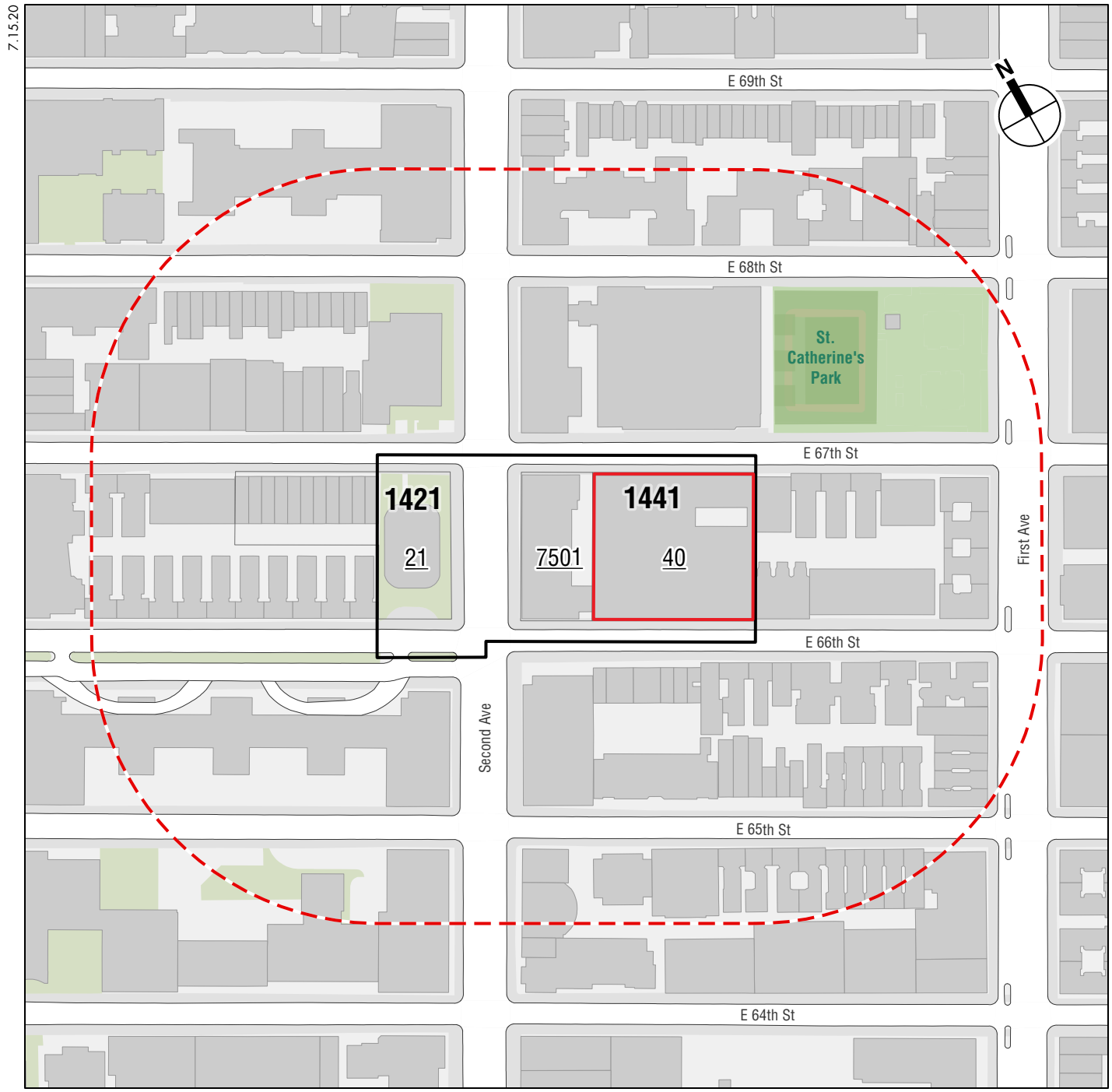
Draft Scope of Work for a Draft Environmental Impact Statement for the New York Blood Center—Center East CEQR No. 21DCP080M

