distance and intervening roadbed and buildings, does not have a physical or visual relationship with the playground.

Building Uses, Shapes, and Forms

The proposed new school would be consistent with existing institutional uses in the study area, including P.S. 48 east of the project site and the Christian Pentecostal Church and its associated high school located north of the project site. Though plans for the new school are not yet finalized, the proposed building would be taller than most existing buildings in the study area. However, it would be similar in bulk to the four-story residential building immediately north of the project site and the three-story P.S. 48 across from the project site to the east. The footprint of the proposed building would also be larger than most residences in the study area but comparable to the larger, institutional buildings and the four-story residential building in the study area.

VISUAL RESOURCES

The proposed building would be visible from the immediately surrounding streets. At up to five stories in height (approximately 75 feet tall), the new school would be taller than the immediately adjacent three- to four-story buildings. Although the proposed building could obscure some eastward views from Spring Street and Richmond Road toward the Verrazano-Narrows Bridge's western tower, other views from these vantage points would remain available. In addition, other views to the bridge's tower that are currently obstructed by the existing northern project site building (the Spring Building) would become available as the northern portion of the project site would no longer contain a building. Therefore, the proposed building would not adversely affect views in the study area to the Verrazano-Narrows Bridge.

Overall, the proposed project would not adversely affect urban design or visual resources on the project site or in the surrounding study area. *

A. INTRODUCTION

This chapter assesses the potential of the proposed project to affect historic resources. The project site is located on the southern half of the block bounded by Richmond Road to the west, Venice Avenue to the south, Targee Street to the east, and Ralph Place to the north (Block 3168, Lots 4, 20, and 195) in the Emerson Hill/Grasmere section of the Bronx (see Figure 5-1). The site is currently occupied by a vacant hospital building and a small vacant office building, which would be replaced by a new primary school and playground.

Historic resources include both archaeological and architectural resources. The study area for archaeological resources is the project site, which is the area that could be disturbed by the project 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 5-1).

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

B. EXISTING CONDITIONS

ARCHAEOLOGICAL RESOURCES

In September 2009, a disturbance memorandum for the project site was prepared by Historical Perspectives, Inc (HPI). The disturbance memorandum, the results of which are summarized below, concluded that the proposed project is not sensitive for archaeological resources. The memorandum was submitted to the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) for review and comment.

BACKGROUND HISTORY

The precontact period refers to the time when Staten Island 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 water courses, sources of fresh water, and exploitable resources. Ten precontact archaeological sites have been identified within a one mile radius of the project site and sources suggest that Richmond Road, which forms the western boundary of the project site, was originally a Native American trail.

After the European settlement of New York, Staten Island's development was slow compared to that of Manhattan, where the main colony was located. Although Richmond Road was a major thoroughfare through Staten Island, the project site remained undeveloped farmland through the late 19th century. Structures are first depicted within the project site on the 1907 Bromley atlas and the 1907-1908 Richmond County Topographic Survey. The topographical survey depicts three structures on the project site, all of which were situated along Richmond Road. The northern two structures were the Robin Hood hotel and an associated shed. An additional wood frame structure stood to the south, near the future corner of Richmond Road and Venice Street, which is shown as laid out on the 1907 Bromley map but not developed on the 1907-1908 topographical survey. The latter map depicts the remainder of the project site as undeveloped farmland and woodland. This portion of Staten Island was supplied with city water and sewer lines by the 1890s and therefore the structures located on the property would not have used shaft features (privies, cisterns, and wells) for water gathering and sanitation.

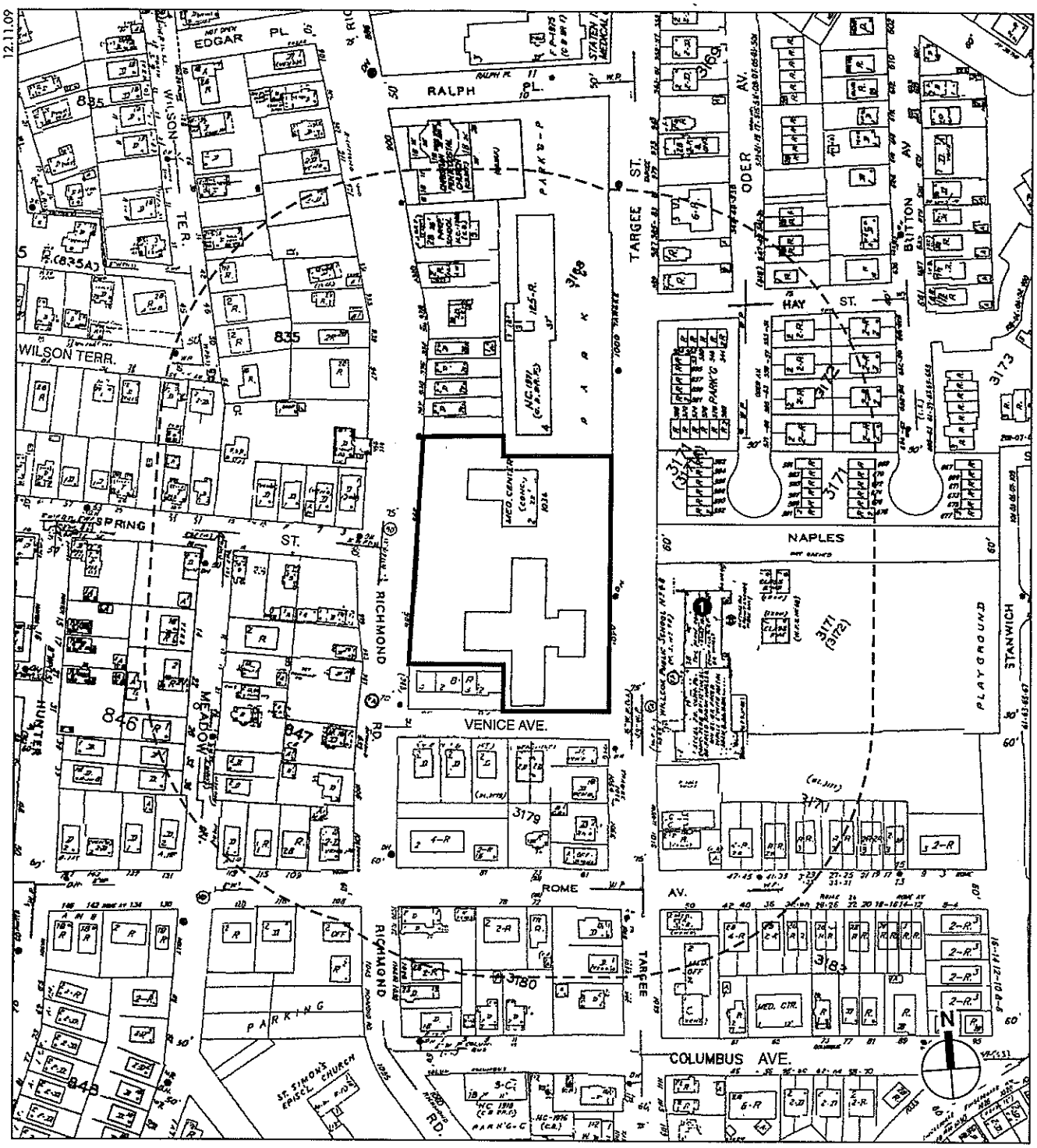
Additional structures were built within the project site along Richmond Road in the first decades of the 20th century. By 1937, Richmond Road was widened to the east, and as a result the structures located within the project site directly abutted or even entered the line of Richmond Road. The 1937 map identifies the Robin Hood Hotel and an additional structure to the north as stores. The eastern portion of the project site was not developed, although the line of Danube Street, which is shown on previous maps but was believed to be a paper street that was planned but never developed, would have crossed into this area. Targee Street was first shown as developed on the 1937 Sanborn map as well.

In 1960, Lot 4 was redeveloped with the 2-story (with basement) "Doctors' Hospital," a cooperative health care center built by 35 physicians who had previously worked at the recently demolished Sunnyside Hospital. An addition was constructed on the western side of the building in 1984. In 1994, a separate medical building was constructed on Lot 195 to the north of the Doctors' Hospital. In 2001, the Staten Island University Hospital purchased the Doctors' Hospital complex, which was closed in 2003. The buildings have been vacant since that time.

No development has been documented on Lot 20 in the northwestern corner of the project site.

ARCHAEOLOGICAL SENSITIVITY OF THE PROJECT SITE

According to the disturbance memorandum prepared by HPI in September 2009, the site was graded during the construction of the Doctors' Hospital complex and associated parking lots. Soil borings showed that the upper strata of the original soil column were removed and/or disturbed and in some areas historic fill was added to create an even surface. Lot 20 appeared visibly disturbed as a result of dumping/soil stockpiling, and some earthmoving or grading. In addition, because the project site was not developed for residential use until after municipal sewer and water networks were available, it is not likely that backyard shaft features would be present on the property. As a result of the project site's disturbance and lack of potential shaft features, it was determined to have low sensitivity for both precontact and historic period archaeological resources. No further archaeological investigations were recommended for this project site.



TARGEE STREET
PRIMARY SCHOOL

Architectural Resources
Figure 5-1

ARCHITECTURAL RESOURCES

PROJECT SITE

There are no known architectural resources on the project site. The project site is currently occupied by the former Doctors Hospital, a vacant building which was built in 1960 with additions constructed in 1968 and 1984, and a small two-story medical building used for offices, built in 1994. The buildings do not meet age criteria (50 years) for listing on the S/NR and are not architecturally distinguished. Therefore, there are no architectural resources on the project site.

STUDY AREA

There is one known architectural resource in the 400-foot study area. As part of the architectural resources survey undertaken for this project, one potential architectural resource was identified—P.S. 48, the William C. Wilcox School. In a letter dated October 29, 2009, OPRHP determined that this building meets eligibility criteria for listing on the S/NR (see Appendix A). PS 48 is located across from the project site at 1055 Targee Street. The school consists of a three-story brick and stone classically designed building built in 1930, with a later one-story addition to the south. It is set back from Targee Street behind a lawn and iron fence at the sidewalk, approximately 110 feet from the project site.

The base of the three-story building is clad in smooth limestone, with the north and south bays clad in rusticated stone the full height of the building. Each of these bays contains a ground floor entrance with a transom with a decorative metal grille. Above these entrances, the second story window in each of these bays is articulated with a stone balustrade and framed by a broken pediment. Stone Corinthian pilasters extend from the second to third floor, flanking the windows on these bays. The pilasters support a modillioned cornice with an arched pediment. A stone modillioned cornice extends along the full façade of the building at the parapet level. The interior bays above the base are clad in brick, with projecting stone lintels. The windows are paired, double-hung, 9-over-9 sash, replacement windows. (See Figure 5-2.)

C. THE FUTURE WITHOUT THE PROPOSED PROJECT

Architectural resources that are listed on the National Register or that have been found eligible for listing are given a measure of protection from the effects of federally sponsored or 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 will remain in its current state with a vacant hospital building and office building and will not be developed by the 2013 analysis year.

STUDY AREA

There are no projects within the study area that are currently under construction or expected to be completed by 2013.

Absent the proposed project, it is possible that P.S. 48 could be listed on the S/NR.

D. THE FUTURE WITH THE PROPOSED PROJECT

ARCHAEOLOGICAL RESOURCES

As described above, the archaeological disturbance memorandum concluded that the project has a low sensitivity for archaeological resources dating to precontact and historic periods. Therefore, the proposed project would not impact archaeological resources and no further evaluation is required. OPRHP concurred that the proposed project would not impact cultural resources in a letter dated November 5, 2009 (see Appendix A).

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.

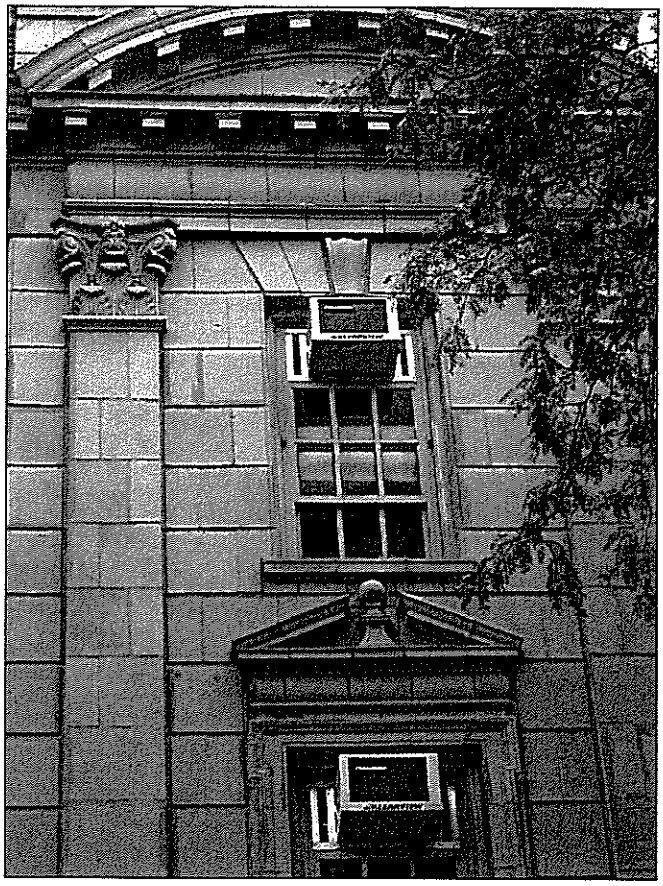
PROJECT SITE

As described in Chapter 1, "Project Description," the New York City School Construction Authority (SCA) has not finalized project plans for the proposed school. As such, this analysis considers a reasonable worst case development scenario that assumes a five-story (approximately 75-foot-tall) primary school and outdoor playground areas would be constructed on the project site. It is anticipated that the new school would be built on the portion of the site south of Spring Street, and would be clad in brick and masonry. The playground would be located either to the north or south of the new building. The main bus drop off/pick up location would be along a new internal roadway at the northern end of the site, and the school's main entrance would likely face the new internal roadway. Since there are no known or potential

[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.

9.15.08

P.S. 48, 1055 Targee Street, view northeast



P.S. 48, facade detail

TARGEE STREET
PRIMARY SCHOOL

Potential Architectural Resource

Figure 5-2

architectural resources on the project site, the proposed project would have no adverse impacts on architectural resources on the project site.

STUDY AREA

The project site is located approximately 110 feet from the one architectural resource in the study area, P.S. 48. Due to this distance, no adverse construction-related impacts on this resource are expected as a result of the proposed project.

The proposed project is not expected to result in any visual or contextual impacts on P.S. 48. The proposed school building would have an institutional footprint that would be in keeping with that of the building presently on the project site, the residential building north of the project site, and P.S. 48. The new school would be built within an existing block and across Targee Street from P.S. 48. As such, the proposed project would not isolate this architectural resource from its setting or alter its visual prominence on Targee Street. The proposed project would also not obstruct views to P.S. 48, or introduce a use or structure that would be incompatible with the setting of P.S. 48. The new school would be clad in brick and masonry, and therefore would have materials in keeping with the character of P.S. 48. Therefore, the proposed project would not result in any adverse visual or contextual impacts on P.S. 48.

Overall, the proposed project is not expected to adversely affect architectural resources. ✳

A. INTRODUCTION

The proposed project would generate new trips from students and employees associated with the proposed elementary school traveling to and from the project site. This section examines the potential for impacts of the proposed project on traffic and parking in the study area. (Potential impacts of the proposed project with regard to transit and pedestrian facilities are described in Chapter 7, "Transit and Pedestrians.") The project site is located in Staten Island, on the block bounded by Ralph Place to the north, Targee Street to the east, Venice Avenue to the south, and Richmond Road to the west.

The proposed project would result in the construction of an approximately 844-seat elementary school, and is expected to employ approximately 84 faculty and administrative staff.

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)*. A description of the principles of each of these methodologies is provided below.

SIGNALIZED INTERSECTIONS

The level-of-service (LOS) for a signalized intersection is based on the average stopped delay per vehicle for the various lane groups (grouping of movements in one or more travel lanes). The levels of service are defined below:

LOS Criteria for Signalized Intersections

Level-of-Service (LOS)	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 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 failures are frequent. The *HCM* methodology provides for a summary of the total intersection operating conditions by identifying the two critical movements (the worst case from each roadway) and calculating a summary of critical v/c ratio, delay, and LOS.

UNSIGNALIZED INTERSECTIONS

For unsignalized intersections, the total 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 total 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 below:

LOS Criteria for Unsignalized Intersections

LOS	Average 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.*

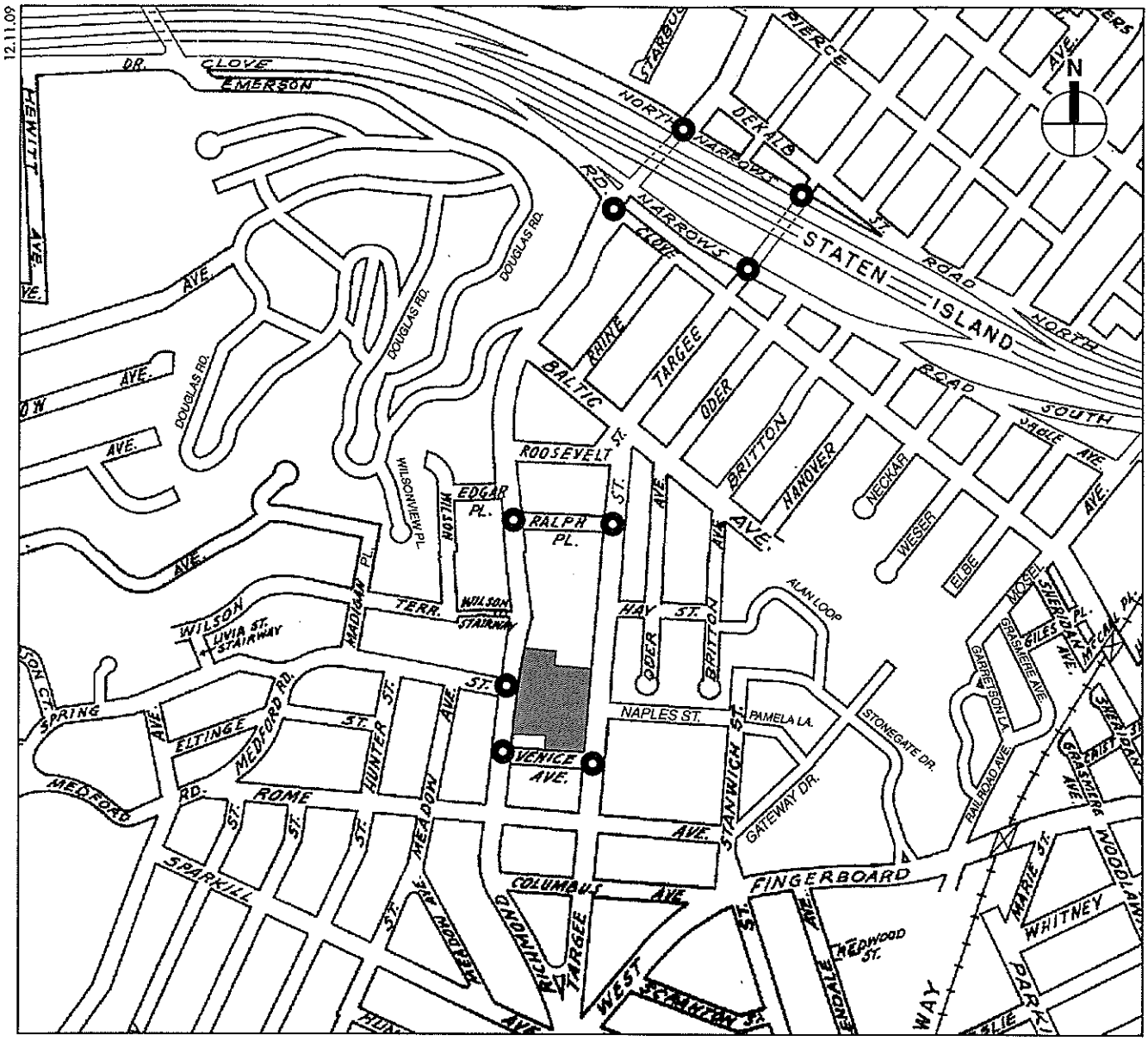
The LOS thresholds for unsignalized intersections are different from those for signalized intersections. The primary reason is that drivers expect different levels of performance from different types of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection. 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 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 total overall scale of delay thresholds for unsignalized intersections is lower than that of signalized intersections.

C. 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 6-1).

These include the following seven signalized intersections:



TARGEE STREET
PRIMARY SCHOOL

Traffic Study Area
Figure 6-1

- Richmond Road and Narrows Street North;
- Richmond Road and Clove Road;
- Richmond Road and Ralph Place;
- Richmond Road and Spring Street;
- Targee Street and Venice Avenue;
- Targee Street and Narrows Street South; and
- Targee Street and Narrows Street North.

The two unsignalized intersections include:

- Richmond Road and Venice Avenue; and
- Targee Street and Ralph Place.

The two unsignalized intersections operate under free flow conditions with no opposing traffic volumes. Therefore, no traffic capacity analysis was warranted and conducted for these intersections.

The physical and operational characteristics of major roadways in the study are discussed as follows:

- Targee Street is a one-way northbound street that provides access to I-278 (Staten Island Expressway) along the northern boundary of the traffic study area. Within the study area, it generally operates with two moving lanes of traffic and provides parking on both sides of the street. At its intersections with I-278 service roads—Narrows Street South and Narrows Street North—it operates with four moving lanes of traffic.
- Richmond Road is a one-way southbound street which operates with two moving lanes of traffic and generally provides parking on both sides of the street. Richmond Road serves as a major route for I-278 traffic accessing destinations located along the southern boundary of the study area.
- Narrows Street North is a major one-way westbound roadway which serves as a service road for I-278 (Staten Island Expressway). Within the study area, it operates with three moving lanes of traffic.
- Narrows Street South is a major one-way eastbound roadway which serves as a service road for I-278 (Staten Island Expressway). Within the study area, it operates with three moving lanes of traffic.
- Clove Road operates as a one-way eastbound street west of Richmond Road, providing three moving lanes of traffic. East of Richmond Road it operates as a two-way eastbound-westbound roadway operating with one moving lane of traffic in each direction.
- Ralph Place is a one-way westbound street that operates with one moving lane of traffic and provides parking on both sides of the street.
- Spring Street is a two-way eastbound-westbound roadway that operates with one moving lane in each direction and provides parking on the south side of the street.
- Venice Avenue is a one-way eastbound roadway that operates with one moving lane of traffic and provides parking on both sides of the street.