A. INTRODUCTION

This Draft Scope of Work ("Draft Scope") outlines the technical areas to be analyzed in the preparation of an Environmental Impact Statement (EIS) for the proposed new building (Proposed Project) to replace the existing New York Blood Center (NYBC) building. The New York Blood Center (the Applicant) is requesting a rezoning and other discretionary actions (the Proposed Actions) from the City Planning Commission (CPC) to facilitate the construction of the Proposed Project, an approximately 596,200 gross-square-foot (gsf) building on the site of the existing NYBC building at 310 East 67th Street, Block 1441 Lot 40 (the "Development Site"). The Development Site is located on the Upper East Side in Manhattan Community District 8. Block 1441 is bounded by East 66th and East 67th Streets and First and Second Avenues. The Development Site is part of a larger Rezoning Area which also includes Block 1441, Lot 7501, and Block 1421, p/o Lot 21 (see **Figure 1**).

To facilitate the Proposed Project the Applicant is requesting several actions from the New York CPC: a zoning map amendment in order to rezone the Development Site from R8B to C2-7; and to rezone the remainder of the Rezoning Area (Block 1441, Lot 7501 and the eastern 100 feet of Block 1421, p/o Lot 21) from C1-9 to C2-8 (see **Figure 2**); a zoning text amendment to amend Appendix F of the Zoning Resolution to designate the Development Site as an Mandatory Inclusionary Housing (MIH) area; a zoning text amendment to Section 74-48 of the Zoning Resolution; and a special permit pursuant to the amended Section 74-48 to modify various sections of the Zoning Resolution, as detailed below, under "Proposed Actions."

The New York City Department of City Planning (DCP), acting on behalf of CPC, will be the lead agency for environmental review. Based on the Environmental Assessment Statement (EAS) that has been prepared, the lead agency has determined that the Proposed Actions have the potential to result in significant adverse environmental impacts, requiring that an EIS be prepared. Scoping is the first step in the preparation of the EIS and provides an early opportunity for the public and other agencies to be involved in the EIS process. It is intended to determine the range of issues and considerations to be evaluated in the EIS. This Draft Scope of Work includes a description of the Proposed Project and the actions necessary for its implementation, presents the proposed framework for the EIS analysis, and discusses the procedures to be followed in the preparation of the Draft EIS (DEIS). The 2014 *City Environmental Quality Review (CEQR) Technical Manual* will serve as a general guide on the methodologies and impact criteria for evaluating the Proposed Actions' effects on the various areas of environmental analysis.



Project Location

NEW YORK BLOOD CENTER—CENTER EAST

Figure 1

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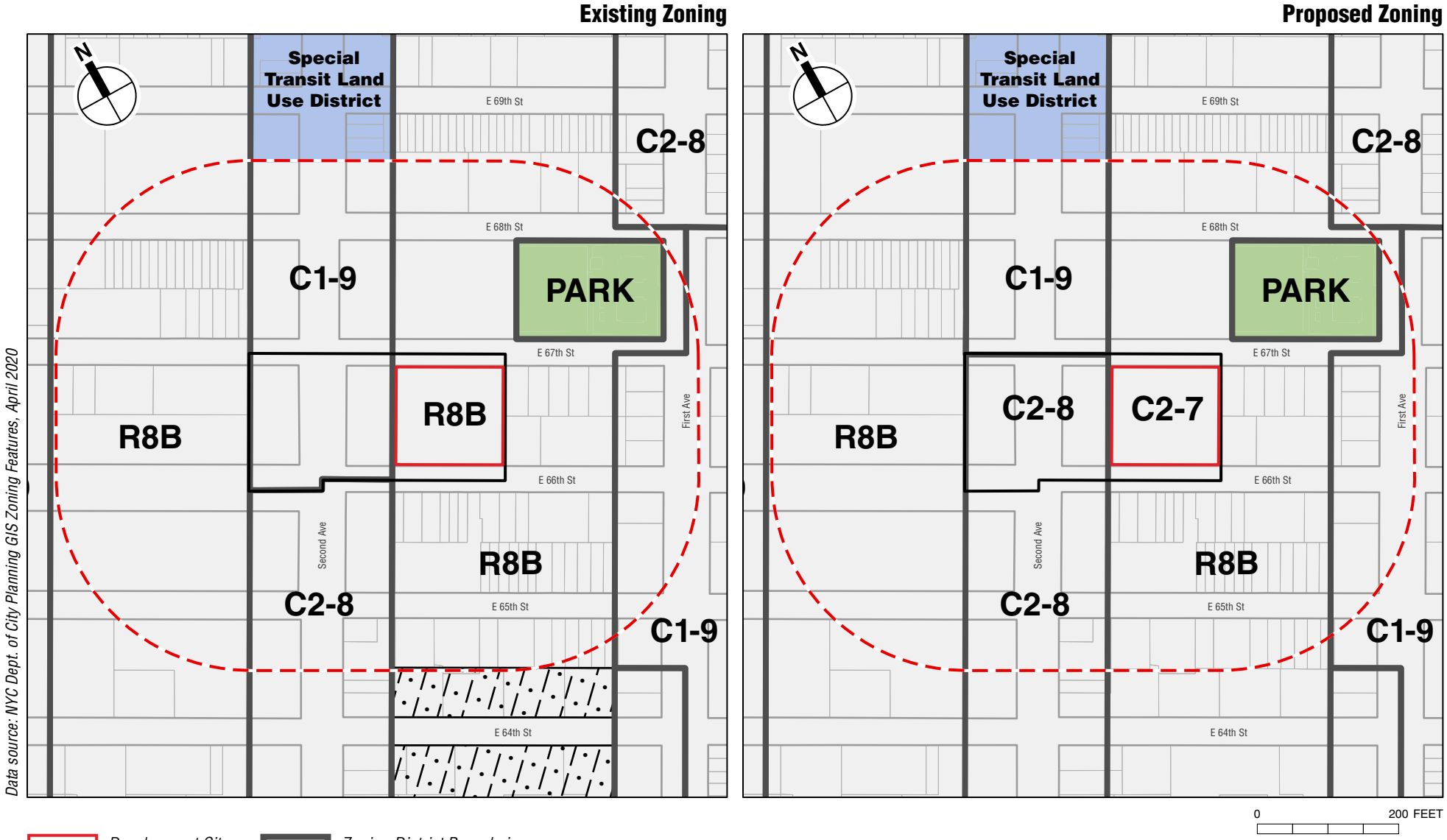


Data source: NYC Dept. of City Planning GIS Zoning Features, April 2020

Existing and Proposed Zoning

NEW YORK BLOOD CENTER—CENTER EAST

Figure 2

B. PROJECT DESCRIPTION

DESCRIPTION OF THE DEVELOPMENT SITE AND THE REZONING AREA

As shown on **Figure 1**, the Rezoning Area is composed of the following tax lots:

- Block 1441, Lot 40 (Development Site);
- Block 1441, Lot 7501 (on the Second Avenue end of the block); and
- The portion of Block 1421, Lot 21 within 100 feet of Second Avenue.

The Development Site is occupied by a three-story former trade school built in 1930. The structure is used by the Applicant for their existing operations including laboratories, offices, and van parking. An existing auditorium space is also used for meetings including some meetings of Community Board 8.

In addition to the existing NYBC facility, the Rezoning Area contains two residential buildings, not owned or controlled by the Applicant. Immediately adjacent to NYBC on Lot 7501 is 310 East 66th Street, a 16-story, approximately 208,000-gsf white brick-clad building on Second Avenue between East 66th and East 67th Streets. It has retail uses in its Second Avenue frontage. Across Second Avenue is a 45-story tower sheathed in dark glass and set back from the surrounding streets (Block 1421, p/o Lot 21). It has a sunken ground level and retail space and a cinema in its base. Given the existing size and use of these two buildings, neither site is expected to be redeveloped as a result of the rezoning.