TRAFFIC CONDITIONS

Existing traffic volumes for the study area intersections were established based on field counts conducted in September and October of 2009 during the school-related morning and afternoon peak periods at the study area intersections. In addition to the manual counts, Automatic Traffic Recorder (ATR) counts and vehicle classification counts were performed to supplement the field data. Field inventories of roadway geometry, traffic control, bus stop presence, and parking regulations/activities were also conducted to provide the appropriate inputs to 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 intersections. Figures 6-2 and 6-3 show the existing traffic volumes for the weekday 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.

In terms of traffic volumes, Targee Street carries the heaviest traffic volumes in the study area ranging from approximately 1,400 to 2,100 vehicles per hour (vph) during the two peak hours. Narrows Street North also carries heavy traffic volumes with up to approximately 1900 vph during the two peak hours. Richmond Road carries high traffic volumes ranging from approximately 1,000 to 1,300 vph. Peak hour traffic volumes on Venice Avenue range between 120 to 130 vph. Other streets in the study area carry low traffic volumes with less than 120 vph during the peak hours.

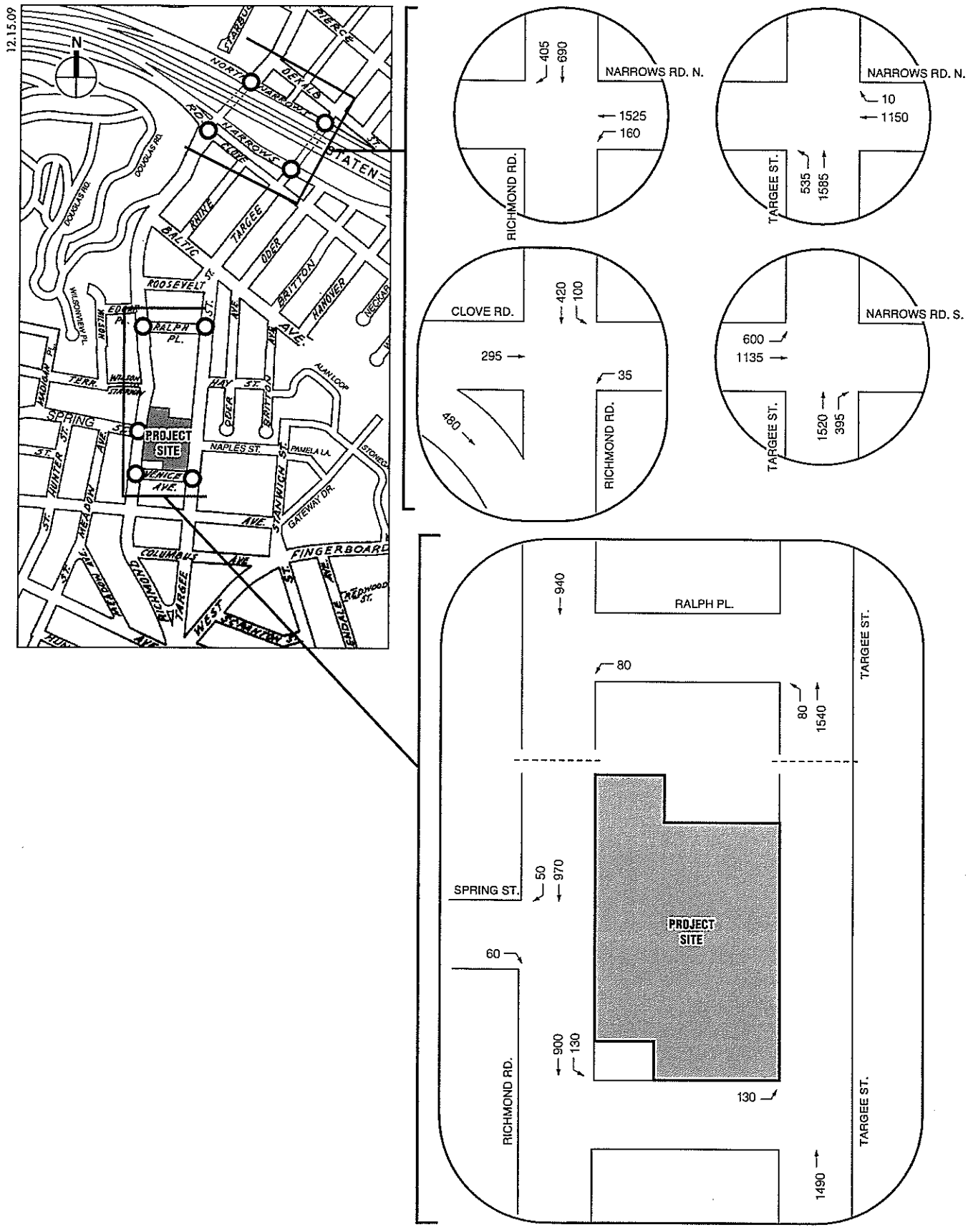
LEVELS OF SERVICE

Table 6-1 presents the service conditions for the study area intersections. The capacity analysis indicates that all of the intersections approaches operate acceptably—at mid-LOS D (delays less than 45 seconds) or better for the two peak hours.

PARKING

A parking survey was conducted to determine the on-and off-street parking supply and utilization within a ¼-mile radius of the project site. Based on the survey, there were no off-street parking facilities located within a ¼-mile radius of the project site.

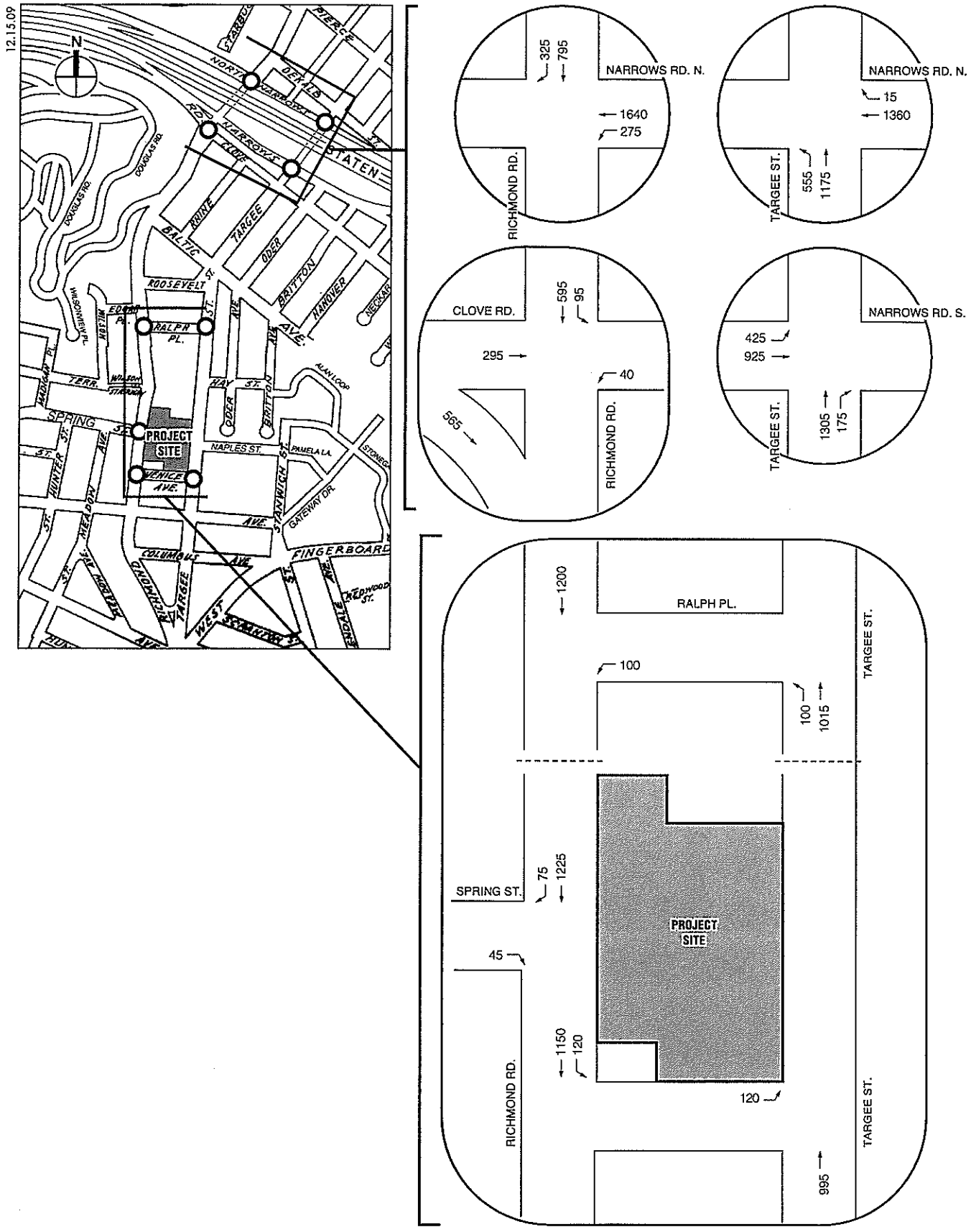
In terms of the on-street parking supply, there are approximately 1,579 on-street parking spaces within the ¼-mile radius of the project site. Out of these, approximately 669 spaces were utilized and 910 were available during the midday period resulting in an overall on-street parking utilization rate of approximately 42 percent.



2009 Existing Traffic Volumes
AM Peak Hour

Figure 6-2

TARGEE STREET
PRIMARY SCHOOL



2009 Existing Traffic Volumes
PM Peak Hour

Figure 6-3

TARGEE STREET
PRIMARY SCHOOL

Table 6-1
2009 Existing Conditions Level of Service Analyses

Intersection	AM Peak Hour				PM Peak Hour			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
SIGNALIZED								
Richmond Rd/ Narrows Rd North								
Westbound	LT	0.74	26.0	C	LT	0.83	22.7	C
Southbound	TR	0.45	25.8	C	TR	0.51	21.9	C
	R	0.46	27.5	C	R	0.38	21.6	C
	Intersection		26.1	C	Intersection		22.4	C
Richmond Rd/ Clove Rd								
Eastbound	T	0.40	20.1	C	T	0.35	14.7	B
Westbound	L	0.1	16.3	B	L	0.12	12.4	B
Southbound	L	0.17	22.5	C	L	0.19	18.8	B
	T	0.36	24.8	C	T	0.60	24.1	C
	Intersection		22.4	C	Intersection		20.5	C
Richmond Rd/ Ralph Pl								
Westbound	L	0.26	32.7	C	L	0.27	22.6	C
Southbound	T	0.43	13.0	B	T	0.63	15.8	B
	Intersection		15.2	B	Intersection		16.4	B
Richmond Rd/ Spring St								
Eastbound	R	0.17	31.1	C	R	0.13	20.9	C
Southbound	TR	0.60	15.9	B	TR	0.87	23.9	C
	Intersection		16.8	B	Intersection		23.8	C
Targee St/ Venice Ave								
Eastbound	L	0.37	34.8	C	L	0.28	22.9	C
Northbound	T	0.85	23.7	C	T	0.62	15.6	B
	Intersection		24.7	C	Intersection		16.3	B
Targee St/ Narrows Rd South								
Eastbound	L	0.64	35.1	D	L	0.57	27.9	C
	LT	0.75	35.3	D	LT	0.67	27.3	C
Northbound	T	0.62	20.1	C	T	0.53	14.0	B
	R	0.50	19.5	B	R	0.22	11.3	B
	Intersection		27.3	C	Intersection		20.4	C
Targee St/ Narrows Rd North								
Westbound	TR	0.51	20.9	C	TR	0.71	22.4	C
Northbound	L	0.74	36.4	D	L	0.60	22.4	C
	LT	0.85	36.2	D	LT	0.67	21.6	C
	Intersection		30.8	C	Intersection		22.1	C

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

D. THE FUTURE WITHOUT THE PROPOSED PROJECT

Future 2013 conditions without the proposed project were forecasted by increasing baseline traffic levels to reflect expected growth in overall travel through and within the study area. As per the *CEQR* guidelines, a background growth rate of 1.5 percent per year was assumed for an overall growth rate of 6.0 percent by 2013. There were no notable background development projects identified in the study area which would generate additional traffic volumes beyond the background growth.

TRAFFIC CONDITIONS

The 2013 No Build traffic volumes are shown in Figures 6-4 and 6-5 for the AM and PM peak hours, respectively. Table 6-2 presents a comparison of Existing and No Build conditions for the

study area intersections. With the exception of the eastbound approach at the intersection of Targee Street and Venice Avenue—which would drop from LOS C under the existing conditions to LOS D under the No Build conditions during the AM peak hour—all of the approaches/lane groups in the study area would operate at the same LOS in the No Build condition as in Existing conditions.

Table 6-2

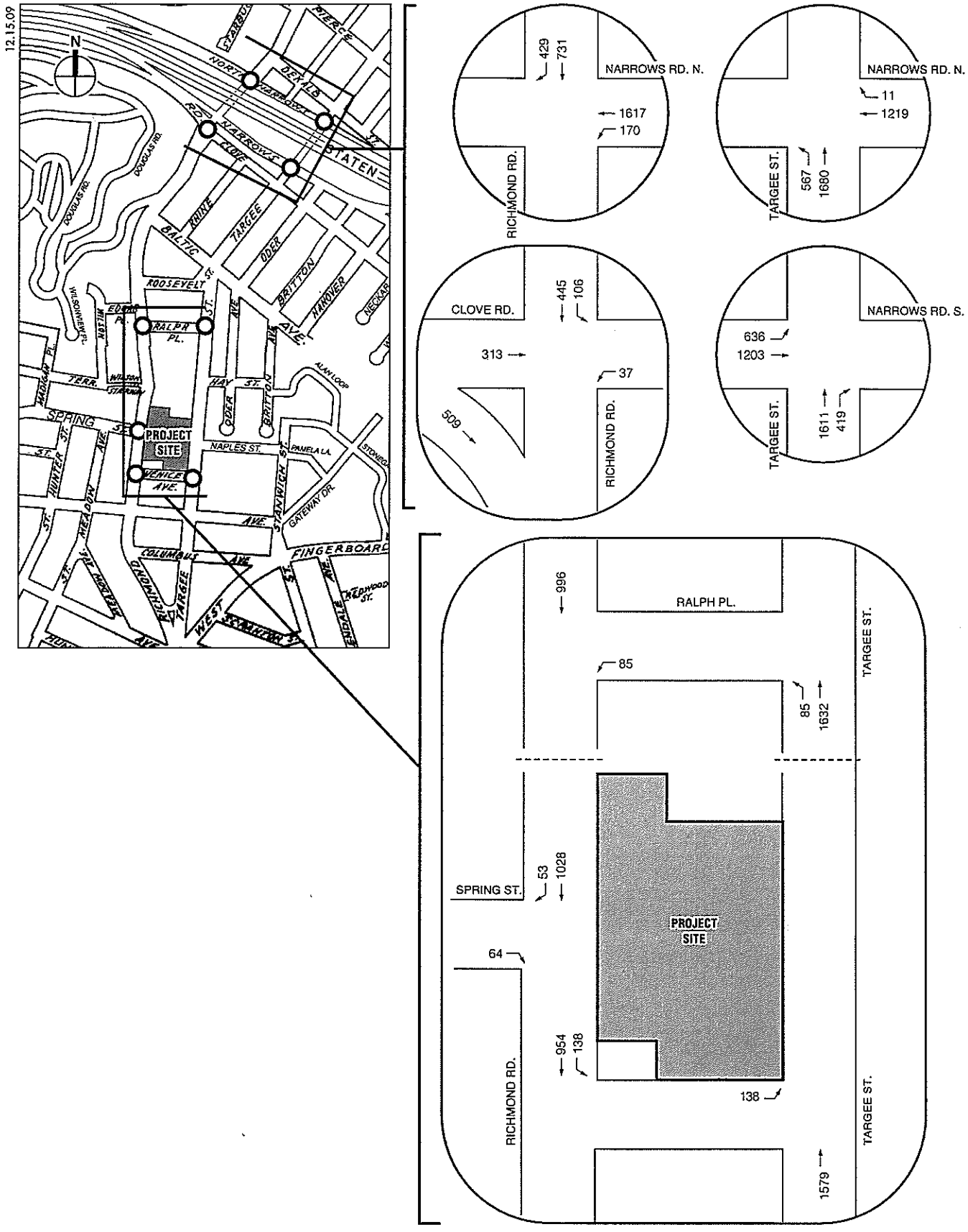
2009 Existing and 2013 No Build Conditions Level of Service Analyses

Intersection	Existing AM Peak Hour				Existing PM Peak Hour				No-Build AM Peak Hour				No-Build PM Peak Hour			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
SIGNALIZED																
Richmond Rd/ Narrows Rd North																
Westbound	LT	0.74	26.0	C	LT	0.83	22.7	C	LT	0.79	27.4	C	LT	0.88	25.1	C
Southbound	TR	0.45	25.8	C	TR	0.51	21.9	C	TR	0.48	26.3	C	TR	0.54	22.4	C
	R	0.46	27.5	C	R	0.38	21.6	C	R	0.48	28.1	C	R	0.41	22.0	C
	Intersection		26.1	C	Intersection		22.4	C	Intersection		27.1	C	Intersection		24.0	C
Richmond Rd/ Clove Rd																
Eastbound	T	0.40	20.1	C	T	0.35	14.7	B	T	0.43	20.5	C	T	0.37	15.0	B
Westbound	L	0.10	16.3	B	L	0.12	12.4	B	L	0.11	16.4	B	L	0.13	12.5	B
Southbound	L	0.17	22.5	C	L	0.19	18.8	B	L	0.18	22.6	C	L	0.20	18.9	B
	T	0.36	24.8	C	T	0.60	24.1	C	T	0.38	25.1	C	T	0.63	24.9	C
	Intersection		22.4	C	Intersection		20.5	C	Intersection		22.8	C	Intersection		21.1	C
Richmond Rd/ Ralph Pl																
Westbound	L	0.26	32.7	C	L	0.27	22.6	C	L	0.28	33.0	C	L	0.28	22.8	C
Southbound	T	0.43	13.0	B	T	0.63	15.8	B	T	0.45	13.4	B	T	0.67	16.5	B
	Intersection		15.2	B	Intersection		16.4	B	Intersection		15.5	B	Intersection		17.1	B
Richmond Rd/ Spring St																
Eastbound	R	0.17	31.1	C	R	0.13	20.9	C	R	0.18	31.3	C	R	0.14	21.0	C
Southbound	TR	0.60	15.9	B	TR	0.87	23.9	C	TR	0.63	16.6	B	TR	0.92	28.1	C
	Intersection		16.8	B	Intersection		23.8	C	Intersection		17.5	B	Intersection		27.8	C
Targee St/ Venice Ave																
Eastbound	L	0.37	34.8	C	L	0.28	22.9	C	L	0.40	35.4	D	L	0.30	23.2	C
Northbound	T	0.85	23.7	C	T	0.62	15.6	B	T	0.90	27.3	C	T	0.66	16.3	B
	Intersection		24.7	C	Intersection		16.3	B	Intersection		28.0	C	Intersection		17.0	B
Targee St/ Narrows Rd South																
Eastbound	L	0.64	35.1	D	L	0.57	27.9	C	L	0.68	36.5	D	L	0.61	28.9	C
	LT	0.75	35.3	D	LT	0.67	27.3	C	LT	0.79	36.8	D	LT	0.71	28.2	C
Northbound	T	0.62	20.1	C	T	0.53	14.0	B	T	0.65	20.8	C	T	0.56	14.4	B
	R	0.50	19.5	B	R	0.22	11.3	B	R	0.53	20.2	C	R	0.24	11.4	B
	Intersection		27.3	C	Intersection		20.4	C	Intersection		28.5	C	Intersection		21.1	C
Targee St/ Narrows Rd North																
Westbound	TR	0.51	20.9	C	TR	0.71	22.4	C	TR	0.54	21.5	C	TR	0.75	23.5	C
Northbound	L	0.74	36.4	D	L	0.60	22.4	C	L	0.78	38.8	D	L	0.63	23.4	C
	LT	0.85	36.2	D	LT	0.67	21.6	C	LT	0.90	39.5	D	LT	0.72	22.5	C
	Intersection		30.8	C	Intersection		22.1	C	Intersection		33.0	C	Intersection		23.1	C

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

PARKING

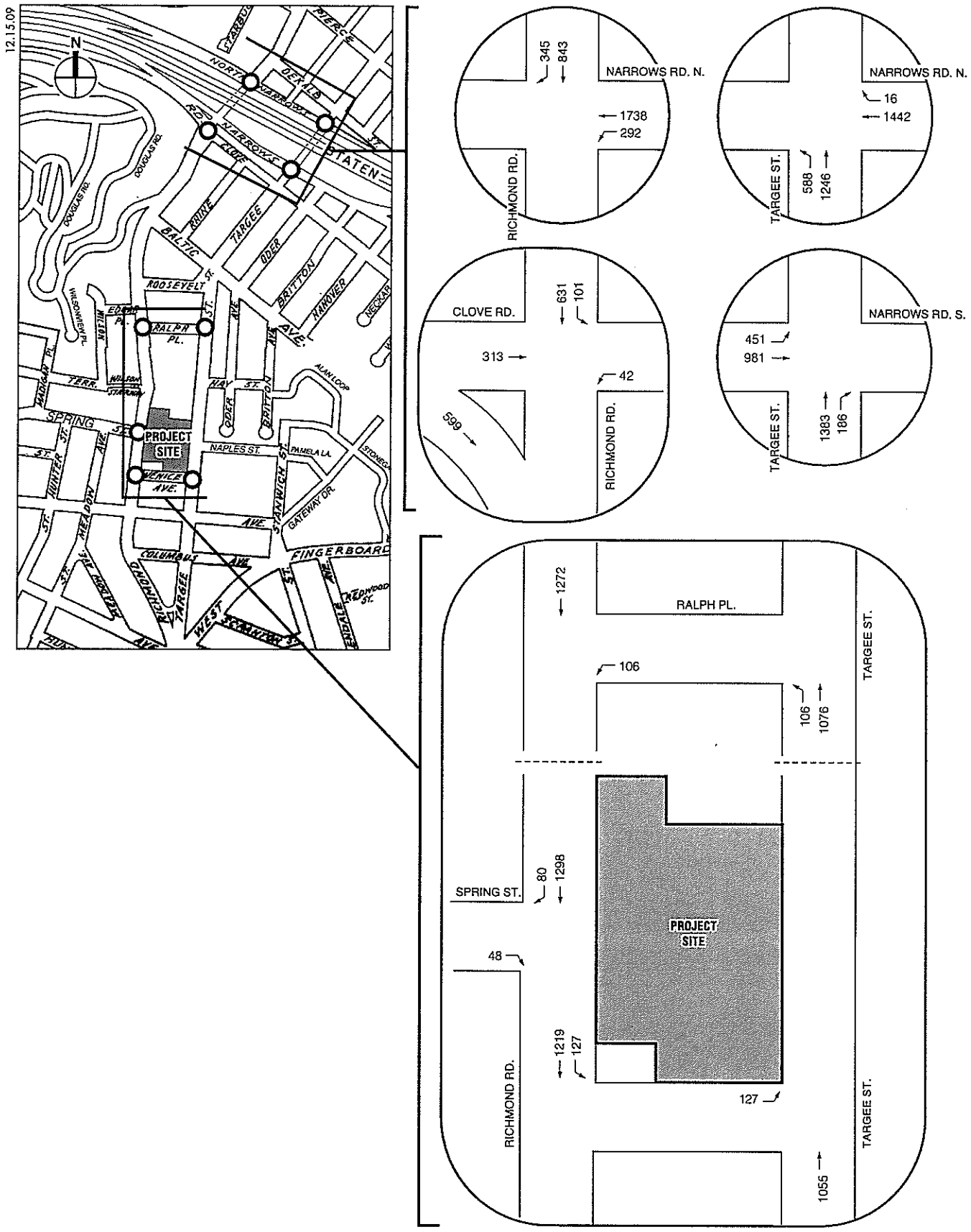
No notable changes are expected to the study area's on-street parking conditions in the future without the proposed project. The study area's on-street parking utilization rate was assumed to experience the same 6.0 percent overall growth as is projected for general traffic conditions in the area in the future No Build conditions. Accounting for the background growth, the on-street parking utilization rate would increase to approximately 45 percent during the midday period in the future No Build conditions.