DESCRIPTION OF SURROUNDING AREA

The blocks surrounding the Rezoning Area contain a variety of residential and institutional uses. The eastern end of the block on which NYBC is located is residential except for a small structure which houses a New York Public Library and small retail and restaurant uses on and near First Avenue.

The Julia Richman Educational Complex occupies the western half of the block to the north of NYBC between First and Second Avenues. The structure now houses an elementary school, a middle school, and four high schools. St. Catherine's Park occupies the eastern end of the block. It has play areas for smaller children, sitting areas and paved sports courts.

The block to the south is largely residential with a Memorial Sloan Kettering Imaging Center on the Second Avenue end of the block and the more typical small scale retail and restaurant uses on the ground floors of buildings on the First Avenue end of the block.

West of Second Avenue and the Rezoning Area between East 66th and 67th Streets are smaller and larger scale residential buildings. The block on the south side of East 66th Street west of Second Avenue is occupied by a full block white brick residential building. The block on the north side of East 67th Street west of Second Avenue is occupied by a variety of residential structures and a large commercial building housing television studios.

DESCRIPTION OF THE PROPOSED PROJECT

The existing aging NYBC building on the Development Site would be demolished and replaced with a new building of approximately 596,200 gsf, split between 206,400 gsf of Use Group

(UG)-4 community facility uses for the Applicant and 389,800 gsf of UG-9 laboratories and related uses for the Applicant's partners. The building would have 16 floors and rise to a height of approximately 334 feet to the top of the screen wall (see **Figures 3–5**).

The design of the Proposed Project comprises a four-story base covering the entire lot and above that, the upper portion of the building would have floor plates of a minimum of 29,000 gsf with the 16 foot floor-to-floor heights required to accommodate the robust mechanical systems needed in laboratory buildings. These building dimensions were established based on rigorous laboratory planning dimensions. Three curb cuts are proposed on East 66th Street to accommodate service access, including loading, waste removal, and the Applicant's fleet parking.

The building would accommodate laboratory research, offices for the Applicant, and space for blood donations as well as laboratory research and office space for the Applicant's partners. The building would also provide a multi-purpose room. It would accommodate meetings including the evening meetings of Community Board 8. It would be smaller in floor area, but more flexible for different types of meetings than the existing auditorium.

PROPOSED ACTIONS NECESSARY TO FACILITATE THE PROPOSED PROJECT

In order to accomplish the project, the Applicant is requesting the following zoning actions:

(1) Rezoning of the Development Site (Block 1441 between 100 feet and 325 feet east of Second Avenue) from an R8B district to a C2-7 district (see **Figure 2**, above). Rezoning of the Development Site would allow Use Group 9 commercial laboratories and associated offices to be located in the proposed project, in addition to the community facility lab spaces and offices of the Applicant, and it will allow the building to be developed to 10 FAR.

(2) Rezoning of both block frontages of Second Avenue to a depth of 100 feet, between East 66th and East 67th Street, from a C1-9 district to C2-8 district. Rezoning of the Second Avenue frontages to a C2-8 district would be more appropriate designation adjacent to a C2-7 district, it would make the existing cinema on the west side of second Avenue as-of-right, and further, it is mapped along Second Avenue north of East 67th Street.

(3) Zoning text amendment to Section 74-48 (Scientific Research and Development Facility) to allow, by special permit, an increase in commercial FAR in C2-7 districts for medical laboratories and associated offices, and modifications to the applicable supplementary use, bulk, and signage regulations.

(4) Zoning text amendment to amend Appendix F of the Zoning Resolution to designate the Development Site as an MIH area.

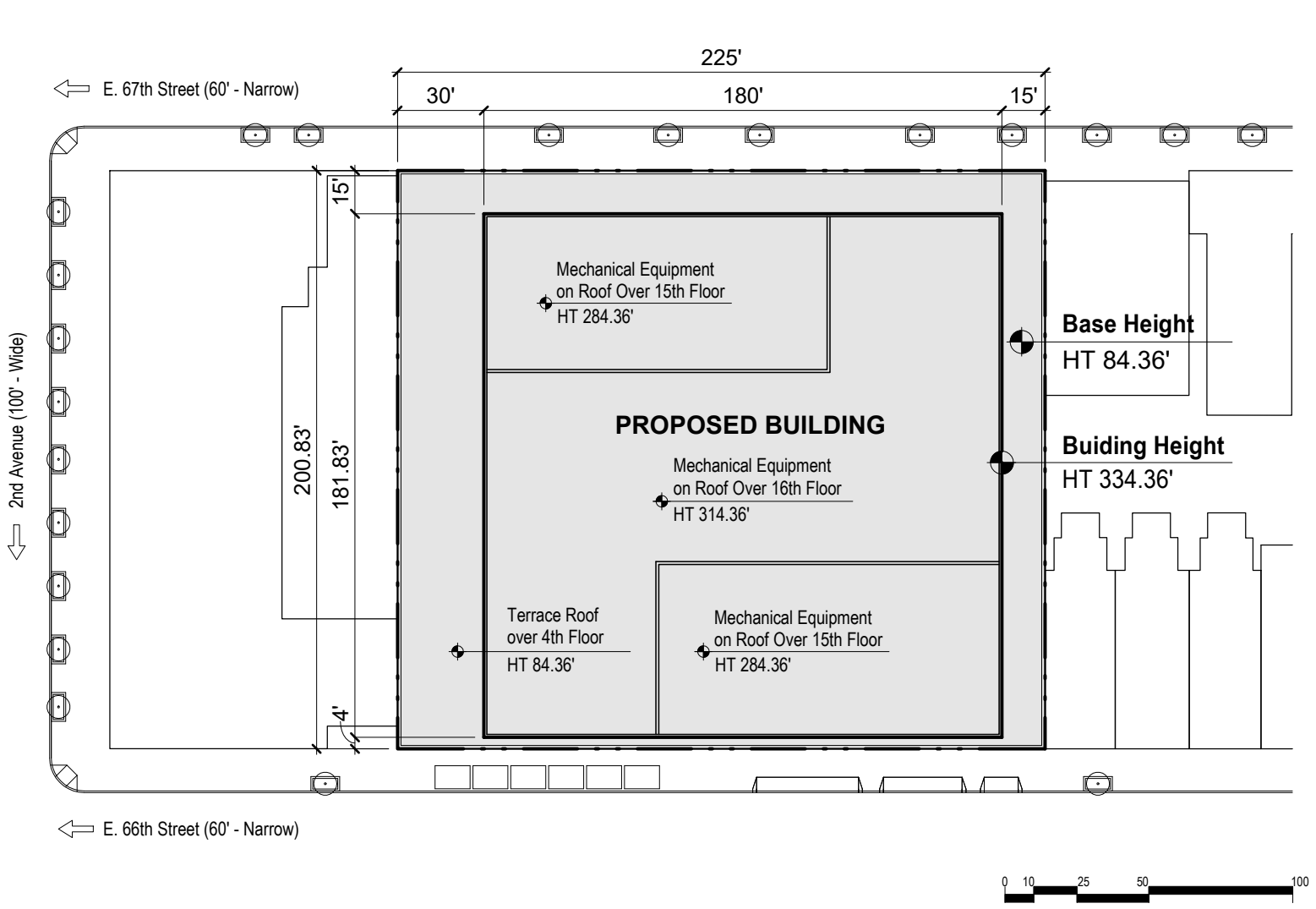
(5) Special permit pursuant to Section 74-48, as amended, to permit:

   (a) commercial laboratory and associated office space to be included in the Proposed Project at more than the 2 FAR permitted in C2-7 districts pursuant to Section 33-122;

   (b) the commercial space to be located above the second floor of the building, which is not permitted by Zoning Resolution Section 32-421;