2013 No Build Traffic Volumes
AM Peak Hour

Figure 6-4

TARGEE STREET
PRIMARY SCHOOL



2013 No Build Traffic Volumes
PM Peak Hour

Figure 6-5

TARGEE STREET
PRIMARY SCHOOL

E. PROBABLE IMPACTS OF THE PROPOSED PROJECT

As discussed in Chapter 1, "Project Description," the proposed school would consist of a primary school (with a pre-kindergarten program), and would also serve District 75 special education students. In total, the proposed school will serve approximately 760 students in Pre-K to 5th grade and 84 special education students. The proposed school would also employ approximately 84 faculty and administrative staff.

PROJECT TRIP GENERATION AND MODAL SPLIT

Modal split estimates for the primary school students were determined based on surveys conducted in October 2009 at P.S. 48 - William C. Wilcox School located at 1055 Targee Street, across the street from the project site. In terms of modal split estimates for District 75 special education students, it was assumed that due to special needs, they would primarily arrive and depart the school by school buses and private vehicles.

PRIMARY SCHOOL STUDENTS

The pre-kindergarten/primary school component would serve approximately 760 students. To accurately estimate the number of student trips on a typical day, a standard 10 percent absentee rate was assumed, yielding a total of 684 students. In addition, based on the surveys conducted at P.S. 48, it was estimated that approximately 82 percent or about 561 of the students would arrive during the morning peak hour and 100 percent would depart during afternoon peak hour. The trip generation and modal splits for the proposed pre-kindergarten/primary school component are presented in Table 6-3.

Table 6-3
Primary School Students

Students	760		
Student Vehicle Occupancy [1]	1.39- AM / 1.51- PM		
School Bus/Van Occupancy [2]	17		
Absentee rate	10%		
AM Peak Hour Temporal [1]	82%		
PM Peak Hour Temporal [1]	100%		
Travel Mode	Modal Split [1]	Person Trips	Vehicle Trips
AM Peak Hour			
Auto (drop-offs/pick-ups)*	46%	258	186
School Bus/Van*	12%	67	4
Public Transit	0%	0	-
Walk	42%	236	-
PM Peak Hour			
Auto (drop-offs/pick-ups)*	49%	335	222
School Bus/Van*	12%	82	5
Public Transit	2%	14	-
Walk	37%	253	-

Notes:
* Both inbound and outbound vehicle trips take place during the same peak hour
(1) Based on school travel demand surveys conducted at P.S. 48 in October 2009
(2) P.S./ I.S. School Facility at *280 Regis Drive FEIS (2005)*.

SPECIAL EDUCATION STUDENTS

The proposed school is expected to serve approximately 84 District 75 special education students. To estimate the number of student trips on a typical day, a 10-percent absentee rate was assumed, yielding a daily total of 76 students attending school. In addition, it is estimated that about 82 percent or approximately 61 students would arrive during the morning peak hour and 100 percent of students would depart during the afternoon peak hour. The trip generation and modal splits for the special education students are presented in Table 6-4.

Table 6-4
Special Education Students

Students	84		
Student Vehicle Occupancy [1]	1.39- AM/ 1.51- PM		
School Bus/Van Occupancy [2]	17		
Absentee rate	10%		
AM Peak Hour Temporal [1]	82%		
PM Peak Hour Temporal [1]	100%		
Travel Mode	Modal Split [2]	Person Trips	Vehicle Trips
AM Peak Hour			
Auto (drop-offs/pick-ups)*	25%	15	11
School Bus/Van*	75%	46	3
Public Transit	0%	0	-
Walk	0%	0	-
PM Peak Hour			
Auto (drop-offs/pick-ups)*	25%	19	13
School Bus/Van*	75%	57	4
Public Transit	0%	0	-
Walk	0%	0	-

Notes:
* Both inbound and outbound vehicle trips take place during the same peak hour
(1) Based on school travel demand surveys conducted at P.S. 48 in October 2009
(2) P.S./ I.S. School Facility at *280 Regis Drive FEIS (2005)*.

SCHOOL FACULTY AND STAFF

The proposed school is estimated to employ approximately 84 faculty and administrative staff. The modal split estimates for the faculty/staff were developed based on the Reverse-Journey-to-Work (RJTW) information from the 2000 US Census Data, and are presented in Table 6-5.

SITE ACCESS AND STUDENT DROP-OFFS

The proposed project would provide a one-way eastbound through-block driveway (along the northern boundary of the project site) between Richmond Road and Targee Street which would be reserved for school bus drop-offs and pick-ups. It was assumed that no auto pick-ups and drop-offs would be allowed in the proposed driveway. The proposed project would also provide up to approximately 15 on-site parking spaces for faculty and administrative staff.

For student drop-offs and pick-ups, all the school buses were assigned to the proposed school driveway, whereas all the student auto drop-off and pick-up activities were assumed to take place along Targee Street and Richmond Road between Venice Avenue and Ralph Place during the AM and PM peak hours. For the estimated 55 faculty and administrative staff commuting via private autos, it was assumed that approximately 15 would park on-site while the remaining 40 would seek on-street parking in the vicinity of the project site.

Table 6-5
Faculty/Staff

Faculty/Staff	84		
Staff Vehicle Occupancy [1]	1.1		
AM Peak Hour Temporal	90%		
PM Peak Hour Temporal	90%		
Travel Mode	Modal Split [1]	Person Trips	Vehicle Trips
AM Peak Hour			
Automobile (Drive)	79%	61	55
Taxi	1%	1	1
Public Transit	14%	11	0
Walk	5%	4	0
PM Peak Hour			
Automobile (Drive)	79%	61	55
Taxi	1%	1	1
Public Transit	14%	11	0
Walk	5%	4	0

Note:
(1) Staff vehicle occupancy and modal splits based on Reverse-Journey-To-Work (RJTW) information from the 2000 U.S. Census Data

PROJECT VEHICLE ASSIGNMENT

Traffic was assigned on the basis of existing travel patterns and the most likely approach paths to and from the project site. Based on the existing travel patterns and the extent of the anticipated catchment area for the proposed school, project generated traffic entering the study area was assigned in the following way: 10 percent from northeast, 10 percent from northwest, 40 percent from southeast, and 40 percent from southwest of the project site.

TRAFFIC CONDITIONS

Figures 6-6 and 6-7 show the total project-generated traffic volumes on the streets surrounding the site in the AM and PM peak hours, respectively. Figures 6-8 and 6-9 show the estimated Build condition volumes for the AM and PM peak hours, respectively. Table 6-8 presents a comparison of the No Build and Build conditions for signalized intersections.

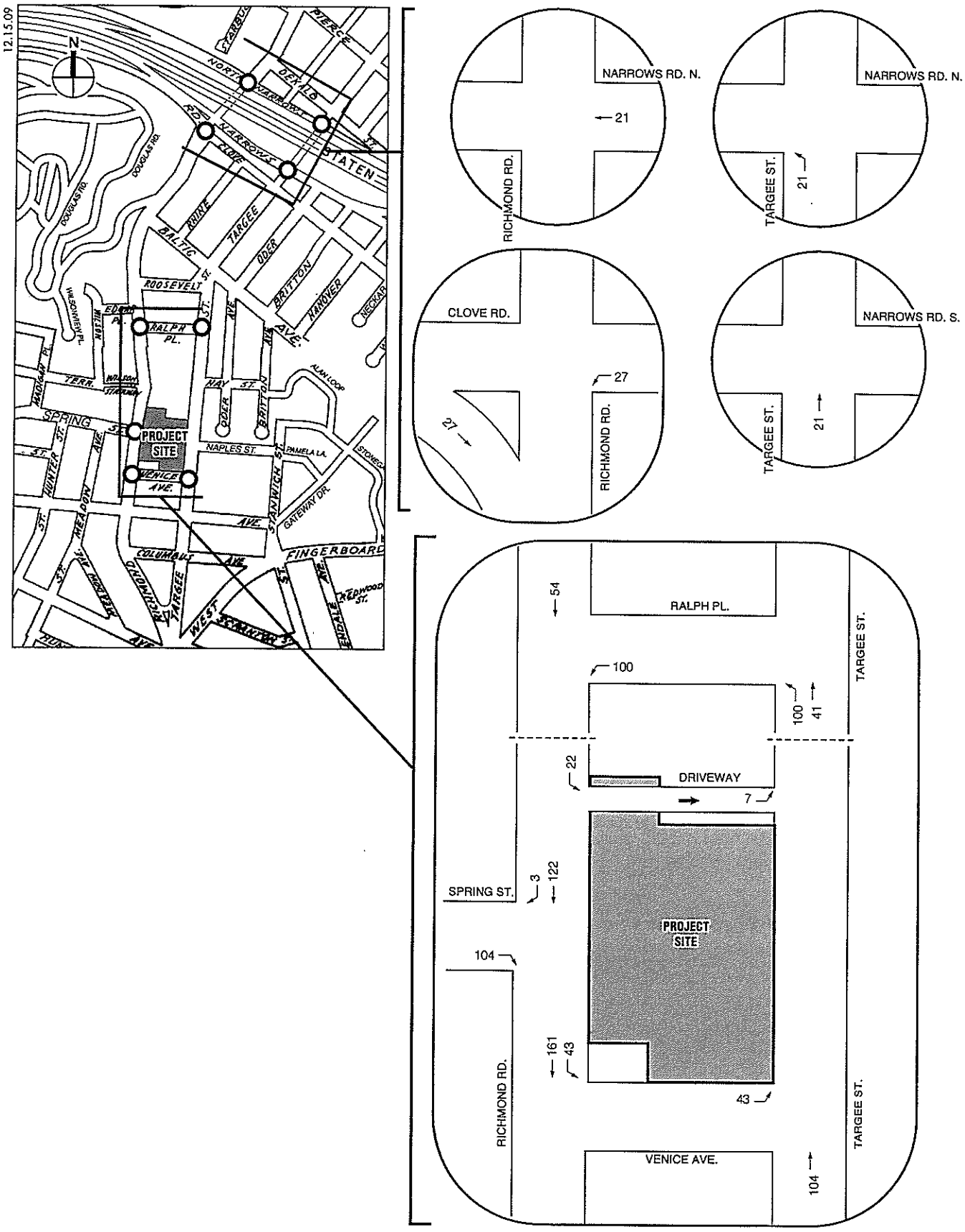
IMPACT CRITERIA

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 of 5 or more seconds of delay in a lane group over No Build levels beyond mid-LOS D. For No Build LOS E, a 4-second increase in delay is considered significant. For No Build LOS F, a 3-second increase in delay is considered significant. Also, if the No Build LOS F condition already corresponds with a delay in excess of 120 seconds, an increase of 1.0 or more seconds of delay is considered significant, unless the proposed project generates fewer than five vehicle trips through that intersection in the peak hour. 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 mitigation measures will be examined.

Table 6-6

2009 Existing, 2013 No Build and Build Conditions Level of Service Analyses

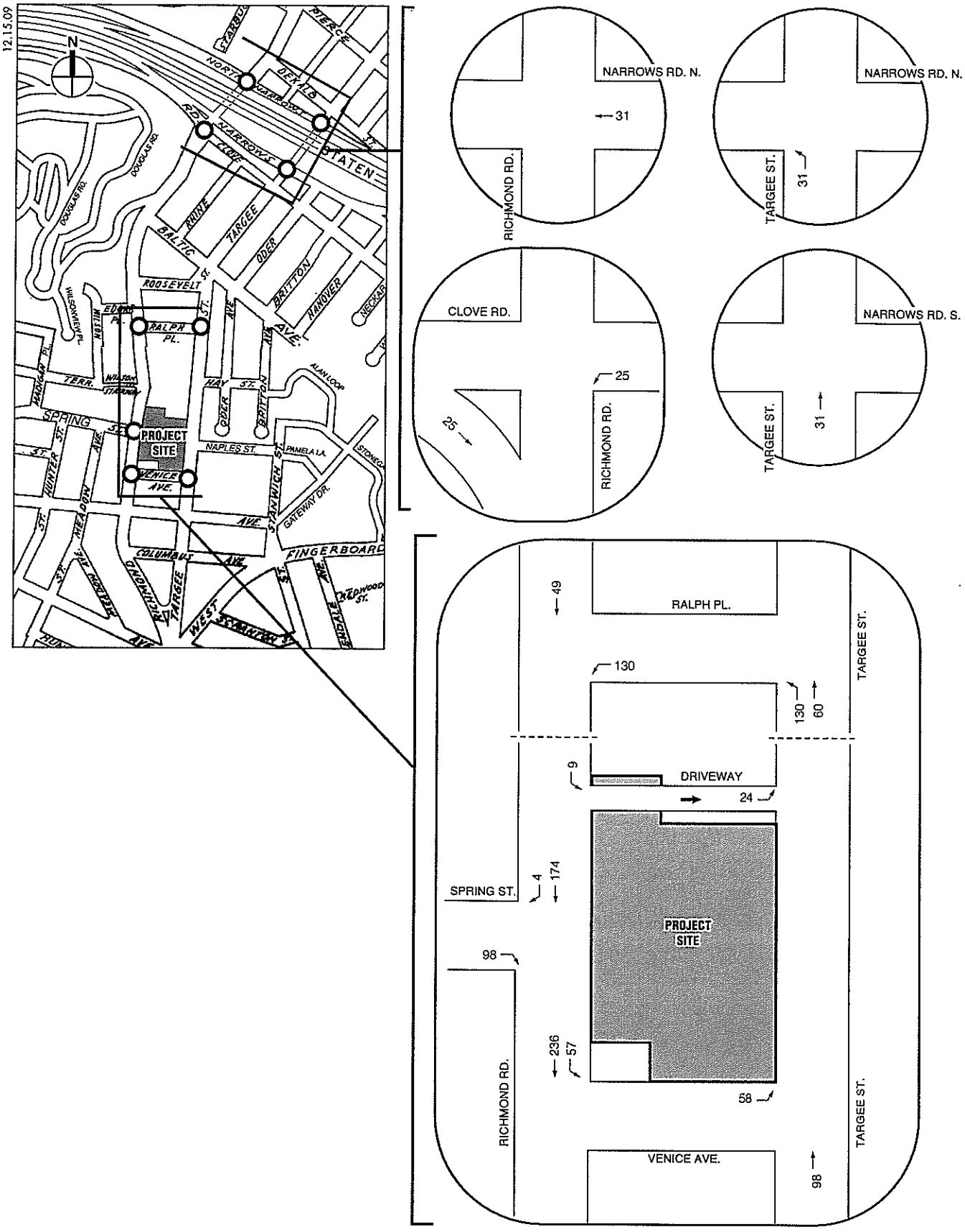
Intersection	Existing AM Peak Hour				No-Build AM Peak Hour				Build AM Peak Hour				Existing PM Peak Hour				No-Build PM Peak Hour				Build PM Peak Hour			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
SIGNALIZED																								
Richmond Rd/ Narrows Rd North																								
Westbound	LT	0.74	26.0	C	LT	0.79	27.4	C	LT	0.80	27.8	C	LT	0.83	22.7	C	LT	0.88	25.1	C	LT	0.89	25.9	C
Southbound	TR	0.45	25.8	C	TR	0.48	26.3	C	TR	0.48	26.3	C	TR	0.51	21.9	C	TR	0.54	22.4	C	TR	0.54	22.4	C
	R	0.46	27.5	C	R	0.48	28.1	C	R	0.48	28.1	C	R	0.38	21.6	C	R	0.41	22.0	C	R	0.41	22.0	C
	Intersection		26.1	C	Intersection		27.1	C	Intersection		27.3	C	Intersection		22.4	C	Intersection		24.0	C	Intersection		24.5	C
Richmond Rd/ Clove Rd																								
Eastbound	T	0.40	20.1	C	T	0.43	20.5	C	T	0.43	20.5	C	T	0.35	14.7	B	T	0.37	15.0	B	T	0.37	15.0	B
Westbound	L	0.10	16.3	B	L	0.11	16.4	B	L	0.2	17.6	B	L	0.12	12.4	B	L	0.13	12.5	B	L	0.2	13.4	B
Southbound	L	0.17	22.5	C	L	0.18	22.6	C	L	0.18	22.6	C	L	0.19	18.8	B	L	0.20	18.9	B	L	0.20	18.9	B
	T	0.36	24.8	C	T	0.38	25.1	C	T	0.38	25.1	C	T	0.60	24.1	C	T	0.63	24.9	C	T	0.63	24.9	C
	Intersection		22.4	C	Intersection		22.8	C	Intersection		22.6	C	Intersection		20.5	C	Intersection		21.1	C	Intersection		20.9	C
Richmond Rd/ Ralph Pl																								
Westbound	L	0.26	32.7	C	L	0.28	33.0	C	L	0.61	41.3	D	L	0.27	22.6	C	L	0.28	22.8	C	L	0.63	30.5	C
Southbound	T	0.43	13.0	B	T	0.45	13.4	B	T	0.48	13.7	B	T	0.63	15.8	B	T	0.67	16.5	B	T	0.70	17.1	B
	Intersection		15.2	B	Intersection		15.5	B	Intersection		19.3	B	Intersection		16.4	B	Intersection		17.1	B	Intersection		19.6	B
Richmond Rd/ Spring St																								
Eastbound	R	0.17	31.1	C	R	0.18	31.3	C	R	0.52	39.1	D	R	0.13	20.9	C	R	0.14	21.0	C	R	0.48	27.1	C
Southbound	TR	0.60	15.9	B	TR	0.63	16.6	B	TR	0.71	18.5	B	TR	0.87	23.9	C	TR	0.92	28.1	C	TR	1.04	52.3	D+
	Intersection		16.8	B	Intersection		17.5	B	Intersection		21.1	C	Intersection		23.8	C	Intersection		27.8	C	Intersection		49.7	D
Targee St/ Venice Ave																								
Eastbound	L	0.37	34.8	C	L	0.40	35.4	D	L	0.56	40.3	D	L	0.28	22.9	C	L	0.30	23.2	C	L	0.47	26.8	C
Northbound	T	0.85	23.7	C	T	0.90	27.3	C	T	0.96	34.5	C	T	0.62	15.6	B	T	0.66	16.3	B	T	0.72	17.7	B
	Intersection		24.7	C	Intersection		28.0	C	Intersection		35.1	D	Intersection		16.3	B	Intersection		17.0	B	Intersection		18.8	B