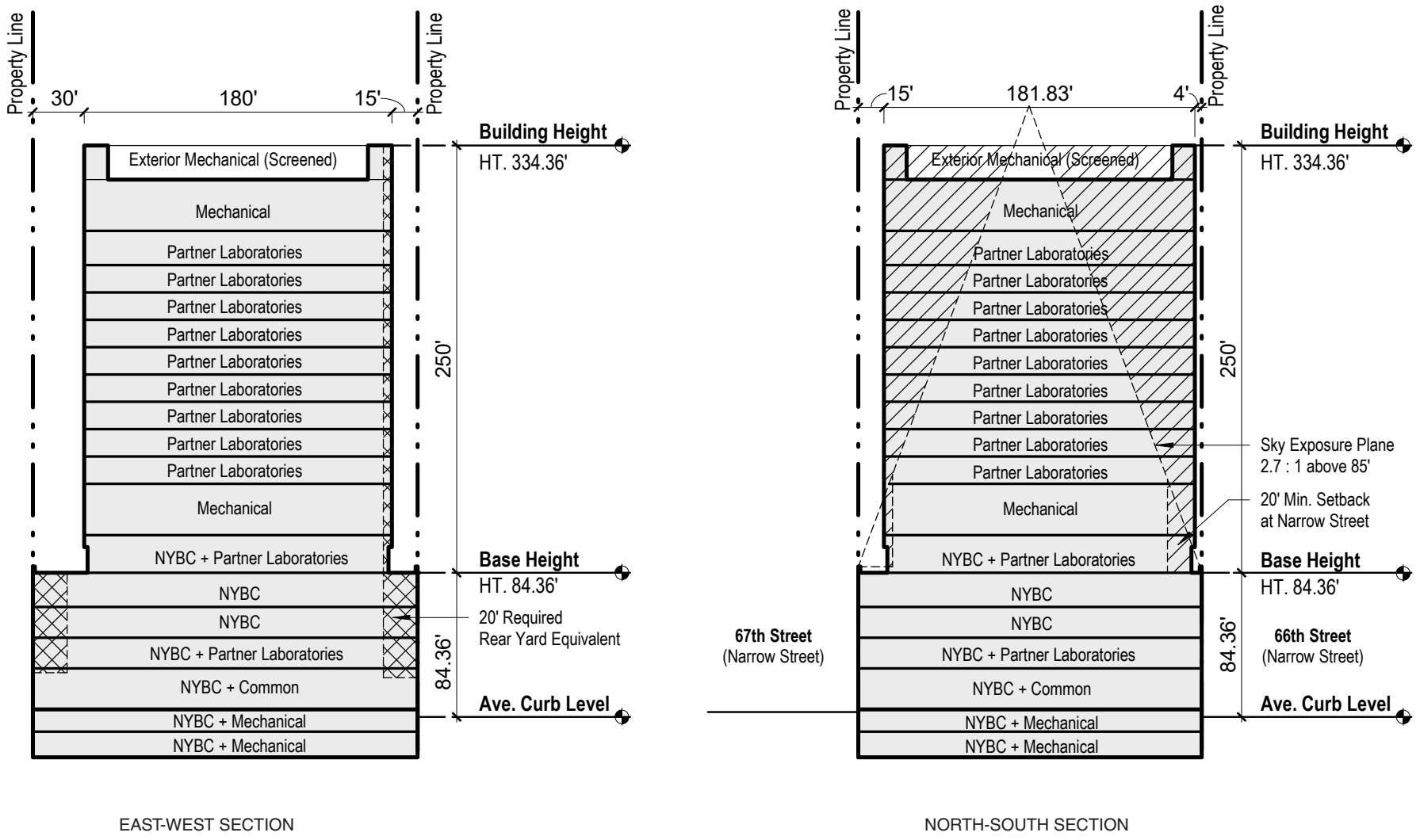
   (c) the commercial space to be located above the lesser of 30 feet or two stories, which is not permitted by Zoning Resolution Section 33-432;

   (d) modifications of the height and setback regulations of Section 33-432, which will allow the Proposed Project to encroach on the initial setback distance and the sky exposure



Source: Ennead Architects

Proposed Project - Site Plan

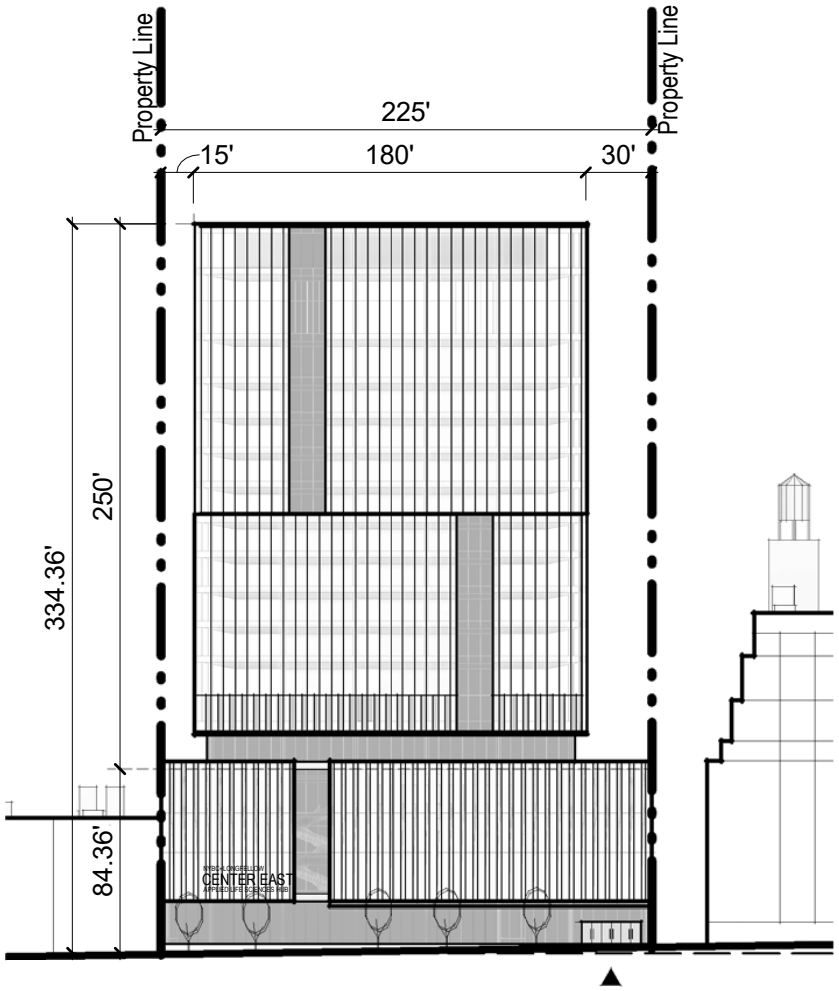


Source: Ennead Architects

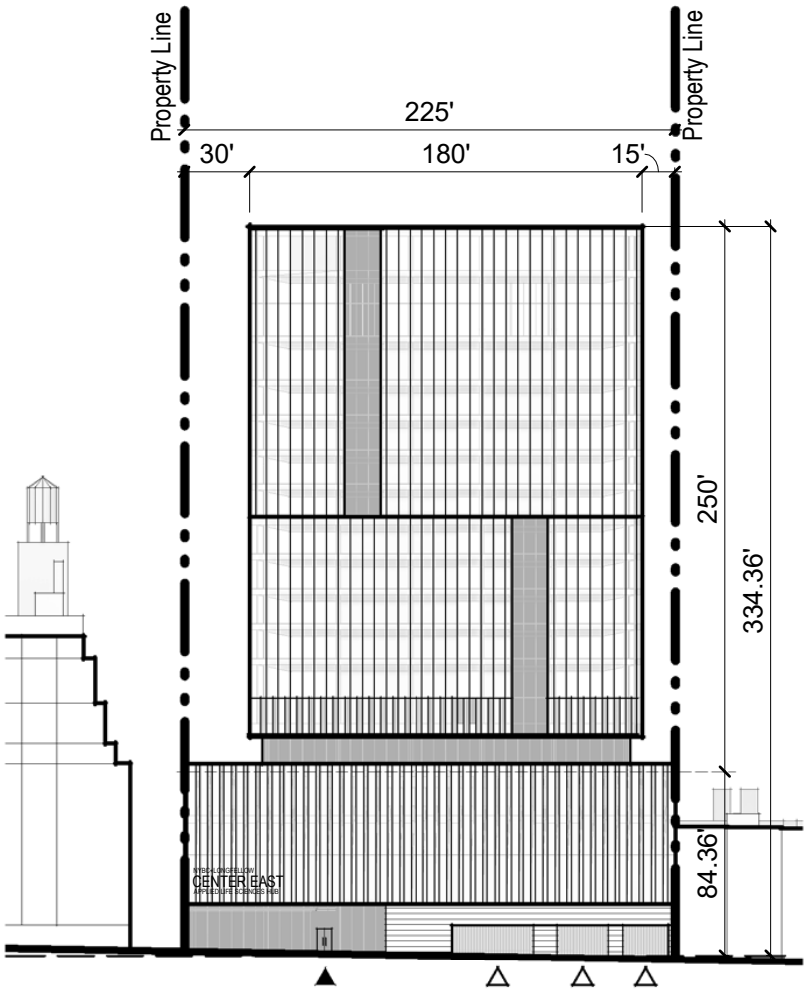
Proposed Project - Sections

NEW YORK BLOOD CENTER—CENTER EAST

Figure 4



NORTH ELEVATION - 67th STREET



SOUTH ELEVATION - 66th STREET

Source: Ennead Architects

Proposed Project - Elevations

plane, which is necessary to accommodate the large floorplates required for modern, efficient laboratory uses;

(e) modifications of the rear yard equivalent regulations of Section 33-283, which will allow the Proposed Project to occupy the same footprint as the existing building on its lower floors, and will allow the upper portion of the building to be shifted away from St, Catherine's Park and away from the neighboring building to the west; and

(f) a sign to be located at the top of the building's base, in excess of the surface area permitted for illuminated signs pursuant to Section 32-642, the total surface area permitted for all signs pursuant to Section 32-641 and 32-643, and the maximum height of signs allowed by Section 32-655, in order to create an opportunity for a life sciences company or the Applicant's development partner to create an identity for the building.

In addition, the applicant may seek a revocable consent from the New York City Department of Transportation to allow an awning over the building's entrance that exceeds the size of projection permitted by the NYC Building Code.

C. PURPOSE AND NEED