2013 Project Generated Traffic Volumes
AM Peak Hour

Figure 6-6

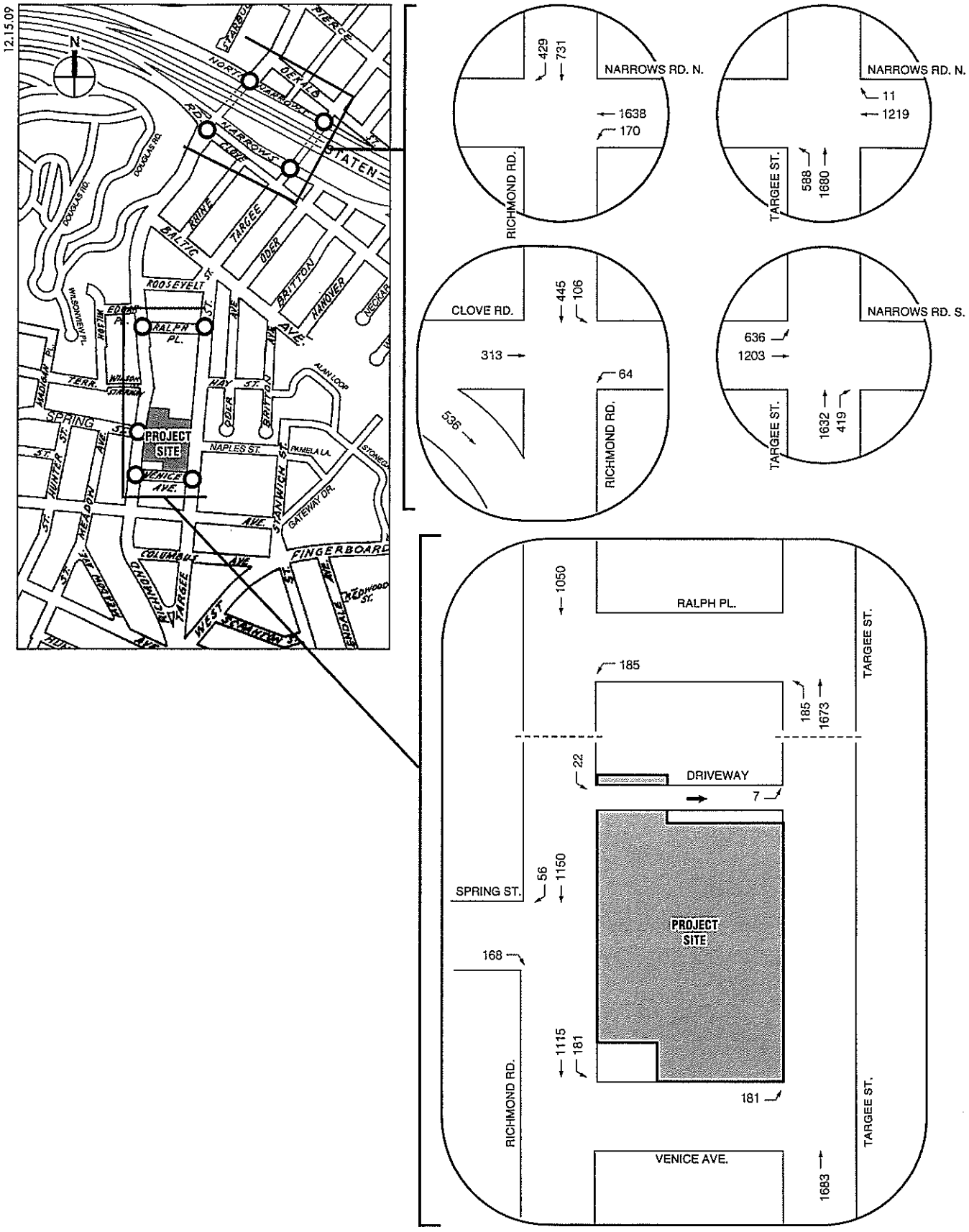
TARGEE STREET
PRIMARY SCHOOL



2013 Project Generated Traffic Volumes
PM Peak Hour

Figure 6-7

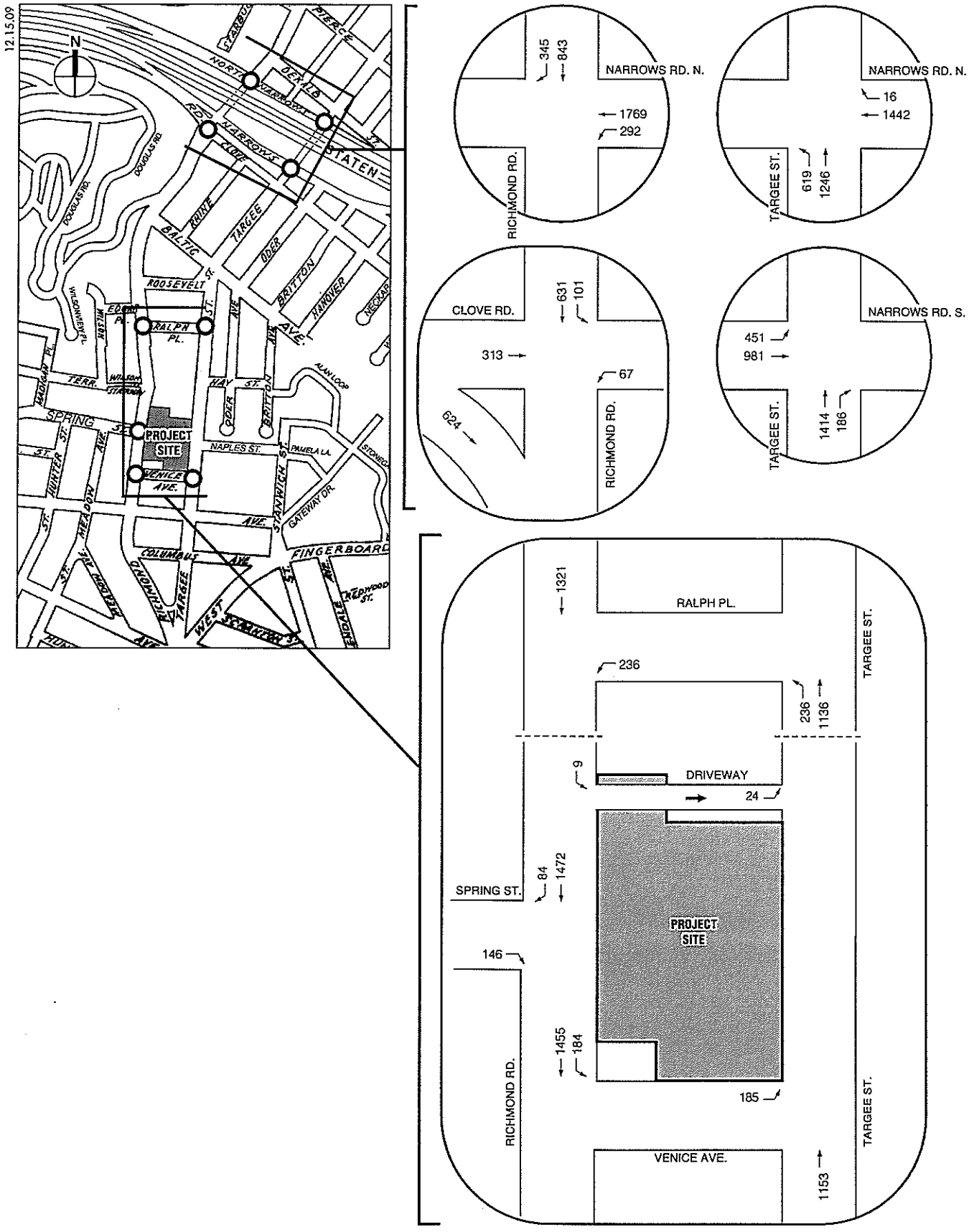
TARGEE STREET
PRIMARY SCHOOL



2013 Build Traffic Volumes
AM Peak Hour

Figure 6-8

TARGEE STREET
PRIMARY SCHOOL



2013 Build Traffic Volumes
PM Peak Hour
Figure 6-9

TARGEE STREET
PRIMARY SCHOOL

Table 6-6 (cont'd)
2009 Existing, 2013 No Build and Build Conditions Level of Service Analyses

	Existing				No-Build				Build				Existing				No-Build				Build			
	AM Peak Hour				AM Peak Hour				AM Peak Hour				PM Peak Hour				PM Peak Hour				PM Peak Hour			
Intersection	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
SIGNALIZED (continued)																								
Targee St/ Narrows Rd South																								
Eastbound	L	0.64	35.1	D	L	0.68	36.5	D	L	0.68	36.5	D	L	0.57	27.9	C	L	0.61	28.9	C	L	0.61	28.9	C
	LT	0.75	35.3	D	LT	0.79	36.8	D	LT	0.79	36.8	D	LT	0.67	27.3	C	LT	0.71	28.2	C	LT	0.71	28.2	C
Northbound	T	0.62	20.1	C	T	0.65	20.8	C	T	0.66	21.0	C	T	0.53	14.0	B	T	0.56	14.4	B	T	0.58	14.6	B
	R	0.50	19.5	B	R	0.53	20.2	C	R	0.53	20.2	C	R	0.22	11.3	B	R	0.24	11.4	B	R	0.24	11.4	B
	Intersection		27.3	C	Intersection		28.5	C	Intersection		28.5	C	Intersection		20.4	C	Intersection		21.1	C	Intersection		21.1	C
Targee St/ Narrows Rd North																								
Westbound	TR	0.51	20.9	C	TR	0.54	21.5	C	TR	0.54	21.5	C	TR	0.71	22.4	C	TR	0.75	23.5	C	TR	0.75	23.5	C
Northbound	L	0.74	36.4	D	L	0.78	38.8	D	L	0.81	40.8	D	L	0.60	22.4	C	L	0.63	23.4	C	L	0.67	24.4	C
	LT	0.85	36.2	D	LT	0.90	39.5	D	LT	0.90	39.6	D	LT	0.67	21.6	C	LT	0.72	22.5	C	LT	0.72	22.6	C
	Intersection		30.8	C	Intersection		33.0	C	Intersection		33.3	C	Intersection		22.1	C	Intersection		23.1	C	Intersection		23.3	C

Notes: L = Left Turn, T = Through, R = Right Turn; LOS = Level of Service.
+ Requires traffic improvements.

For the streets around the site, capacities at most of the approaches would be sufficient to accommodate these increases. However, based on the above criteria, the proposed project could require traffic improvements at the southbound approach of Richmond Road and Spring Street during the PM peak hour.

PARKING

The proposed school would provide up to approximately 15 on-site parking spaces. Since the off-street parking utilization in the study area in the 2013 No Build conditions is expected to be 45 percent during the midday 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 47 percent in the 2013 Build conditions.

PEDESTRIAN SAFETY

Accident data for the study area intersections were obtained from the New York State Department of Transportation (NYSDOT) for the period between February 1, 2006 and January 31, 2009. The data obtained quantify the total number of reportable accidents (involving fatality, injury, or more than $1,000 in property damage), fatalities, and injuries during the study period, as well as a yearly breakdown of pedestrian- and bicycle-related accidents at each location. According to the *CEQR Technical Manual*, a high pedestrian accident location is one where there were five or more pedestrian-related accidents in any year of the most recent three-year period for which data are available.

During this period, a total of 150 reportable accidents, no fatalities, 171 injuries, and 7 pedestrian-related accidents occurred at the study area intersections. Based on the CEQR criteria, none of the study area intersection is classified as a high pedestrian accident location in the 2006 to 2009 period. Table 6-7 depicts total accident characteristics by intersection during the study period, as well as, a breakdown of pedestrian and bicycle accidents by year and location.

Table 6-7
Accident Summary

Intersection		Study Period			Accidents by Year							
					Pedestrian				Bicycle			
North-South Roadway	East-West Roadway	Reportable Accidents	Total Fatalities	Total Injuries	2006	2007	2008	2009	2006	2007	2008	2009
Richmond Road	Narrows Road N.	27	0	27	0	0	0	0	0	0	0	0
Richmond Road	Clove Road	30	0	39	0	1	0	0	0	0	0	0
Richmond Road	Baltic Avenue	3	0	3	0	0	0	0	0	0	0	0
Richmond Road	Roosevelt Street	9	0	11	0	0	0	0	0	0	0	0
Richmond Road	Ralph Place	0	0	0	0	0	0	0	0	0	0	0
Richmond Road	Spring Street	1	0	3	0	0	0	0	0	0	0	0
Richmond Road	Venice Street	4	0	3	0	0	0	0	0	0	0	0
Richmond Road	Rome Avenue	3	0	1	0	0	0	0	0	0	0	0
Targee Street	Narrows Road N.	15	0	13	0	0	2	0	0	0	0	0
Targee Street	Narrows Road S.	13	0	11	0	0	0	0	0	0	0	0
Targee Street	Clove Road	25	0	26	0	3	0	0	0	0	1	0
Targee Street	Baltic Avenue	4	0	5	0	0	0	0	0	0	0	0
Targee Street	Ralph Place	6	0	3	1	0	0	0	0	0	0	0
Targee Street	Hay Street	0	0	0	0	0	0	0	0	0	0	0
Targee Street	Venice Street	3	0	5	0	0	0	0	0	0	0	0
Targee Street	Rome Avenue	7	0	21	0	0	0	0	0	0	0	0

Source: NYSDOT February 1, 2006 to January 31, 2009 accident data.

F. PROJECT IMPROVEMENTS

As discussed under "Probable Impacts of the Proposed Project," the southbound approach at the intersection of Richmond Road and Spring Street would require traffic improvements in 2013 Build conditions as a result of the project-generated traffic. This approach would drop from LOS C with 28.1 seconds of delay in the No-Build condition to LOS D with 52.3 seconds of delay in the Build condition during the PM peak hour.

To improve traffic operating conditions at the southbound approach at the Richmond Road and Spring Street intersection, a 2 second signal re-timing would be required. Specifically, 2 seconds of green time would be shifted from the eastbound phase to the southbound phase during the PM peak hour to improve the traffic operating conditions. As shown in Table 6-8, with this measure in place, the impacted intersection approach/lane group would operate at acceptable level of service conditions.

Table 6-8

2013 No Build, Build and Build with Improvements Level of Service Analyses

Intersection	No-Build AM Peak Hour				Build AM Peak Hour				Build with Improvements AM Peak Hour				No-Build PM Peak Hour				Build PM Peak Hour				Build with Improvements PM Peak Hour			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
SIGNALIZED																								
Richmond Rd/ Spring St																								
Eastbound	R	0.18	31.3	C	R	0.45	37.1	D	No improvements required during the AM peak hour				R	0.14	21.0	C	R	0.50	27.6	C	R	0.54	30.3	C
Southbound	TR	0.63	16.6	B	TR	0.71	18.6	B					TR	0.92	28.1	C	TR	1.04	52.3	D+	TR	1.00	39.7	D
	Intersection		17.5	B	Intersection		20.7	C					Intersection		27.8	C	Intersection		49.7	D	Intersection		38.7	D

*

A. INTRODUCTION

The proposed project is expected to be ready for occupancy in 2013. Based on travel demand estimates, the proposed project would not exceed the *City Environmental Quality Review (CEQR) Technical Manual* thresholds for transit analyses of 200 peak hour transit riders at any given transit facility. Therefore, this chapter includes a qualitative transit assessment and a quantitative pedestrian assessment of the critical elements within the study area.

As discussed in detail later in the chapter, the new trips associated with the proposed project would not result in any significant adverse pedestrian impacts at any analysis location.

B. METHODOLOGY

As described in Chapter 6, "Traffic and Parking," a travel demand projection was developed to identify the transportation elements likely to be affected by the proposed project. Based on criteria specified in the 2001 *City Environmental Quality Review* (CEQR) *Technical Manual*, it was determined that a quantified assessment of pedestrian circulation would be required. Since the estimated trips generated by the proposed project would not exceed impact thresholds for transit station operations, subway, or bus line-haul, these elements were not analyzed quantitatively.

PEDESTRIAN OPERATIONS

The adequacy of the study area's sidewalks, crosswalks, and corner reservoir capacities in relation to the demand imposed on them was assessed using the methodologies presented in the 2000 *Highway Capacity Manual* (HCM 2000). Sidewalks were analyzed in terms of pedestrian flow. The calculation of the average pedestrians per foot per minute (PFM) of effective walkway width is the basis for *Level of Service* (LOS) analysis. However, due to the tendency of pedestrians to move in congregated groups, a platoon factor (+4 PFM) is applied in the calculation of pedestrian flow to more accurately estimate the dynamics of walking. This procedure generally results in a LOS one level poorer than the average flow.

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 is the net area of the corner (in square feet) multiplied by the cycle length, which is expressed in square feet per minute. The analysis then determines the total circulation time for all pedestrian movements at the corner (expressed as pedestrians per minute). The ratio of net time-space divided by pedestrian circulation time 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 per minute. 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 average crossing time is the LOS measurement of available square feet per pedestrian. The LOS analysis also accounts for vehicular turning movements that traverse the crosswalk.

Table 7-1 shows the LOS standards for sidewalks, corner reservoirs, and crosswalks.

Table 7-1
Level of Service Criteria for Pedestrian Elements

LOS	Sidewalks	Corner Reservoirs and Crosswalks
A	5 PFM or less	60 SFP or More
B	5 to 7 PFM	40 to 60 SFP
C	7 to 10 PFM	24 to 40 SFP
D	10 to 15 PFM	15 to 24 SFP
E	15 to 23 PFM	8 to 15 SFP
F	More than 23 PFM	Less than 8 SFP

Notes: PFM = pedestrians per foot per minute. SFP = square feet per pedestrian.
Source: New York City Mayor's Office of Environmental Coordination, City Environmental Quality Review Technical Manual (December 2001).

The *CEQR Technical Manual* specifies that a mid-LOS D condition or better is considered reasonable for sidewalks, corner reservoirs, and crosswalks outside the Manhattan Central Business District (CBD) which includes the study area for this project. For crosswalks and corner reservoirs, a mid-LOS D condition requires a minimum of 20 SFP, while for sidewalks, a mid-LOS D condition requires a maximum of 13 PFM.

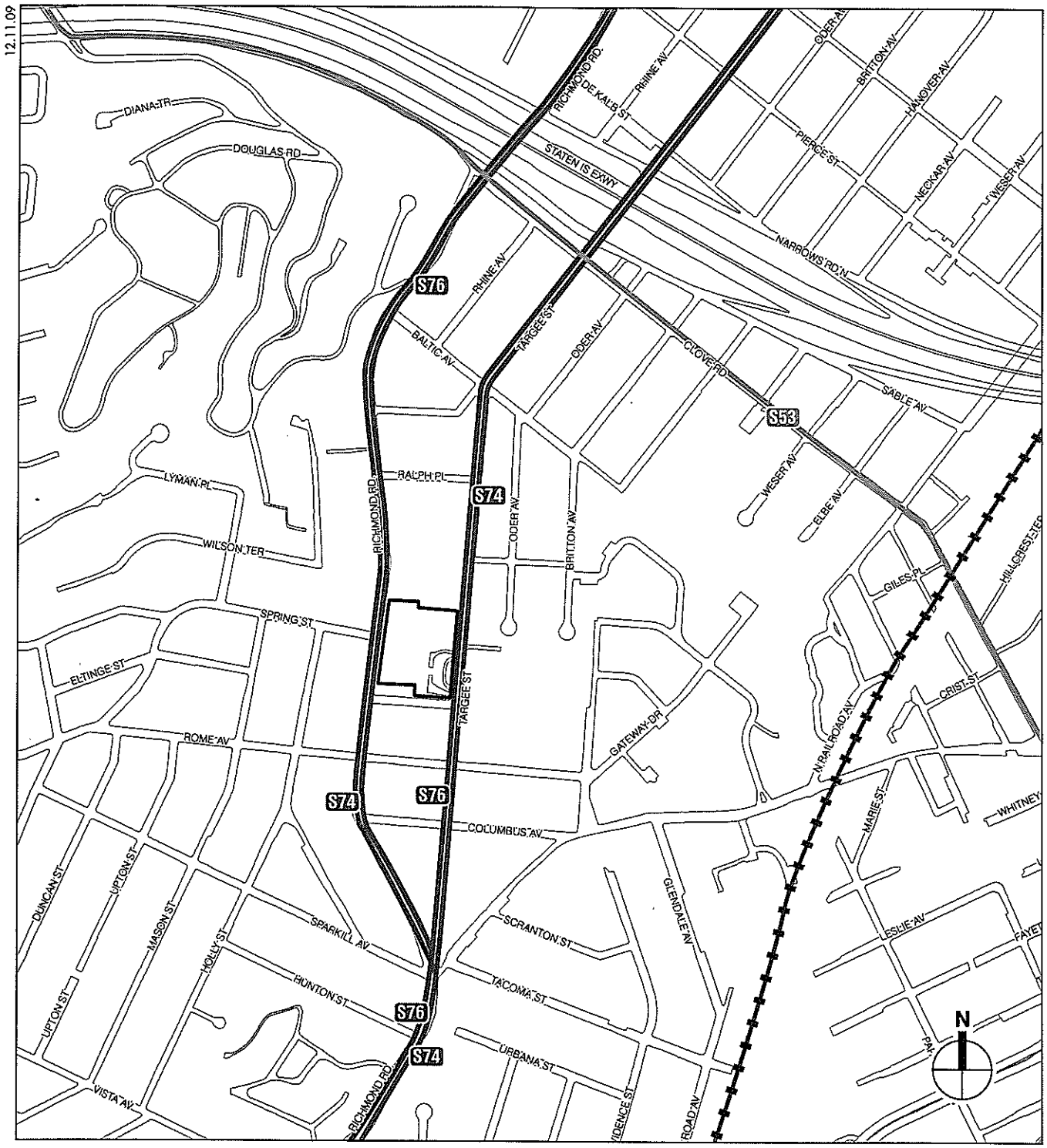
For areas akin to the study area, project-related sidewalk impacts are considered significant and require examination of mitigation if there is an increase of 2 PFM over No Build conditions that are characterized by flow rates greater than 13 PFM (mid-LOS D). For corners and crosswalks, a decrease of 1 SFP under the Build condition when the No Build condition has an average occupancy of less than 20 SFP (mid-LOS D) is considered significant. However, if there is less than a 200-person increase at a location within the peak hour, any impact is not considered significant since such increases would not typically be perceptible.

C. EXISTING CONDITIONS

Existing transit and pedestrian levels are based on field surveys conducted in September 2009. The surveys were conducted during the selected analysis periods of weekday 7:30 to 9:30 AM and 2:00 to 4:00 PM. These hours represent the peak hours of pedestrian activities in the study area. At each intersection, the highest 15-minute volumes from both of these periods were selected for analysis.

TRANSIT SERVICES IN THE STUDY AREA

Mass transit options serving the project site and surrounding area are shown in Figure 7-1. The project site is served by S53, S74, and S76 bus routes. A description of each of these bus routes is provided below.



TARGEE STREET
PRIMARY SCHOOL

Bus Routes
Figure 7-1

BUS SERVICE

Based on the travel demand estimates and the availability of S53, S74 and S76 bus routes near the proposed project, it was determined that no individual bus route would experience 200 or more project generated transit trips—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. The following section provides a qualitative discussion of publicly-operated local bus routes serving the study area.

Table 7-2 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 passengers per bus.

Table 7-2
NYCT Local Bus Routes Serving The Study Area

Bus Route	Start Point	End Point	Routing	Freq. of Bus Service (Headway in Minutes)	
				Weekday Morning	Weekday Afternoon
S53	Richmond Terrace, S.I.	86th St/4th Ave, Brooklyn	Clove Road	9	9
S74	St. George Terminal, S.I.	Main St/Amboy Rd, S.I.	Richmond/Arthur kill Rd, S.I.	12	15
S76	St. George Terminal, S.I.	Mill Rd/ Delwit Ave, S.I.	Richmond/New Dorp Lane, S.I.	10	18
Source: New York City Transit, Staten Island Bus Map (2009).					

PEDESTRIAN STUDY AREA

The pedestrian study area considers the sidewalks, corner reservoirs, and crosswalks that would be most affected by new trips generated by the proposed project. Since transit trips also contain a walking component, the pedestrian network considers the walking paths from the nearest bus stops. Figure 7-2 shows the resultant study area which includes five signalized intersections and two unsignalized intersections closest to the project site as listed below:

UNSIGNLIZED INTERSECTIONS:

- Targee Street and Ralph Place; and
- Richmond Road and Venice Street.

SIGNALIZED INTERSECTIONS:

- Targee Street and Venice Street;
- Targee Street and Rome Avenue;
- Richmond Road and Ralph Place;
- Richmond Road and Spring Street; and
- Richmond Road and Rome Avenue.

ANALYSIS RESULTS

STREET-LEVEL PEDESTRIAN OPERATIONS

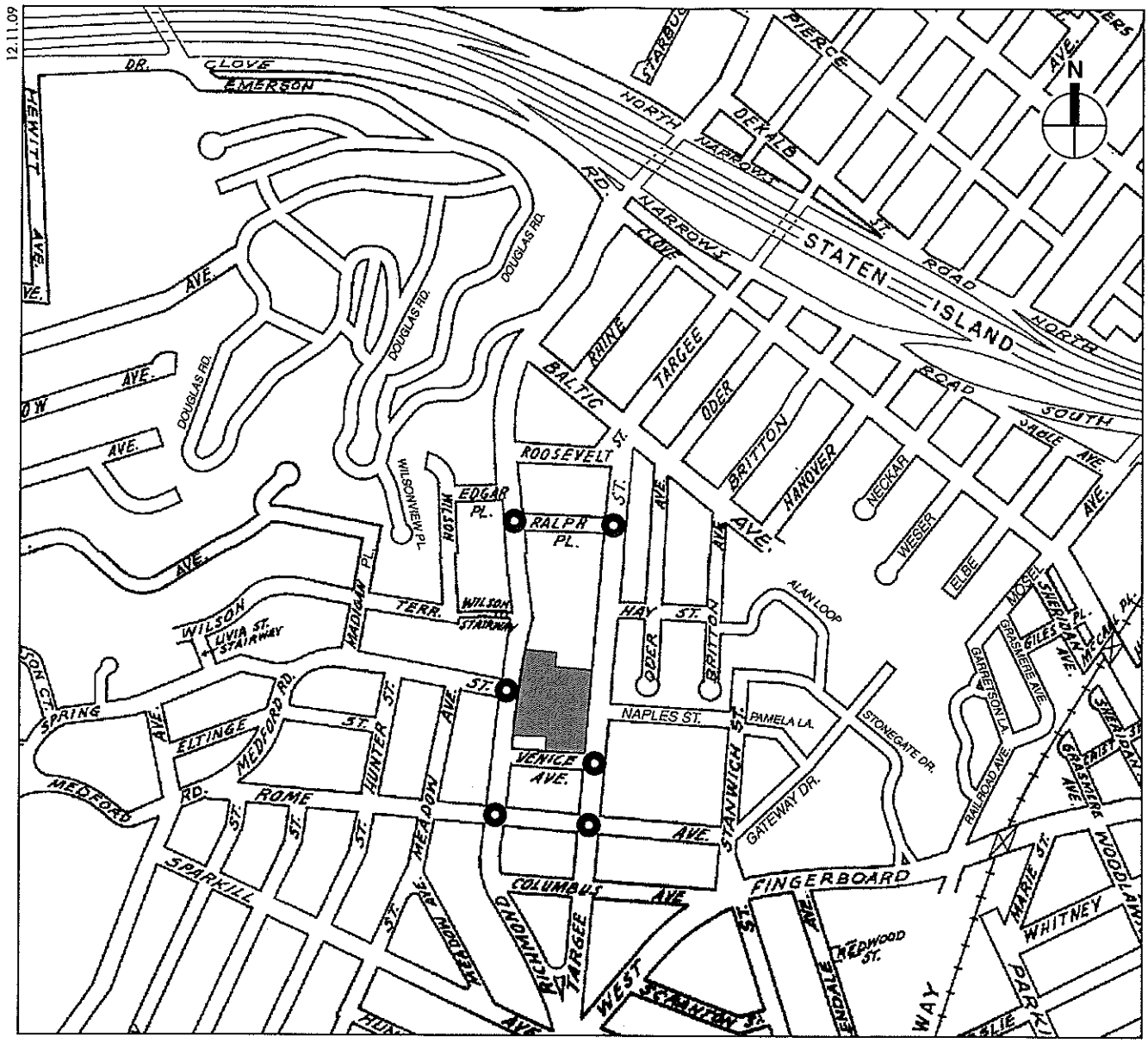
As described above, the study area sidewalks, corner reservoirs, and crosswalks were assessed for the morning and afternoon peak periods. Existing peak 15-minute volumes were developed for seven intersections closest to the project site. As shown in Tables 7-3 through 7-5, all analyzed pedestrian elements are currently operating at acceptable levels (20 SFP for crosswalks and corners, 13 PFM for sidewalks) during the AM and PM peak 15-minute periods.

Table 7-3

2009 Existing Conditions: Pedestrian LOS Analysis for Sidewalks

Location	Sidewalk	Effective Width (feet)	15 Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
Morning Peak Period							
Richmond Rd between Roosevelt St and Ralph Pl	East	4.2	6	0.1	A	4.1	A
	West	3.5	0	0.0	A	4.0	A
Richmond Rd between Ralph Pl and Spring St	East	3.0	7	0.2	A	4.2	A
	West	2.0	0	0.0	A	4.0	A
Spring St between Meadow Ave and Richmond Road	North	2.0	6	0.2	A	4.2	A
	South	5.3	3	0.0	A	4.0	A
Richmond Rd between Spring St and Venice Ave	East	3.3	1	0.0	A	4.0	A
	West	2.0	0	0.0	A	4.0	A
Richmond Rd between Venice Ave and Rome Ave	East	4.0	1	0.0	A	4.0	A
	West	3.5	0	0.0	A	4.0	A
Richmond Rd between Rome Ave and Columbus Ave	East	4.0	0	0.0	A	4.0	A
	West	4.0	4	0.1	A	4.1	A
Rome Ave between Meadow Ave and Richmond Rd	North	4.0	3	0.1	A	4.1	A
	South	4.0	6	0.1	A	4.1	A
Rome Ave between Richmond Ave and Targee St	South	4.0	16	0.3	A	4.3	A
Targee St between Columbus Ave and Rome Ave	East	4.8	1	0.0	A	4.0	A
	West	4.0	42	0.7	A	4.7	A
Targee St between Rome Ave and Venice Ave	East	8.8	64	0.5	A	4.5	A
	West	4.0	0	0.0	A	4.0	A
Venice Ave between Targee St and Richmond Ave	North	4.0	36	0.6	A	4.6	A
	South	4.3	24	0.4	A	4.4	A
Targee Street between Venice Ave and Naples St	East	12.5	54	0.3	A	4.3	A
	West	4.5	22	0.3	A	4.3	A
Targee St between Hay St and Ralph Pl	East	3.3	6	0.1	A	4.1	A
	West	7.3	8	0.1	A	4.1	A
Ralph Pl between Richmond Rd and Targee St	North	7.5	1	0.0	A	4.0	A
	South	5.5	3	0.0	A	4.0	A
Targee St between Ralph Pl and Baltic Ave	East	3.8	6	0.1	A	4.1	A
	West	8.3	8	0.1	A	4.1	A
Afternoon Peak Period							
Richmond Rd between Roosevelt St and Ralph Pl	East	4.2	11	0.2	A	4.2	A
	West	3.5	8	0.2	A	4.2	A
Richmond Rd between Ralph Pl and Spring St	East	3.0	12	0.3	A	4.3	A
	West	2.0	0	0.0	A	4.0	A
Spring St between Meadow Ave and Richmond Road	North	2.0	1	0.0	A	4.0	A
	South	5.3	1	0.0	A	4.0	A
Richmond Rd between Spring St and Venice Ave	East	3.3	1	0.0	A	4.0	A
	West	2.0	2	0.1	A	4.1	A
Richmond Rd between Venice Ave and Rome Ave	East	4.0	3	0.1	A	4.1	A
	West	3.5	9	0.2	A	4.2	A
Richmond Rd between Rome Ave and Columbus Ave	East	4.0	1	0.0	A	4.0	A
	West	4.0	4	0.1	A	4.1	A
Rome Ave between Meadow Ave and Richmond Rd	North	4.0	9	0.2	A	4.2	A
	South	4.0	9	0.2	A	4.2	A
Rome Ave between Richmond Ave and Targee St	South	4.0	9	0.2	A	4.2	A
Targee St between Columbus Ave and Rome Ave	East	4.8	5	0.1	A	4.1	A
	West	4.0	44	0.7	A	4.7	A
Targee St between Rome Ave and Venice Ave	East	8.8	64	0.5	A	4.5	A
	West	4.0	3	0.1	A	4.1	A
Venice Ave between Targee St and Richmond Ave	North	4.0	85	1.4	A	5.4	A
	South	4.3	6	0.1	A	4.1	A
Targee Street between Venice Ave and Naples St	East	12.5	219	1.2	A	5.2	A
	West	4.5	1	0.0	A	4.0	A
Targee St between Hay St and Ralph Pl	East	3.3	12	0.2	A	4.2	A
	West	7.3	12	0.1	A	4.1	A
Ralph Pl between Richmond Rd and Targee St	North	7.5	32	0.3	A	4.3	A
	South	5.5	0	0.0	A	4.0	A
Targee St between Ralph Pl and Baltic Ave	East	3.8	12	0.2	A	4.2	A
	West	8.3	12	0.1	A	4.1	A

Note: PFM = pedestrians per foot per minute



TARGEE STREET
PRIMARY SCHOOL

Pedestrian Study Area

Figure 7-2

Table 7-4
2009 Existing Conditions: Pedestrian LOS Analysis for Corner Reservoirs

Locations	Corner	Morning Peak Period		Afternoon Peak Period	
		SFP	LOS	SFP	LOS
Richmond Road and Ralph Place	Northeast	1035.9	A	1975.3	A
	Southeast	201.4	A	134.4	A
Richmond Road and Spring Street	Southwest	513.7	A	616.7	A
	Northwest	448.3	A	530.7	A
Richmond Road and Rome Avenue	Northeast	1104.4	A	2015.9	A
	Southeast	47.3	B	57.8	B
	Southwest	1227.7	A	1249.9	A
	Northwest	430.4	A	780.8	A
Targee Street and Venice Avenue	Southwest	359.8	A	345.2	A
	Northwest	810.7	A	388.3	A
Targee Street and Rome Avenue	Northeast	201.5	A	338.6	A
	Southeast	170.9	A	254.9	A
	Southwest	1601.6	A	1474.7	A
	Northwest	400.8	A	478.8	A

Note: SFP = square feet per pedestrian

Table 7-5
2009 Existing Conditions: Pedestrian Crosswalk LOS Analysis

Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	Conditions with conflicting vehicles			
				Morning		Afternoon	
				SFP	LOS	SFP	LOS
Richmond Rd and Ralph Pl	North	41.0	10.3	1012.5	A	9055.1	A
	East	30.0	14.3	2472.3	A	1688.0	A
	South	40.0	11.0	1744.2	A	1922.2	A
Richmond Rd and Spring St	North	39.3	14.0	1405.5	A	1847.7	A
	South	39.3	9.0	1018.0	A	1425.5	A
	West	33.3	9.0	10759.0	A	9263.0	A
Richmond Rd and Rome Ave	North	41.0	10.3	898.5	A	4533.1	A
	East	30.0	14.3	17306.3	A	3814.1	A
	South	40.0	11.0	1046.5	A	1542.1	A
	West	34.0	10.5	12957.6	A	11251.4	A
Targee St and Venice Ave	North	40.0	10.8	219.1	A	103.5	A
	South	40.0	11.5	301.7	A	275.6	A
	West	36.0	15.0	3719.5	A	4083.5	A
Targee St and Rome Ave	North	39.5	13.3	1283.2	A	942.6	A
	East	33.3	15.5	595.5	A	793.2	A
	South	39.5	14.8	2351.5	A	2596.6	A
	West	35.0	16.4	6761.8	A	3556.7	A

Note: SFP = square feet per pedestrian

D. THE FUTURE WITHOUT THE PROPOSED PROJECT

Transit and pedestrian conditions in the future without the proposed project were assessed to establish a baseline No Build condition against which to evaluate the potential project impacts. The No Build analysis incorporates general background growth as well as the trips expected to be generated by notable background development projects in the study area.

TRANSIT AND PEDESTRIAN VOLUME PROJECTIONS

The 2013 No Build peak period pedestrian levels were estimated by applying a background growth rate of 1.5 percent per year (as recommended by the *CEQR Technical Manual*), for an overall growth of 6.0 percent projected over four year period. As described in Chapter 6, "Traffic and Parking," there were no notable background projects identified in or near the study area which would generate additional transit and pedestrian trips beyond the background growth.

ANALYSIS RESULTS

STREET-LEVEL PEDESTRIAN OPERATIONS

As shown in Tables 7-6 through 7-8, all sidewalks, crosswalks, and corner reservoir analysis locations would continue to operate at acceptable levels (20 SFP for crosswalks and corners, 13 PFM for sidewalks) during both the AM and PM peak 15-minute periods.

Table 7-6

2013 No Build Condition: Pedestrian LOS Analysis for Sidewalks

Location	Sidewalk	Effective Width (feet)	15 Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
Morning Peak Period							
Richmond Rd between Roosevelt St and Ralph Pl	East	4.2	6	0.1	A	4.1	A
	West	3.5	0	0.0	A	4.0	A
Richmond Rd between Ralph Pl and Spring St	East	3.0	7	0.2	A	4.2	A
	West	2.0	0	0.0	A	4.0	A
Spring St between Meadow Ave and Richmond Road	North	2.0	6	0.2	A	4.2	A
	South	5.3	3	0.0	A	4.0	A
Richmond Rd between Spring St and Venice Ave	East	3.3	1	0.0	A	4.0	A
	West	2.0	0	0.0	A	4.0	A
Richmond Rd between Venice Ave and Rome Ave	East	4.0	1	0.0	A	4.0	A
	West	3.5	0	0.0	A	4.0	A
Richmond Rd between Rome Ave and Columbus Ave	East	4.0	0	0.0	A	4.0	A
	West	4.0	4	0.1	A	4.1	A
Rome Ave between Meadow Ave and Richmond Rd	North	4.0	3	0.1	A	4.1	A
	South	4.0	6	0.1	A	4.1	A
Rome Ave between Richmond Ave and Targee St	South	4.0	17	0.3	A	4.3	A
Targee St between Columbus Ave and Rome Ave	East	4.8	1	0.0	A	4.0	A
	West	4.0	44	0.7	A	4.7	A
Targee St between Rome Ave and Venice Ave	East	8.8	68	0.5	A	4.5	A
	West	4.0	0	0.0	A	4.0	A
Venice Ave between Targee St and Richmond Ave	North	4.0	39	0.7	A	4.7	A
	South	4.3	26	0.4	A	4.4	A
Targee Street between Venice Ave and Naples St	East	12.5	57	0.3	A	4.3	A
	West	4.5	24	0.4	A	4.4	A
Targee St between Hay St and Ralph Pl	East	3.3	6	0.1	A	4.1	A
	West	7.3	8	0.1	A	4.1	A
Ralph Pl between Richmond Rd and Targee St	North	7.5	1	0.0	A	4.0	A
	South	5.5	3	0.0	A	4.0	A
Targee St between Ralph Pl and Baltic Ave	East	3.8	6	0.1	A	4.1	A
	West	8.3	8	0.1	A	4.1	A

Table 7-6 (cont'd)
2013 No Build Condition: Pedestrian LOS Analysis for Sidewalks

Location	Sidewalk	Effective Width (feet)	15 Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
Afternoon Peak Period							
Richmond Rd between Roosevelt St and Ralph Pl	East	4.2	12	0.2	A	4.2	A
	West	3.5	8	0.2	A	4.2	A
Richmond Rd between Ralph Pl and Spring St	East	3.0	13	0.3	A	4.3	A
	West	2.0	0	0.0	A	4.0	A
Spring St between Meadow Ave and Richmond Road	North	2.0	1	0.0	A	4.0	A
	South	5.3	1	0.0	A	4.0	A
Richmond Rd between Spring St and Venice Ave	East	3.3	1	0.0	A	4.0	A
	West	2.0	2	0.1	A	4.1	A
Richmond Rd between Venice Ave and Rome Ave	East	4.0	3	0.1	A	4.1	A
	West	3.5	9	0.2	A	4.2	A
Richmond Rd between Rome Ave and Columbus Ave	East	4.0	1	0.0	A	4.0	A
	West	4.0	4	0.1	A	4.1	A
Rome Ave between Meadow Ave and Richmond Rd	North	4.0	9	0.2	A,	4.2	A
	South	4.0	9	0.2	A	4.2	A
Rome Ave between Richmond Ave and Targee St	South	4.0	9	0.2	A	4.2	A
Targee St between Columbus Ave and Rome Ave	East	4.8	5	0.1	A	4.1	A
	West	4.0	46	0.8	A	4.8	A
Targee St between Rome Ave and Venice Ave	East	8.8	67	0.5	A	4.5	A
	West	4.0	3	0.1	A	4.1	A
Venice Ave between Targee St and Richmond Ave	North	4.0	90	1.5	A	5.5	B
	South	4.3	6	0.1	A	4.1	A
Targee Street between Venice Ave and Naples St	East	12.5	232	1.2	A	5.2	B
	West	4.5	1	0.0	A	4.0	A
Targee St between Hay St and Ralph Pl	East	3.3	13	0.3	A	4.3	A
	West	7.3	13	0.1	A	4.1	A
Ralph Pl between Richmond Rd and Targee St	North	7.5	34	0.3	A	4.3	A
	South	5.5	0	0.0	A	4.0	A
Targee St between Ralph Pl and Baltic Ave	East	3.8	13	0.2	A	4.2	A
	West	8.3	13	0.1	A	4.1	A

Note: PFM = pedestrians per foot per minute

Table 7-7
2013 No Build Condition: Pedestrian LOS Analysis for Corner Reservoirs

Locations	Corner	Morning Peak Period		Afternoon Peak Period	
		SFP	LOS	SFP	LOS
Richmond Road and Ralph Place	Northeast	1035.9	A	1795.7	A
	Southeast	201.4	A	126.4	A
Richmond Road and Spring Street	Southwest	618.5	A	616.7	A
	Northwest	523.0	A	530.7	A
Richmond Road and Rome Avenue	Northeast	1012.4	A	2015.9	A
	Southeast	47.3	B	57.8	B
	Southwest	1382.4	A	1249.9	A
	Northwest	427.7	A	780.8	A
Targee Street and Venice Avenue	Southwest	346.3	A	324.3	A
	Northwest	786.6	A	367.5	A
Targee Street and Rome Avenue	Northeast	191.5	A	318.9	A
	Southeast	162.7	A	246.1	A
	Southwest	1601.6	A	1474.7	A
	Northwest	385.9	A	458.0	A

Note: SFP = square feet per pedestrian

Table 7-8
2013 No Build Condition: Pedestrian Crosswalk LOS Analysis

Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	Conditions with conflicting vehicles			
				Morning		Afternoon	
				SFP	LOS	SFP	LOS
Richmond Rd and Ralph Pl	North	41.0	10.3	1012.5	A	9055.1	A
	East	30.0	14.3	2472.3	A	1518.3	A
	South	40.0	11.0	1744.2	A	1922.2	A
Richmond Rd and Spring St	North	39.3	14.0	1405.5	A	1847.7	A
	South	39.3	9.0	1013.6	A	1421.4	A
	West	33.3	9.0	10740.1	A	9231.5	A
Richmond Rd and Rome Ave	North	41.0	10.3	807.3	A	4533.1	A
	East	30.0	14.3	17306.3	A	3814.1	A
	South	40.0	11.0	1043.4	A	1537.9	A
	West	34.0	10.5	12957.6	A	11244.2	A
Targee St and Venice Ave	North	40.0	10.8	211.5	A	97.6	A
	South	40.0	11.5	289.1	A	256.1	A
	West	36.0	15.0	3719.5	A	4083.5	A
Targee St and Rome Ave	North	39.5	13.3	1281.9	A	868.5	A
	East	33.3	15.5	558.5	A	757.2	A
	South	39.5	14.8	2351.5	A	2596.6	A
	West	35.0	16.4	6761.8	A	3556.7	A

Note: SFP = square feet per pedestrian

E. THE FUTURE WITH THE PROPOSED PROJECT

The future with the proposed project would result in increased transit and pedestrian trips as compared to the No Build condition. This section describes the anticipated travel patterns of the project-generated trips and assesses their potential impacts on nearby pedestrian facilities. (Detailed travel demand estimates for the proposed project are provided in Chapter 6, "Traffic and Parking".)

TRIP DISTRIBUTION AND ASSIGNMENT

Primary pedestrian access to the project site would be provided on Richmond Road and Targee Street between Ralph Place and Venice Avenue. The following assumptions were used to assign auto, taxi, transit, and walk-only trips to the proposed school:

- Auto drop-off/pick-up trips were assumed to utilize the sidewalks along Richmond Road and Targee Street between Ralph Place and Venice Avenue adjacent to the entrance of the project site as they enter or exit the school building. In total, 136 and 175 project-generated auto drop-off/pick-up trips were estimated during the AM and PM peak 15-minute periods, respectively.
- All school bus trips were assumed to utilize the one-way eastbound driveway on the northern edge of the proposed project site. Total of 57 and 64 school bus trips were estimated during the AM and PM peak 15-minute periods, respectively.
- Staff-related auto trips were assumed to utilize the on-street parking spaces available in the vicinity of the project site. These trips were then assigned to the pedestrian facilities leading to the school entrances on Richmond Road and Targee Street. In total, 31 auto drive-in/out trips were estimated during both the AM and PM peak 15-minute periods.

- Bus person trips would be distributed to the three bus routes available in the study area. In total, 6 and 13 project-generated bus trips were estimated during the AM and PM peak 15-minute periods, respectively. 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 at 240 and 258 total walk only project-generated trips during the AM and PM peak 15-minute periods, respectively. The assignment of these trips accounted for the area's pedestrian network and nearby populated neighborhoods.

ANALYSIS RESULTS

STREET-LEVEL PEDESTRIAN OPERATIONS

Pedestrian trips associated with the proposed project would result in increased volumes at the analysis locations. The analysis conducted for the Build condition accounts for the distribution of project-generated trips overlaid onto the No Build network's sidewalks, corner reservoirs, and crosswalks. Tables 7-9 to 7-11 present the future build operating conditions for the pedestrian elements. Based on the analysis results, all the sidewalks, crosswalks, and corner reservoir analysis locations would continue to operate at acceptable levels (20 SFP for crosswalks and corners, 13 PFM for sidewalks) during the AM and PM peak 15-minute periods. Therefore, the proposed project would not result in any significant adverse impacts to the study area's pedestrian facilities.

Table 7-9
2013 Build Condition: Pedestrian LOS Analysis for Sidewalks

Location	Sidewalk	Effective Width (feet)	15 Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
Morning Peak Period							
Richmond Rd between Roosevelt St and Ralph Pl	East	4.2	6	0.1	A	4.1	A
	West	3.5	24	0.5	A	4.5	A
Richmond Rd between Ralph Pl and Spring St	East	3.0	7	0.2	A	4.2	A
	West	2.0	57	1.9	A	5.9	B
Spring St between Meadow Ave and Richmond Road	North	2.0	6	0.2	A	4.2	A
	South	5.3	3	0.0	A	4.0	A
Richmond Rd between Spring St and Venice Ave	East	3.3	4	0.1	A	4.1	A
	West	2.0	36	1.2	A	5.2	B
Richmond Rd between Venice Ave and Rome Ave	East	4.0	1	0.0	A	4.0	A
	West	3.5	0	0.0	A	4.0	A
Richmond Rd between Rome Ave and Columbus Ave	East	4.0	0	0.0	A	4.0	A
	West	4.0	40	0.7	A	4.7	A
Rome Ave between Meadow Ave and Richmond Rd	North	4.0	3	0.1	A	4.1	A
	South	4.0	6	0.1	A	4.1	A
Rome Ave between Richmond Ave and Targee St	South	4.0	17	0.3	A	4.3	A
Targee St between Columbus Ave and Rome Ave	East	4.8	37	0.5	A	4.5	A
	West	4.0	44	0.7	A	4.7	A
Targee St between Rome Ave and Venice Ave	East	8.8	68	0.5	A	4.5	A
	West	4.0	0	0.0	A	4.0	A
Venice Ave between Targee St and Richmond Ave	North	4.0	75	1.3	A	5.3	B
	South	4.3	70	1.1	A	5.1	B

Table 7-9 (cont'd)
2013 Build Condition: Pedestrian LOS Analysis for Sidewalks

Location	Sidewalk	Effective Width (feet)	15 Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
Morning Peak Period (continued)							
Targee Street between Venice Ave and Naples St	East	12.5	185	1.0	A	5.0	A
	West	4.5	27	0.4	A	4.4	A
Targee St between Hay St and Ralph Pl	East	3.3	152	3.1	A	7.1	C
	West	7.3	8	0.1	A	4.1	A
Ralph Pl between Richmond Rd and Targee St	North	7.5	1	0.0	A	4.0	A
	South	5.5	3	0.0	A	4.0	A
Targee St between Ralph Pl and Baltic Ave	East	3.8	18	0.3	A	4.3	A
	West	8.3	20	0.2	A	4.2	A
Afternoon Peak Period							
Richmond Rd between Roosevelt St and Ralph Pl	East	4.2	12	0.2	A	4.2	A
	West	3.5	34	0.6	A	4.6	A
Richmond Rd between Ralph Pl and Spring St	East	3.0	13	0.3	A	4.3	A
	West	2.0	67	2.2	A	6.2	B
Spring St between Meadow Ave and Richmond Road	North	2.0	1	0.0	A	4.0	A
	South	5.3	1	0.0	A	4.0	A
Richmond Rd between Spring St and Venice Ave	East	3.3	7	0.1	A	4.1	A
	West	2.0	41	1.4	A	5.4	B
Richmond Rd between Venice Ave and Rome Ave	East	4.0	3	0.1	A	4.1	A
	West	3.5	9	0.2	A	4.2	A
Richmond Rd between Rome Ave and Columbus Ave	East	4.0	1	0.0	A	4.0	A
	West	4.0	43	0.7	A	4.7	A
Rome Ave between Meadow Ave and Richmond Rd	North	4.0	9	0.2	A	4.2	A
	South	4.0	9	0.2	A	4.2	A
Rome Ave between Richmond Ave and Targee St	South	4.0	9	0.2	A	4.2	A
Targee St between Columbus Ave and Rome Ave	East	4.8	44	0.6	A	4.6	A
	West	4.0	46	0.8	A	4.8	A
Targee St between Rome Ave and Venice Ave	East	8.8	67	0.5	A	4.5	A
	West	4.0	3	0.1	A	4.1	A
Venice Ave between Targee St and Richmond Ave	North	4.0	129	2.2	A	6.2	B
	South	4.3	55	0.9	A	4.9	A
Targee Street between Venice Ave and Naples St	East	12.5	384	2.0	A	6.0	B
	West	4.5	7	0.1	A	4.1	A
Targee St between Hay St and Ralph Pl	East	3.3	174	3.5	A	7.5	C
	West	7.3	13	0.1	A	4.1	A
Ralph Pl between Richmond Rd and Targee St	North	7.5	34	0.3	A	4.3	A
	South	5.5	0	0.0	A	4.0	A
Targee St between Ralph Pl and Baltic Ave	East	3.8	26	0.5	A	4.5	A
	West	8.3	26	0.2	A	4.2	A

Note: PFM = pedestrians per foot per minute

Table 7-10
2013 Build Condition: Pedestrian LOS Analysis for Corner Reservoirs

Locations	Corner	Morning Peak Period		Afternoon Peak Period	
		SFP	LOS	SFP	LOS
Richmond Road and Ralph Place	Northeast	1035.9	A	1795.7	A
	Southeast	201.4	A	126.4	A
Richmond Road and Spring Street	Southwest	59.4	B	52.0	B
	Northwest	33.9	C	24.7	C
Richmond Road and Rome Avenue	Northeast	1012.4	A	2015.9	A
	Southeast	47.3	B	57.8	B
	Southwest	245.2	A	237.4	A
	Northwest	105.0	A	115.0	A
Targee Street and Venice Avenue	Southwest	115.5	A	119.1	A
	Northwest	317.2	A	217.7	A
Targee Street and Rome Avenue	Northeast	119.5	A	149.2	A
	Southeast	85.1	A	103.5	A
	Southwest	1601.6	A	1474.7	A
	Northwest	385.9	A	458.0	A

Note: SFP = square feet per pedestrian

Table 7-11
2013 Build Condition: Pedestrian Crosswalk LOS Analysis

Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	Conditions with conflicting vehicles			
				Morning		Afternoon	
				SFP	LOS	SFP	LOS
Richmond Rd and Ralph Pl	North	41.0	10.3	1012.5	A	9055.1	A
	East	30.0	14.3	2472.3	A	1518.3	A
	South	40.0	11.0	1744.2	A	1922.2	A
Richmond Rd and Spring St	North	39.3	14.0	198.9	A	205.6	A
	South	39.3	9.0	574.6	A	511.2	A
	West	33.3	9.0	271.7	A	199.0	A
Richmond Rd and Rome Ave	North	41.0	10.3	807.3	A	4533.1	A
	East	30.0	14.3	17306.3	A	3814.1	A
	South	40.0	11.0	1043.4	A	1377.9	A
	West	34.0	10.5	341.4	A	282.2	A
Targee St and Venice Ave	North	40.0	10.8	77.7	A	56.5	B
	South	40.0	11.5	96.6	A	85.1	A
	West	36.0	15.0	3719.5	A	4083.5	A
Targee St and Rome Ave	North	39.5	13.3	1281.9	A	868.5	A
	East	33.3	15.5	262.9	A	271.7	A
	South	39.5	14.8	2351.5	A	2596.6	A
	West	35.0	16.4	6761.8	A	3556.7	A

Note: SFP = square feet per pedestrian

*

A. INTRODUCTION

The potential for air quality impacts with the proposed school is examined in this section. Air quality impacts can be either direct or indirect. Direct impacts result from emissions generated by stationary sources at a development site, such as emissions from on-site fuel combustion for heating, ventilation, and air conditioning (HVAC) systems. Indirect impacts 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.

The number of vehicle trips that the proposed school is expected to generate would be greater than the *CEQR Technical Manual* air quality screening threshold of 100 peak hour trips at nearby intersections in the study area. Therefore, a quantified assessment of on-street mobile source emissions was performed. The proposed school would include natural gas fueled heat and hot water systems. Therefore, an HVAC screening analysis was conducted to evaluate the potential for air quality impacts from the proposed heat and hot water systems.

As discussed below, the maximum predicted pollutant concentrations and concentration increments from mobile sources with the proposed school would be below the corresponding standards or guidance values. Based on the HVAC system screening analysis there would be no potential significant adverse air quality impacts from emission the proposed school's heat and hot water systems. 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.

The proposed school would result in an increase in traffic volume in the study area. Therefore, a mobile source analysis was conducted to evaluate future CO concentrations and concentration increments.

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 non-attainment 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 is mostly of concern further downwind from large stationary sources, and is not a local concern from mobile sources. 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 far below the 3-month average national standard of 0.15 micrograms per cubic meter ($\mu g/m^3$).

No significant sources of lead are associated with the proposed 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. The PM emissions from project-generated vehicle trips would be greater than the New York City Department of Environmental Protection's (DEP's) current threshold for conducting a $PM_{2.5}$ microscale mobile source analysis.[1] Therefore, an analysis was conducted to assess the worst case PM_{10} and $PM_{2.5}$ impacts due to the increase in school bus and other vehicle tips associated with the proposed school.

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 HVAC systems 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.

[1] The DEP screening threshold is based on 2008 emissions from 19 trucks on collector type roads, or approximately 4 grams per mile.

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, ozone, lead, and PM, and there is no secondary standard for CO. The NAAQS are presented in Table 8-1. 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).

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.

EPA lowered the primary and secondary standards for lead to 0.15 $\mu g/m^3$, effective January 12, 2009. EPA revised the averaging time to a rolling 3-month average and the form of the standard to not-to-exceed across a 3-year span. The current lead NAAQS will remain in place for one year following the effective date of attainment designations for any new or revised NAAQS before being revoked, except in current non-attainment areas, where the existing NAAQS will not be revoked until the affected area submits, and EPA approves, an attainment demonstration for the revised lead NAAQS.

On June 26, 2009, EPA proposed to establish a new 1-hour average NO_2 standard at a level between 0.080-0.100 ppm, in addition to the current annual standard. The statistical form proposed is the 3-year average of the 4th highest daily maximum 1-hour average concentration in a year (the the 4th highest daily maximum corresponds approximately to 99th percentile for a year.)

NAAQS ATTAINMENT STATUS AND STATE IMPLEMENTATION PLANS

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

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

Table 8-1
National Ambient Air Quality Standards (NAAQS)

Pollutant	Primary		Secondary	
	ppm	µg/m^3	ppm	µg/m^3
Carbon Monoxide (CO)				
8-Hour Average [1]	9	10,000	None	
1-Hour Average [1]	35	40,000		
Lead				
Rolling 3-Month Average [5]	NA	0.15	NA	0.15
Nitrogen Dioxide (NO_2)				
Annual Average	0.053	100	0.053	100
Ozone (O_3)				
8-Hour Average [2]	0.075	150	0.075	150
Respirable Particulate Matter (PM_{10})				
24-Hour Average [1]	NA	150	NA	150
Fine Respirable Particulate Matter ($PM_{2.5}$)				
Average of 3 Annual Means	NA	15	NA	15
24-Hour Average [3,4]	NA	35	NA	35
Sulfur Dioxide (SO_2)				
Annual Arithmetic Mean	0.03	80	NA	NA
Maximum 24-Hour Average [1]	0.14	365	NA	NA
Maximum 3-Hour Average [1]	NA	NA	0.50	1,300

Notes: ppm – parts per million
µg/m^3 – micrograms per cubic meter
NA – not applicable
All annual periods refer to calendar year.
PM concentrations (including lead) are in µg/m^3 since ppm is a measure for gas concentrations. Concentrations of all gaseous pollutants are defined in ppm and approximately equivalent concentrations in µg/m^3 are presented.
(1) Not to be exceeded more than once a year.
(2) 3-year average of the annual fourth highest daily maximum 8-hr average concentration. EPA has reduced these standards down from 0.08 ppm, effective May 27, 2008.
(3) Not to be exceeded by the annual 98th percentile when averaged over 3 years.
(4) EPA has lowered the NAAQS down from 65 µg/m^3, effective December 18, 2006.
(5) EPA has lowered the NAAQS down from 1.5 µg/m^3, effective January 12, 2009.
Source: 40 CFR Part 50: National Primary and Secondary Ambient Air Quality Standards.

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 $PM_{2.5}$ non-attainment area under the CAA due to exceedance of the annual average standard. New York State has submitted a draft SIP to EPA, dated April 2008, designed to meet the annual average standard by April 8, 2010, which will be finalized after public review.

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 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 non-attainment 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 non-attainment for the 8-hour average ozone standard which became effective as of June 15, 2004 (LOCMA was moved to the Poughkeepsie moderate non-attainment 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 the 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 non-attainment 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 one-hour and eight-hour National Ambient Air Quality Standards for ozone.

New York City is currently in attainment of the NO_2 and SO_2 NAAQS. EPA has proposed a new 1-hour standard for each of these pollutants, but it is unclear at this time what the City's attainment status will be due to the range of concentrations proposed in the new standards.

DETERMINING THE SIGNIFICANCE OF AIR QUALITY IMPACTS

The State Environmental Quality Review Act (SEQRA) regulations and the City *Environmental Quality Review (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

[1] CEQR Technical Manual, section 222, 2001; and State Environmental Quality Review Regulations, 6 NYCRR § 617.7

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 8-1) would be deemed to have a potential significant adverse impact. In addition, in order to maintain concentrations lower than the NAAQS in attainment areas, or to ensure that concentrations will not be significantly increased in non-attainment areas, threshold levels have been defined for certain pollutants; any action predicted to increase the concentrations of these pollutants above the thresholds would be deemed to have a potential significant adverse impact, even in cases where violations of the NAAQS are not predicted.

DE MINIMIS CRITERIA REGARDING CO IMPACTS

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

INTERIM GUIDANCE CRITERIA REGARDING $PM_{2.5}$ IMPACTS

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

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

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

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

- 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 DEP or NYSDEC interim guidance criteria above will be considered to have a potential significant adverse impact. DEP recommends that its actions subject to CEQR that fail the interim guidance criteria prepare an environmental impact statement (EIS) and examine potential measures to reduce or eliminate such potential significant adverse impacts.

D. METHODOLOGY FOR PREDICTING POLLUTANT CONCENTRATIONS

MOBILE SOURCES

The prediction of vehicle-generated CO and PM emissions and their dispersion in an urban environment incorporates meteorological phenomena, traffic conditions, and physical roadway configurations. Air pollutant dispersion models mathematically simulate how traffic, meteorology, and geometry 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 it is necessary to predict the reasonable worst-case condition, most of these dispersion models predict conservatively high concentrations of pollutants.

The mobile source analyses for the proposed actions employ models approved by EPA that have 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 result from the proposed actions. The assumptions used in the PM analysis were based on the latest $PM_{2.5}$ interim guidance developed by DEP.

DISPERSION MODELS FOR MICROSCALE ANALYSES

Maximum CO concentrations adjacent to streets within the rezoning area, 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 emissions and dispersion of pollutants from idling and moving vehicles. The queuing algorithm includes

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

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 meteorological data into the modeling, instead of worst-case assumptions regarding meteorological parameters. This refined version of the model is employed if maximum predicted future CO concentrations are greater than the applicable ambient air quality standards or when *de minimis* thresholds are exceeded using the first-level CAL3QHC modeling. It is also used to calculate PM mobile source impacts since it is more appropriate for calculating 24-hour and annual average PM 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 accumulation of pollutants at a particular prediction location (receptor), and atmospheric stability accounts for the effects of vertical mixing in the atmosphere.

Tier I Analyses—CAL3QHC

CO calculations were performed using the CAL3QHC model. 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[1], CO computations were performed using a wind speed of 1 meter per second and 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 impacts.

Tier II Analyses—CAL3QHCR

A Tier II analysis using the CAL3QHCR model, which includes the modeling of hour-by-hour concentrations based on hourly traffic data and five years of monitored hourly meteorological data, was performed to predict maximum 24-hour and annual average PM levels. The data consist of surface data collected at JFK International Airport and upper air data collected at Brookhaven, New York, for the period 2003-2007. All hours were modeled, and the highest resulting concentration for each averaging period is reported in the following sections.

ANALYSIS YEAR

The analyses were performed for existing conditions and the 2013 analysis year. The future analyses were performed both without the proposed school (the No Build scenario) and with the proposed school (the Build scenario).

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

VEHICLE EMISSIONS DATA

Engine Emissions

Vehicular CO and PM 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 changes in fuel and tailpipe emission standards, and inspection maintenance programs. The inputs and use of MOBILE6.2 incorporates the most current guidance available from NYSDEC and DEP.

Appropriate credits were used to accurately reflect the New York State inspection and maintenance program, which requires inspections of automobiles and light trucks to determine if pollutant emissions from the vehicles' exhaust systems are below emission standards. Vehicles failing the emissions test must undergo maintenance and pass a repeat test to be registered in New York State.

Vehicle classification data were based on field studies conducted for the project. The general categories of vehicle types for specific roadways were further categorized into subcategories based on their relative fleet-wide breakdown.[2]

An ambient temperature of 43°F was used. The use of this temperature is recommended in the *CEQR Technical Manual* for Staten Island 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} emission estimates include both exhaust and re-entrained road dust. Road dust emission factors were calculated according to the latest procedure delineated by EPA.[3] For the $PM_{2.5}$ microscale analyses, fugitive road dust was calculated to be negligible (zero) based on the current EPA protocol for determining fugitive dust emissions from paved roads.

TRAFFIC DATA

Traffic data for the air quality analysis were derived from existing traffic counts, projected future growth in traffic, and other information developed as part of the traffic analysis for the proposed actions (see Chapter 6, "Traffic and Parking"). Traffic data for the future without and with the proposed actions were employed in the respective air quality modeling scenarios. The weekday AM (7:45 to 8:45 AM) and weekday PM (2:30 to 3:30 PM) peak traffic periods were analyzed. These time periods were selected for the mobile source analysis because they produce the

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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, November 2006.

maximum anticipated project-generated and future with the proposed actions traffic and therefore have the greatest potential for significant air quality impacts.

Since the PM analysis requires hourly traffic data over an entire 24-hour period, it was necessary to estimate this information for the non-peak traffic periods. The projected weekday peak no build traffic volumes were used as a baseline, and no build traffic volumes for other hours were determined by adjusting the peak period volumes by the 24-hour distributions of actual vehicle counts collected for the project.

BACKGROUND CONCENTRATIONS

Background concentrations are those pollutant levels not directly accounted for through the modeling analysis (which directly accounts for vehicle-generated emissions on the streets within 1,000 feet and line-of-sight of the receptor location). Background concentrations must be added to modeling results to obtain total pollutant concentrations at a study site.

The 8-hour average background concentration used in the analysis was 2.5 ppm, which is based on the highest second-highest 8-hour measurements over the most recent three-year period for which monitoring data are available (2005-2007), utilizing measurements obtained at the Brooklyn Transit monitoring station. The 1-hour CO background used in the analysis was 5.4 ppm.

The P.S. 59 monitoring station is the closest location to the proposed school where NYSDEC collected PM_{10} data in recent years. Therefore, a background value of 67 $\mu g/m^3$ used in the analysis represents the maximum PM_{10} 24-hour background concentration measured over the most recent period for which a data set is available (2006–2007) at the P.S. 59 monitoring station.

MOBILE SOURCE ANALYSIS SITES

Two intersection locations were selected for mobile source analysis (see Table 8-2), one for CO, and one for particulate matter. The intersection selected for the CO analysis is the location in the study area where the number of project-generated vehicle trips is expected to be greatest and therefore, where the maximum changes in the concentrations would be expected and the highest potential for air quality impacts would occur.

Table 8-2
Mobile Source Analysis Intersection Locations

Pollutant	Location
CO	Richmond Road and Spring Street
PM_{10}, $PM_{2.5}$	Richmond Road and Ralph Place

For the PM_{10} and $PM_{2.5}$, intersection for analysis was selected based on the review of project-generated school bus trips, overall project-generated traffic, and overall future traffic volumes in the 2013 analysis year.

RECEPTOR LOCATIONS

Multiple receptors (i.e., precise locations at which concentrations are predicted) were modeled at each of the selected sites. Receptors were placed along the approach and departure links at spaced intervals. Local model receptors were placed at sidewalk or roadside locations near intersections with continuous public access. Receptors in the annual $PM_{2.5}$ neighborhood scale

model were placed at a distance of 15 meters from the nearest moving lane, based on the DEP procedure for neighborhood scale corridor $PM_{2.5}$ modeling.

HVAC SOURCE SCREENING ANALYSIS

To assess air quality impacts associated with emissions from the proposed school's HVAC systems, 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.

E. PROBABLE IMPACTS OF THE PROPOSED SCHOOL

MOBILE SOURCE ANALYSIS

Using the methodology previously described, CO and PM_{10} concentrations with and without the proposed project were predicted for the 2013 Build for the AM and PM peak traffic hour. Table 8-3 shows the future maximum predicted 8-hour average CO concentrations with and without the proposed school at the intersection studied. (No 1-hour values are shown since the standard would not be exceeded of the standard 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 results indicate that the proposed school would not result in concentrations that would exceed the CO *de minimis* criteria or a violation in national CO standards.

Table 8-3
Future (2013) Maximum Predicted 8-Hour Average Carbon Monoxide Build Concentration (ppm)

Location	Time Period	8-Hour Concentration	
		No Build	Build
Richmond Road and Spring Street	AM	3.2	3.3
	PM	3.3	3.6

Notes:
8-Hour NAAQS for CO is 9 ppm. The 8-hour CAL3QHC concentrations were obtained from the 1-hour concentrations using a 0.70 persistence factor, recommended by DEP for the project area. In some cases, there was no measureable increase in CO concentration as a result of the project due to traffic improvements.

The future maximum predicted 24-hour average PM_{10} concentrations with and without the proposed school for the 2013 analysis year are shown in Table 8-4. The values shown are the highest predicted concentrations for all locations analyzed and include the ambient background concentrations. The results indicate that the proposed school would not result in any violations of the PM_{10} standard.

Table 8-4
Future (2013) Maximum Predicted 24-Hour Average PM_{10} Concentrations

Location	24-Hour Concentration ($\mu g/m^3$)	
	No Build	Build
Richmond Road and Ralph Place	74.5	75.0
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 so that they could be compared to the interim guidance criteria that would determine the potential significance of any impacts from the proposed school. Based on this analysis, the maximum predicted localized 24-hour average and neighborhood-scale annual average incremental $PM_{2.5}$ concentrations are presented in Tables 8-5 and 8-6, respectively.

Table 8-5
Future (2013) Maximum Predicted 24-Hour Average $PM_{2.5}$ Concentrations

Location	Increment
Richmond Road and Ralph Place	0.01
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 8-6
Future (2013) Maximum Predicted Annual Average $PM_{2.5}$ Concentrations

Receptor Site Location	Increment
Richmond Road and Ralph Place	0.003
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) $PM_{2.5}$ increments are predicted to be well below the interim guidance criteria and, therefore, the proposed actions would not result in significant $PM_{2.5}$ impacts at the analyzed receptor locations. Note that $PM_{2.5}$ concentrations without the proposed actions are not presented, since impacts are assessed on an incremental basis. Therefore, the proposed school would not result in any significant adverse impacts from mobile sources.

HVAC SYSTEM SCREENING ANALYSIS

A screening analysis was performed to assess the potential for air quality impacts from the proposed school's HVAC systems. The analysis was based on the use of natural gas, total square footage (i.e., 108,230 gsf) of the proposed school, and an exhaust height of 78 feet (3 feet above the anticipated height of the proposed school). The nearest distance to a building of a similar or greater height was determined to be beyond 400 feet; therefore, in accordance with the guidance provided in the *CEQR Technical Manual,* the 400-foot distance was chosen for the analysis.

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 3Q-9 of the *CEQR Technical Manual.* ✳

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 a doubling of passenger car equivalents [PCEs] which would be necessary to cause a 3 dBA increase in noise levels). The principal impacts of the proposed school on ambient noise levels would result from the use of the proposed 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. NOISE 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 scales 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 logarithm 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 9-1.

Table 9-1
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 residential areas close to industry	
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.

COMMUNITY RESPONSE TO CHANGES IN NOISE LEVELS

The average ability of an individual to perceive changes in noise levels is well documented (see Table 9-2). 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 halvings) of noise levels. These guidelines permit direct estimation of an individual's probable perception of changes in noise levels.

Table 9-2
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 Neuman, 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 9-3). 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 9-3
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 computed. L_{eq} is the constant sound level that, in a given situation and time period (e.g., 1 hour, denoted by $L_{eq(1)}$, or 24 hours, denoted 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 sometimes 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 L_{90} or the background level by 10 or more decibels. Thus the relationship between L_{eq} and the levels of exceedance will depend on the character of the noise. In community noise measurements, it has been observed that the L_{eq} is generally between L_{10} and L_{50}. The 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 CITY NOISE CODE

In December 2005 the New York City Noise Control Code was amended. The amended noise code contains: prohibitions regarding unreasonable noise; requirements for noise due to construction activities (including noise limits from specific pieces of construction equipment, noise limits on total construction noise, limits on hours of construction [weekdays between 7 AM and 6 PM], and requirements for adopting and implementing noise mitigation plans for each construction site prior to the start of construction); and specifies noise standards, including plainly audible criteria, for specific noise sources (i.e., refuse collection vehicles, air compressors, circulation devises, exhausts, paving breakers, commercial music, personal audio devises, sound reproduction devises, animals, motor vehicles including motorcycles and trucks, sound signal devises, burglar alarms, emergency signal devises, lawn care devises, snow blowers, etc.). In addition, the amended code specifies that that no sound source operating in connection with any commercial or business enterprise may exceed the decibel levels in the designated octave bands shown in Table 9-5 at the specified receiving properties.

Table 9-5
New York City Noise Codes

Octave Band Frequency (Hz)	Maximum Sound Pressure Levels (dB) as Measured Within a Receiving Property as Specified Below	
	Residential receiving property for mixed use building and residential buildings (as measured within any room of the residential portion of the building with windows open, if possible)	*Commercial receiving property (as measured within any room containing offices within the building with windows open, if possible)*
31.5	70	74
63	61	64
125	53	56
250	46	50
500	40	45
1000	36	41
2000	34	39
4000	33	38
8000	32	37

Source: Section 24-232 of the Administrative Code of the City of New York, as amended December 2005.

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 9-6 and 9-7. 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 9-6.

Table 9-6
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, auditorium, out-patient public health facility		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)	
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 9-7
Required Attenuation Values to Achieve Acceptable Interior Noise Levels

	Marginally Acceptable	Marginally Unacceptable		Clearly Unacceptable		
Noise Level With Proposed Action	$65 < L_{10} \leq 70$	$70 < L_{10} \leq 75$	$75 < L_{10} \leq 80$	$80 < L_{10} \leq 85$	$85 < L_{10} \leq 90$	$90 < L_{10} \leq 95$
Attenuation*	25 dB(A)	(I) 30 dB(A)	(II) 35 dB(A)	(I) 40 dB(A)	(II) 45 dB(A)	(III) 50 dB(A)

Note: * The above composite window-wall attenuation values are for residential dwellings. 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.
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 $L_{eq(1)}$. For the 5 dBA threshold to be valid, the resultant Build condition noise level would have to be equal to or less than 65 dBA. 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.)

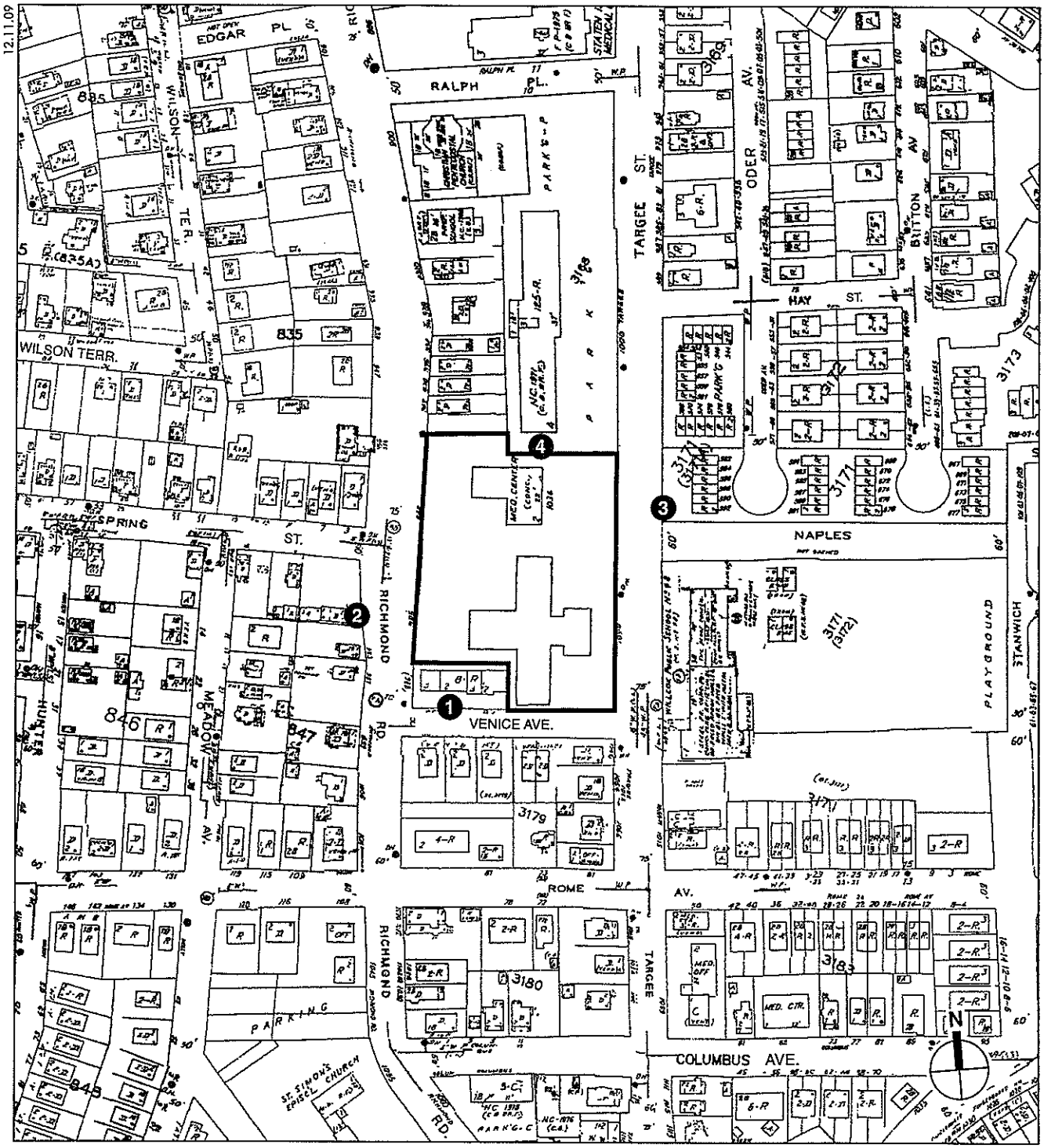
IMPACT DEFINITION

For purposes of impact assessment, this report will utilize 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 September 17, 2009 at four receptor sites within or adjacent to the project site. Site 1 was located on Venice Avenue between Richmond Road and Targee Street, Site 2 was located on Richmond Road between Spring Street and Venice Avenue, Site 3 was located on Targee Street between Venice Avenue and Ralph Place, and Site 4 was located within the parking lot of 1034 Targee Street along the north edge of the property (see Figure 9-1).

The instrumentation used for the 20-minute noise measurements was a Brüel & Kjær Type 4189 ½-inch microphone connected to a Brüel & Kjær Model 2260 Type 1 (according to ANSI Standard S1.4-1983) sound level meter. This assembly was mounted at a height of five 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 meter was calibrated before and after readings with a Brüel & Kjær Type 4231 sound-level calibrator using the appropriate



TARGEE STREET
PRIMARY SCHOOL

Noise Receptor Location

Figure 9-1

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}. A windscreen was used during all sound measurements except for calibration. All measurement procedures conformed with the requirements of ANSI Standard S1.13-2005.

The results of the measurements of existing noise levels are summarized in Table 9-8.

Table 9-8
Existing Noise Levels (dBA)

Site	Measurement Location	Time		L_{eq}	L_1	L_{10}	L_{50}	L_{90}
1	Venice Ave between Richmond Road and Targee Street	WD	AM	60.6	70.8	63.4	56.3	52.7
			PM	59.2	69.7	62.1	54.4	48.4
2	Richmond Road between Spring Street and Venice Avenue	WD	AM	71.3	79.1	75.6	67.1	56.2
			PM	70.3	79.7	74.2	66.4	51.9
3	Targee Street between Venice Avenue and Ralph Place	WD	AM	73.5	81.1	77.1	71.9	58.2
			PM	70.0	79.3	73.5	66.4	58.2
4	Parking Lot of 1034 Targee Street	WD	AM	60.2	65.0	62.5	59.8	56.6
			PM	58.7	66.5	61.1	56.9	51.7
Notes:	Field measurements were performed by AKRF, Inc. on September 17, 2009.							

At all monitoring sites, traffic noise was the dominant noise source. Measured noise levels were low to moderately high and reflect the level of vehicular activity on Adjacent Streets. In terms of the CEQR criteria, the existing noise levels at Sites 1 and 4 would be in the "acceptable" category, and existing noise levels at Sites 2 and 3 would be in the "marginally unacceptable" category.

E. NOISE FROM THE SCHOOL PLAYGROUND

Table 9-9 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]. For this analysis, the noise level for elementary schools will be used.

Table 9-9
Maximum Hourly Playground Boundary $L_{eq(1)}$ Noise Levels (dBA)

Time Period	Elementary Schools	Intermediate Schools	High Schools
AM	69.3	64.9	68.2
PM	62.9	64.3	64.3
Sources: SCA Playground Noise Study, Allee King Rosen & Fleming, 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, a 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.

[1] SCA Playground Noise Study, Allee King Rosen & Fleming, Inc., October 23, 1992.

The residences north and south of the project site, represented by noise receptor Sites 4 and 1, respectively, have the greatest potential for impact from noise generated by the school playground. Receptors east and west of the site are unlikely to be affected in any noticeable way, because they are separated from the proposed playground by Targee Street and Richmond Road, which are wide, heavily trafficked streets. Because the specific location of the playground area within the project site has not yet been determined, in order to ensure a conservative analysis, the shortest distance between each receptor and the edge of the project site was assumed to be the distance between the playground and the receptor, even though the distance may actually be significantly larger.

Table 9-10 shows the results of combining the projected playground noise levels with the measured existing levels.

Table 9-10
Noise Levels due to School Playground At Worst-Case Distance (dBA)

Site	Time	Existing L_{eq}	Playground L_{eq}	Distance (feet)[1]	Playground L_{eq} at Receptor	Combined L_{eq}	Change
1	AM	60.6	69.3	10	67.5	68.3	7.7
	PM	59.2	64.3		62.5	64.2	5.0
4	AM	60.2	69.3	45	61.0	63.6	3.4
	PM	58.7	64.3		56.0	60.6	1.9

Note: 1. Distance between property line and adjacent residence.

Assuming the minimum possible distances between the proposed playground and the receptor sites, at Site 4, the greatest change in noise levels between the existing condition and the future with the proposed playground would be 3.4 dBA. This increase would be barely perceptible, and would not represent a significant impact according to SCA impact criteria.

Noise level increases at Site 1, however, would be as great as 7.7 dBA, which would be clearly perceptible and significant according to SCA criteria. To ensure that the noise level increase due to the proposed playground would be less than 5.0 dBA, the playground would need to be located at least 24 feet away from the adjacent residences (see Table 9-11). The conceptual design schemes currently under consideration include a minimum distance of at least 24 feet between the playground areas and adjacent residences on the southern end of the project site, and the SCA would ensure that the final design includes this minimum distance. Therefore, the proposed school playground would not result in any significant adverse impacts.

Table 9-11
Noise Levels due to School Playground At Minimum Acceptable Distance (dBA)

Site	Time	Existing L_{eq}	Playground L_{eq}	Minimum Acceptable Distance (feet)[1]	Playground L_{eq} at Receptor	Combined L_{eq}	Change
1	AM	60.6	69.3	24	63.7	65.4	4.8
	PM	59.2	64.3		58.7	62.0	2.8
4	AM	60.2	69.3	45	61.0	63.6	3.4
	PM	58.7	64.3		56.0	60.6	1.9

Note: 1. Distance between playground and adjacent residence.

F. NOISE ATTENUATION MEASURES

As shown in Table 9-1, 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 residential, school, and hotel uses. The proposed school would be designed with an Outdoor-Indoor Transmission Class (OITC) of at least 35, including double glazed windows and central air conditioning (i.e., an alternate means of ventilation).

Based upon the $L_{10(1)}$ values measured at the project site, these design measures would provide sufficient attenuation to achieve the CEQR requirements.

In addition, the building mechanical system (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. ✳

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) was completed by Whitman Companies, Inc. on behalf of the SCA in August 2006. A subsequent Phase I ESA Update was completed by Shaw Environmental Inc. (Shaw) on behalf of the SCA in June 2009. In addition, a Phase I ESA for Lot 20, in the northwestern portion of the project site, was completed by Shaw in September 2009. The main objective of the Phase I ESAs were 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 were evaluated. The Phase I ESAs included a site inspection, a review of the existing data on geology and hydrology of the area, and a review of historical maps, local agency records, and other documents to assess past and current uses of the site and adjacent areas.

The Phase I ESAs identified several on-site RECs including: an active 10,000 gallon underground storage tank (UST) containing fuel oil; an inactive 550 gallon UST formerly containing diesel fuel; a suspected UST; former hazardous materials handling during prior hospital operations; a monitoring well; suspect historic fill associated with previously demolished on-site buildings; and a petroleum spill that was closed by the New York State Department of Environmental Conservation (NYSDEC) without meeting cleanup standards. The Phase I ESAs also identified a petroleum spill incident north of the site that was closed without meeting cleanup standards as a REC. The Phase I ESAs identified the presence of suspect ACM, LBP, and PCB-containing light ballast, caulking materials and hydraulic oil associated with the on-site buildings as environmental concerns. In addition, limited mold growth and several lead-core doors observed in the main hospital building were identified as environmental concerns. A Phase II Environmental Site Investigation (ESI) was completed by Shaw on behalf of the SCA in July 2009 in order to assess the RECs identified in the Phase I ESAs.

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 1034-1050 Targee Street in Staten Island. The site consists of Block 3168, Lots 4, 20, and 195 and is approximately 2.63 acres in size. The southern portion of the site is improved with the former Doctors Hospital Building (vacant since 2003), which was constructed circa 1960 with additions to the western portion completed in 1968 and 1984. The building is two stories in height with a partially sub-grade ground level. The structure totals approximately 63,870 square feet (sf) with a building footprint of approximately 38,160 sf. The northern portion of the site is improved with a former medical administrative building known as the Spring Building. This building is a vacant, two-story slab-on-grade structure built in 1994. The building was once utilized for administrative purposes, for a physician's assistant school, and for a physicians' office. The structure totals approximately 9,140 sf with a building footprint of approximately 5,000 sf. Lot 20 is an undeveloped vegetated lot surrounded by chain link fencing. Parking areas are located in the northeastern, northern and western portions of the site.

A Phase II ESI was conducted to determine if the RECs identified in the Phase I ESAs have affected the site for construction of a public school facility. The investigation included the completion of a geophysical survey, the completion of 15 soil borings, five temporary monitoring wells, six soil vapor probes, along with the collection and laboratory analysis of soil, ground water and soil vapor samples from these locations. In addition, a ground water sample was collected from the existing monitoring well and two storm drain sediment samples were collected. Both the existing monitoring well and the storm drains are located northwest of the former Doctor's Hospital Building.

According to the Phase II ESI, the site is underlain by soils consisting of reddish-brown silty sand with varying amounts of gravel and cobbles down to approximately 5 to 10 feet below ground surface (bgs). Below the silty sand, the soil is a reddish brown to gray silty clay encountered at the maximum depth of this investigation, which is approximately 20 feet bgs. Historic urban fill was detected in three isolated soil borings to a maximum depth of eight feet bgs. The depth to groundwater observed during the investigation ranged from approximately 8.23 and 13.78 ft bgs with an anticipated groundwater flow direction to the east towards Targee Street. The geophysical survey verified the approximate location of the 10,000 and 550 gallon USTs identified in the Phase I ESAs. The approximate location of the suspected UST was not identified during the geophysical survey.

All soils, ground water and soil vapor samples were field screened for VOCs, mercury and gamma radiation. The reported mercury vapor readings from a hand-held Jerome Meter ranged from 0.000 to 0.009 milligrams per cubic meter (mg/m^3), all well below any health-based action levels and near the instrument detection levels. Radiation field screening readings from a Ludlum Model 3 Ratemeter ranged from 0.00 to 0.04 millirems per hour (mR/hr) of gamma radiation, which is within the anticipated background levels. Volatile Organic Compounds (VOCs) readings were obtained utilizing a photoionization detector (PID). All of the PID readings were within the anticipated background levels except for one location (SB-13) located adjacent to the 10,000 gallon UST which recorded a PID reading of 71 parts per million.

The collected sediment and soil samples were analyzed for a combination of the following analytical parameters, VOCs, semi-volatile organic compounds (SVOCs), PCBs, pesticides, metals, cyanide, and total petroleum hydrocarbons (TPH). Five soil samples were analyzed for Target Compound List (TCL) VOCs plus tentatively identified compounds (TICs) in accordance with United States Environmental Protection Agency (EPA) Method 8260, the VOC,

formaldehyde, TCL SVOCs plus TICs in accordance with EPA Method 8270, TCL pesticides in accordance with EPA Method 8081, PCBs in accordance with EPA Method 8082, and selected Target Analyte List (TAL) metals including mercury in accordance with EPA Methods 6010 and 7471, cyanide, hexavalent chromium, TPH gasoline range organics (GRO) and TPH diesel range organics (DRO). One soil characterization sample was analyzed for TCL VOCs plus TICs, TCL SVOCs, Resource and Recovery Act (RCRA) Metals in accordance with EPA Method 6010 and 7471, and formaldehyde. Four other soil samples were analyzed for TCL VOCs and TCL SVOCs.

Five soil samples were collected surrounding the USTs identified in the Phase I ESAs and were analyzed for Spill Technology and Remediation Series (STARS) VOCs in accordance with EPA Method 8260 and STARS SVOCs in accordance with EPA Method 8270. The two storm drain sediment samples were analyzed for Toxicity Characteristic Leaching Procedure (TCLP) VOCs, SVOCs, metals, and pesticides, as well as the RCRA characteristic parameters of ignitibility, reactivity and corrosivity.

The six groundwater samples were analyzed for TCL VOCs & SVOCs plus TICs, formaldehyde and RCRA Metals. In addition, one of the groundwater samples was also analyzed for the New York City Department of Environmental Protection (NYCDEP) Sewer Discharge Parameters. The six soil vapor samples were analyzed for VOCs and formaldehyde utilizing EPA Methods TO-15 and TO-11A, respectively.

A review of the soil VOC analytical results indicates that no VOCs were detected at a concentration above the corresponding NYSDEC Technical and Administrative Guidance Memorandum (TAGM) recommended soil cleanup objectives (RSCOs) or the NYSDEC Part 375 soil cleanup objectives (SCO) for unrestricted use. Trace concentrations of two targeted VOCs and 19 non-targeted VOCs were detected from soil sample (SB-13, 16-20) collected from the soil exhibiting elevated PID readings as indicated above.

A review of the SVOC analytical results in the soil samples collected from historic urban fill indicate five SVOCs—benzo*(a)*anthracene, benzo*(b)*fluoranthene, benzo*(k)*fluoranthene, and benzo*(a)*pyrene, and chrysene—were detected at concentrations above both the TAGM RSCOs and Unrestricted Use SCOs at soil borings SB-3 and SB-4. The presence of these SVOCs at soil borings SB-3 and SB-4 is attributable to the historic fill identified at this location. A review of the TAL Metals analytical results in the soil samples collected from historic urban fill indicate that four metals—hexavalent chromium, lead, nickel and zinc—were detected at concentrations greater than the Unrestricted Use SCOs.

The presence of four SVOCs—benzo*(a)*anthracene, benzo*(a)*pyrene, chrysene, and dibenz (a,h) anthracene—were detected slightly above the corresponding NYSDEC TAGM 4046 RSCOs at one location adjacent to the 550 gallon UST (SB-11). None of these SVOCs were detected at a concentration above the Unrestricted Use SCOs. No SVOCs were detected at a concentration greater than either the RSCOs or SCOs from the soil sample collected adjacent to the 10,000 gallon UST (SB-13) which exhibited elevated PID readings.

A review of the soil pesticide results indicates that two pesticides, alpha-chlordane and gamma-chlordane, were detected in sample SB-4. The alpha-chlordane concentration was more than an order of magnitude lower than the Unrestricted Use SCO. There is no Unrestricted Use SCO for gamma-chlordane. A review of the soil analytical results indicates no PCBs were detected in the soil samples.

A review of the soil analytical results indicates that TPH GROs were detected in only one soil sample (SB-13). The soil analytical results show that TPH DROs were detected in all five samples. Four of the five samples had concentrations ranging from approximately 5 to 15 milligrams per kilogram (mg/kg). The fifth sample, from SB-13, had a concentration of approximately 874 mg/kg, approximately two orders of magnitude greater than the other detected concentrations. There are no federal, state, or local regulatory criteria for either TPH GROs or DROs in soil. The higher concentration of TPH DROs in the soil sample from SB-13 coincides with the elevated PID readings listed above, and may be associated with a fuel oil spill that was closed by the NYSDEC without meeting cleanup standards.

A review of the storm water drain sediment analytical results indicates that no TCLP VOCs, SVOCs or pesticides were detected. Two of the eight metals, barium and lead, were detected in both samples at concentrations at least two orders of magnitude below the Maximum Concentration for Toxicity Characteristics. In addition, the sediment samples did not exhibit any ignitibility, corrosivity, or reactivity levels indicative of a characteristic hazardous waste.

None of the analyzed ground water samples exhibited any parameters above the corresponding NYSDEC Class GA groundwater standards or guidelines with the exception of formaldehyde. Formaldehyde was detected in groundwater at concentrations ranging between 8 and 20 micrograms per liter (µg/L) compared to the 8 µg/L State ground water quality standard. The presence of formaldehyde above the corresponding groundwater standard may be attributable to historic hospital and mortuary operations at the site. In addition, total suspended solids were present at temporary monitoring well GW-1 at a concentration above the NYCDEP effluent limitations. Total suspended solids concentration at well GW-1 was 2,000 milligrams per liter (mg/L) which is above the effluent limitation of 350 mg/L. The presence of total suspended solids at well GW-1 is attributable to sample induced turbidity.

A review of the soil vapor sample analytical results indicate that 17 of the 29 VOCs analyzed were detected in one or more samples. The VOCs acetone, 1,1,1 trichloroethane (1,1,1-TCA), trichloroethene (TCE), and tetrachloroethene (PCE) were detected in one or more of the samples at concentrations above the anticipated background concentrations. The petroleum-related VOCs—ethylbenzene, m,*p*-xylenes, *o*-xylene, 1,3,5-trimethylbenzene, 1,2,4-trimethylbenzene, 1,3-dichlorobenzene, 1,2-dichlorobenzene, and naphthalene—were also detected in one or more of the samples at a concentration above the anticipated background concentrations. The NYSDOH has established Air Guideline Values (AGVs) for three of the VOCs analyzed: methylene chloride, PCE, and TCE. Methylene chloride and TCE were not detected at a concentration above the anticipated background concentrations or the corresponding AGVs in any of the six collected soil vapor samples. PCE was detected in one of the six collected soil vapor samples at a concentration above the corresponding AGV. Soil vapor sample SV-6 located northwest of the former Doctors Hospital Building reported PCE at a concentration of 150 microgram per cubic meter (µg/m^3), which exceeds the corresponding AGV of 100 µg/m^3. The detected concentrations of PCE ranged from 3.0 to 150 µg/m^3.

C. THE FUTURE WITHOUT THE PROJECT

In the future without the proposed project the project site is expected to remain in its current condition.

D. PROBABLE IMPACTS OF THE PROPOSED PROJECT

Since hazardous materials, including SVOCs, metals, and petroleum-based materials, are present on the site, the SCA would enact certain measures during construction, including properly managing excavated soils, in accordance with all applicable local, State and Federal regulations. Prior to the construction of the project, the 10,000-gallon and 550-gallon USTs would be removed along with any associated petroleum-impacted soil in accordance with all applicable regulations. If it is encountered, the suspected UST would also be removed along with any associated petroleum-impacted soil in accordance with all applicable regulations. As a preventative measure, a soil vapor barrier and a sub slab depressurization system would be installed below the proposed school building to prevent any soil vapor intrusion into the building. Prior to construction, any suspect mold, ACM, LBP, lead-core doors, and PCB-containing materials affected by the preparation of the site for use as a public school would be identified and would be properly managed during construction activities. 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. In addition, to minimize the potential for construction workers' exposure, standard industry practices, including an appropriate health and safety plan, would be utilized.

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. EXISTING CONDITIONS

A field investigation was conducted by AKRF on August 27, 2009. The project site is located in a fully developed area. Approximately 95 percent of the site is paved, with a small disturbed, vegetated area (Lot 20) located in the northwest corner of the site along Richmond Road (see Figure 11-1). This area, approximately 2,400 square feet (0.06 acres), can be characterized as an Urban Vacant Lot per Edinger et al. 2002, which is defined as:

> "Vegetation may be sparse, with large areas of exposed soil, and often with rubble or other debris. Characteristic trees are often naturalized exotic speices such as Norway maple (*Acer platanoides*), white mulberry (*Morus alba*), and tree of heaven (*Ailanthus altissima*), a species native to northern China and introduced as an ornamental. Tree of heaven is fast growing and tolerant of the harsh urban environment; it can dominate a vacant lot and form dense stands."

This portion of the project site is characterized by disturbed conditions with a substrate containing construction and demolition debris as shown in Figure 11-2. In addition, it appears to function as a dumping ground for organic material (i.e., compost and yard wastes).

VEGETATION

Existing vegetation consists of pioneer species, shown in Figure 11-3, many of which are exotic invasive (see Table 11-1). The dominant species within the shrub and canopy layers is Norway maple with the diameter at breast height (DBH) of the largest Norway maple measuring 16.7". The sapling layer is comprised of Norway maple, hackberry (*Celtis occidentalis),* and black cherry *(Prunus serotina).* The herbaceous strata is comprised of Japanese knotweed *(Polygonum cuspidatum*), mugwort (*Artemesia vulgaris*), and porcelain berry (*Ampelopsis brevipedunculata*) along the open perimeters.

WETLANDS

According to United States Fish and Wildlife Service (USFWS), National Wetlands Indicator (NWI) maps and New York State Department of Environmental Conservation (NYSDEC) Environmental Resource Mapper, no wetlands are mapped on or adjacent to the project site. Observations made during the field investigation confirmed that wetlands are not present on the project site.

WILDLIFE

Wildlife was not observed within the project site but the vegetated area, described above, could provide habitat suitable for species common to urban areas such as squirrel (*Sciurus carolinenis*), raccoon (*Procyon Lotor*) and Norway rat (*Rattus norvegicus*). Possible bird species common to urban edge and woodland habitats, such as downy woodpecker *(Picoides*

pubescens), blue jay *(Cyanocitta cristata),* black-capped chickadee *(Poecile atricapillus),* carolina wren *(Thryothorus ludovicianus),* American robin *(Turdus migratorius),* gray catbird *(Dumetella carolinensis),* northern cardinal *(Cardinalis cardinalis),* and brown-headed cowbird *(Molothrus ater)* could use the vegetated area for foraging/protection.

Table 11-1
Vegetation Observed Within Project Site

Trees/Shrubs	
Norway maple	*Acer platanoides*
white mulberry	*Morus alba*
black cherry	*Prunus serotina*
hackberry	*Celtis occidentalis*
privet	*Ligustrum sp.*
forsythia	*Forsythia sp.*
rose of Sharon	*Hibiscus syriacu*
Vines	
Japanese honeysuckle	*Lonicera japonica*
Virginia creeper	*Parthenocissus quinquefolia*
poison ivy	*Toxicodendron radicans*
porcelain berry	*Ampelopsis brevipedunculata*
common greenbriar	*Smilax rotundifolia*
Herbaceous Plants	
rough-stemmed goldenrod	*Solidago rugosa*
multiflora rose	*Rosa multiflora*
bittersweet nightshade	*Solanum dulcamara*
yellow wood sorrel	*Oxalis stricta*
mugwort	*Artemesia vulgaris*
common blackberry	*Rubus sp.*
pokeberry	*Phytolacca Americana*
Japanese knotweed	*Polygonum cuspidatum*
AKRF field investigation conducted on August 27, 2009.	

THREATENED AND ENDANGERED SPECIES

In addition to field observations, described above, responses from NYSDEC New York Natural Heritage Program (NYNHP) confirm that this site is not expected to contain federal or state-listed threatened and endangered species, species of special concern or habitats of special concern.

B. FUTURE WITHOUT THE PROPOSED PROJECT

It is assumed that if the proposed project does not proceed, the project site would remain in its current condition. The vegetated area within the project site would be expected to continue maturing. In addition, this area would likely continue to function as a dumping ground for yard wastes.

C. FUTURE WITH THE PROPOSED PROJECT

In the future with the proposed project the existing vegetation on the project site would likely be cleared and a new school with outdoor recreational facilities would be constructed on the site. Since invasive species dominate the vegetated area, no threatened or endangered species were observed or expected to use the habitat provided, and no wetlands are present, no significant adverse impacts to natural resources would occur as a result of the proposed project. *

TARGEE STREET
PRIMARY SCHOOL

Aerial View
Figure 11-1

11.10.09

View of debris and Norway maple trees facing west **1**

View of Norway maple trees facing project site to the south **2**

11.10.09

View of Japanese knotweed **3**

View of Norway maple facing east **4**

APPENDIX A

SHPO CORRESPONDENCE

David A. Paterson
Governor

Carol Ash
Commissioner

New York State Office of Parks,
Recreation and Historic Preservation

Historic Preservation Field Services Bureau • Peebles Island, PO Box 189, Waterford, New York 12188-0189
518-237-8643
www.nysparks.com

October 29, 2009

Claudia Cooney
Vice President
AKRF
440 Park Avenue South
7th Floor
New York, NY 10016

RE: Proposed P.S. 71 at 1034-1050 Targee Street
Richmond County, NY
09PR05639

Dear Ms. Cooney:

Thank you for submitting the documentation on P.S. 48, the William C. Wilcox School, located across the street from the proposed P.S. 71 project. I have reviewed the documentation that you provided in accordance with the provisions of Section 14.09 of the New York State Historic Preservation Act of 1980.

Based on the new information submitted, it is the opinion of OPRHP that the resource meets the criteria for inclusion in the National Register of Historic Places. The Resource Evaluation for P.S. 48 is enclosed with this letter.

If you have any questions regarding this review, please call me at (518) 237-8643, ext. 3266. Please refer to the Project Review (PR) number noted above in any future correspondence.

Sincerely,
Kathleen A Howe

Kathleen A. Howe
Historic Preservation Program Analyst

enc: Resource Evaluation

New York State Office of Parks,
Recreation and Historic Preservation

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David A. Paterson
Governor

Carol Ash
Commissioner

RESOURCE EVALUATION

DATE: October 29, 2009

PROPERTY: P.S. 48, the William C. Wilcox School

ADDRESS: 1055 Targee Street

PROJECT REF: 09PR05639

STAFF: Kathy Howe

MCD: Staten Island

COUNTY: Richmond Co.

USN: 08501.002922

I. ☐ Property is individually listed on SR/NR:
name of listing:

☐ Property is a contributing component of a SR/NR district:
name of district:

II. ☒ Property meets eligibility criteria.

☐ Property contributes to a district which appears to meet eligibility criteria.

Pre SRB: ☐ Post SRB: ☐ SRB date

Criteria for Inclusion in the National Register:

A. ☒ Associated with events that have made a significant contribution to the broad patterns of our history;

B. ☐ Associated with the lives of persons significant in our past;

C. ☒ Embodies the distinctive characteristics of a type, period or method of construction; or represents the work of a master; or possess high artistic values; or represents a significant and distinguishable entity whose components may lack individual distinction;

D. ☐ Have yielded, or may be likely to yield information important in prehistory or history.

STATEMENT OF SIGNIFICANCE:

P.S. 48, the William C. Wilcox School, on Targee Street in Staten Island, appears to meet Criterion C as an example of school design that represents two distinct phases of twentieth century architecture: a neo-classical block from 1930 and a post World War II addition. The school possesses historical significance under Criterion A for representing the response of the city to an expanding school-age population both before and after the war.

The three-story 1930 school building has numerous characteristics associated with the restrained neo-classical style including a façade of red brick with limestone at the first floor and rusticated limestone at the end bays, classical ornamentation, paired double-hung, multi-light

sash, a symmetrical façade, and a denticulated cornice. The one-story post-war addition is typical of school design from that period, featuring asymmetrical massing, strong horizontal lines emphasized by deep eaves, and plain brick walls with no ornamentation. Of interest in the design of the school is the flat-roofed porte-cochere with brise-soleil end wall. Both buildings appear to retain a high degree of integrity of setting, location, feeling, association, design, materials, and craftsmanship.

If you have any questions concerning this Determination of Eligibility, please call Kathy Howe at (518) 237-8643, ext. 3266.

New York State Office of Parks,
Recreation and Historic Preservation

Historic Preservation Field Services Bureau • Peebles Island, PO Box 189, Waterford, New York 12188-0189
518-237-8643
www.nysparks.com

David A. Paterson
Governor

Carol Ash
Commissioner

November 5, 2009

Elizabeth Meade
AKRF
440 Park Ave. South
New York, NY 10016

Dear Ms. Meade:

Re: NYCSCA
Proposed Targee Street Public School
Staten Island, Richmond County, NY
09PR5639

Thank your for requesting the comments of the New York State Historic Preservation Office (SHPO) with regard to the potential for this project to affect significant historical/cultural resources. SHPO has reviewed the Preliminary Assessment/Disturbance Memorandum prepared by Historical Perspectives for this property. After this review, we concur that due to extensive prior disturbance, that property should not be considered archaeological sensitive and no further archaeological investigation is recommended. Please continue to work with out staff to address concerns related to the building itself.

Please contact me at extension 3291, or by e-mail at douglas.mackey@oprhp.state.ny.us, if you have any questions regarding these comments.

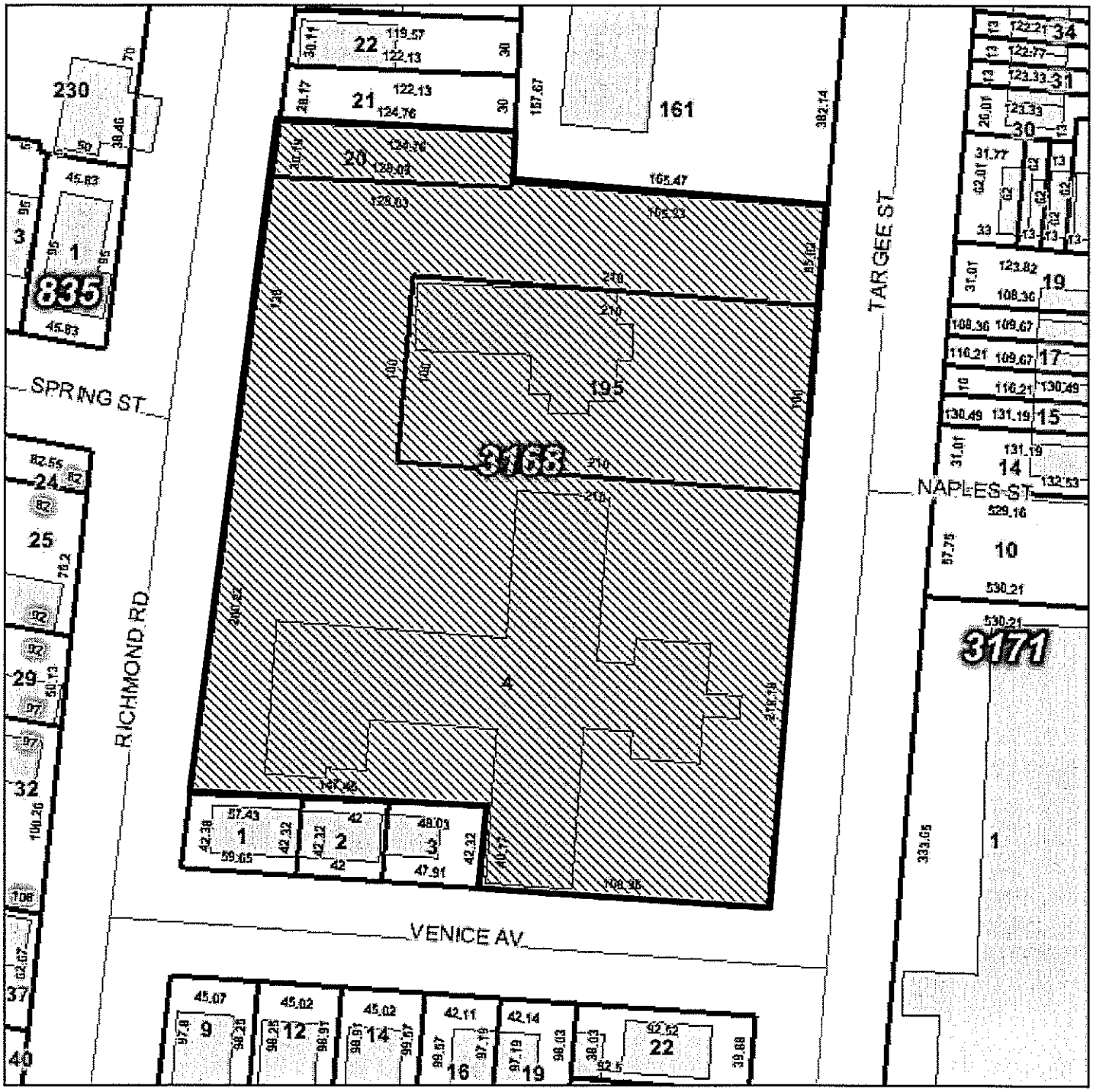
Sincerely

Douglas P. Mackey

Douglas P. Mackey
Historic Preservation Program Analyst
Archaeology

SITE PLAN FOR NEW, APPROXIMATELY 416-SEAT PRIMARY SCHOOL
Staten Island Block 3168, Lots 4, 20, and 195
Community School District No. 31

§1731: 08/28/09-10/12/09



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 3168, Lots 4, 20 and 195, and any other property in the immediate vicinity which may be necessary for the proposed project, located in the Borough of Staten Island, for the development of a new, approximately 416-seat primary school facility in Community School District No. 31.

The proposed site is privately-owned, contains approximately 96,000 square feet of lot area (approximately 2.2 acres), and is located at 1034 and 1050 Targee Street. The site currently contains the former Doctors' Hospital building, an administration building and a vacant, overgrown lot. Under the proposed project, on behalf of the New York City Department of Education, the New York City School Construction Authority would acquire the site, demolish the existing on-site structures, and construct a new public primary school facility.

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 October 12, 2009.

For publication in the Staten Island Advance (5 Borough Edition) and the City Record on Friday, August 28, 2009.

SCA
School Construction Authority

NYC
Department of Education

August 28, 2009

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

Re: New, Approximately 416-Seat Primary School Facility, Staten Island Community School District No. 31

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 3168, Lots 4, 20 and 195, and any other property in the immediate vicinity which may be necessary for the proposed project, located in the Borough of Staten Island, for the development of a new, approximately 416-seat primary school facility in Community School District No. 31. The site is located at 1034 and 1050 Targee Street, at the location of the former Doctors' Hospital.

This notification was sent to Staten Island Community Board No. 2 and the City Planning Commission. The Notice of Filing for this site selection will be published in the Staten Island Advance and City Record on August 28, 2009, and the SCA will continue to accept public comments until October 12, 2009.

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,

Sharon L. Greenberger
President and CEO

Attachments

c: Kathleen Grimm, Deputy Chancellor for Infrastructure and Planning
Hon. Melinda Katz, Land Use Committee
Hon. Jessica Lappin, Subcommittee on Landmarks, Public Siting & Maritime Uses
Hon. James S. Oddo, 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

August 28, 2009

Mr. Dana T. Magee
Chairperson
Staten Island Community Board No. 2
Seaview Hospital
Lou Caravone Community Service Building
460 Brielle Avenue
Staten Island, New York 10314

Re: New, Approximately 416-Seat Primary School Facility, Staten Island Community School District No. 31

Dear Mr. Magee:

Pursuant to §1731 of the New York City School Construction Authority Act, notice is hereby given of the proposed site selection of Block 3168, Lots 4, 20 and 195, and any other property in the immediate vicinity which may be necessary for the proposed project, located in the Borough of Staten Island, for the development of a new, approximately 416-seat primary school facility in Community School District No. 31. The site is located at 1034 and 1050 Targee Street, at the location of the former Doctors' Hospital.

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 the Alternate Sites Analyses for this proposed action. The Authority will accept public comments on this proposed Site Plan until October 12, 2009. All comments will be taken into consideration in the Authority's final decision regarding this matter.

If you require any additional information, please contact Ross J. Holden, Vice President and General Counsel, at (718) 472-8220.

Sincerely,

Sharon L. Greenberger
President and CEO

Attachments

c: Kathleen Grimm, Deputy Chancellor for Infrastructure and Planning
Debra Derrico, District Manager, Staten Island Comm. District No. 2

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

DANA T. MAGEE
CHAIR

DEBRA A. DERRICO
DISTRICT MANAGER

THE CITY OF NEW YORK
Community Board Two
BOROUGH OF STATEN ISLAND

460 BRIELLE AVENUE
STATEN ISLAND, NEW YORK 10314
718-317-3235
FAX: 718-317-3251

September 23, 2009

2009 SEP 25 PM 3:17

Mr. Ross Holden
New York City School Construction Authority
30-30 Thomson Avenue
Long Island, City, New York 11101

Re: New Primary School Facility, Staten Island Community School District No. 31

Dear Mr. Holden:

Community Board 2 at its regular board meeting held on September 22, 2009 voted unanimously to approve the proposed project to develop a new school facility in Community District 31 at 1050 Targee Street, Staten Island.

Resolution:
"Community Board 2 approves the site selection by the New York City School Construction Authority at the former Doctor's Hospital site, 1050 Targee Street for the purpose of building a new primary school facility."

Vote: 32–In Favor; 0–Opposed;
0–Abstentions; 0–Not-Entitled

Thank you for taking the Community Board's comments under consideration.

Sincerely,

Dana T. Magee
Chair

Debra A. Derrico
District Manager

SCA
School Construction Authority

August 28, 2009

NYC
Department of Education

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

Re: New, Approximately 416-Seat Primary School Facility, Staten Island Community School District No. 31

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 3168, Lots 4, 20 and 195, and any other property in the immediate vicinity which may be necessary for the proposed project, located in the Borough of Staten Island, for the development of a new, approximately 416-seat primary school facility in Community School District No. 31. The site is located at 1034 and 1050 Targee Street, at the location of the former Doctors' Hospital.

Attached please find copies of the Notice of Filing, Site Plan, and Alternate Sites Analyses for this proposed action. The Authority will accept public comments on this Site Plan until October 12, 2009. 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,

Sharon L. Greenberger
President and CEO

Attachments

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

30-30 Thomson Avenue
Long Island City, NY 11101

718 472 8000 T
718 472 8840 F

CITY PLANNING COMMISSION
CITY OF NEW YORK

OFFICE OF THE CHAIR

October 10, 2009

Sharon L. Greenberger
President and CEO
New York City School Construction Authority
30-30 Thomson Avenue
Long Island City, NY 11101-3045

Dear Ms. Greenberger,

This is in response to your letter August 28, 2009 in which notice was given to the City Planning Commission of the proposed site selection of Block 3168, Lots 4, 20, and 195 in the borough of Staten Island (Community District 2) for the construction of an approximately 416-seat Primary School facility for Community School District 31.

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

Very sincerely,

Amanda M. Burden

C: Kathleen Grimm
Ross Holden
Betty Mackintosh
Len Garcia-Duran

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

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. L.U. 35/20105061SCR Res. No. _____

☒ in favor ☐ in opposition

Date: 2/24/10

(PLEASE PRINT)

Name: KENRICK ON

Address: 3030 THOMSON AVENUE

I represent: SCHOOL CONSTRUCTION AUTHORITY

Address:

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. L.U. 35 Res. No. _____

☒ in favor ☐ in opposition

Date: 2/24/10

(PLEASE PRINT)

Name: Jeffrey Shear

Address: 52 Chambers St. NY NY

I represent: Dept. of Ed.

Address: 52 Chambers St.

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. 35 Res. No. 5061SCR

☒ in favor ☐ in opposition

Date: Feb 24-2010

(PLEASE PRINT)

Name: Greg Shaw

Address: 30-30 Thomson Ave LIC NY

I represent: NYC School Construction Authority

Address: 30-30 Thomson Ave LIC NY

Please complete this card and return to the Sergeant-at-Arms