The Proposed Actions are necessary to allow the Proposed Project and its laboratory uses, which would further the City's goal of expanding the life sciences industry, would support the academic medical institutions in the area, as well as allow an expansion by the Applicant that would greatly improve its facilities. The Applicant currently occupies a building that was constructed as a trade school approximately 90 years ago. While improvements have been made over the years, the existing building does not satisfy the Applicant's current needs and leaves significant untapped potential for the NYC life sciences ecosystem, which is a critical economic engine. It is an antiquated structure with low floor-to-floor heights, and four inner courtyards which leave only small and narrow floor plates. It does not have the dimensions or mechanical systems necessary for modern life sciences laboratories, which are essential to enable the Applicant to advance its research mission. The existing building is not large enough to allow the Applicant to share its space with its institutional and commercial collaborators, which are proposed to facilitate the translation of basic science research into commercial applications. The existing R8B zoning constrains the ability of the Applicant to build a modern facility on its property and to create co-located commercial life sciences laboratories that can partner with the Applicant. The lack of sufficient modern space and the constraints of the existing zoning do not allow the Applicant to participate in and contribute to the City's life sciences industry to its full potential, and they are inconsistent with the City's policy to promote and expand the life sciences industry.

The Proposed Actions would allow the existing inefficient building to be replaced with a new building containing state-of-the-art, flexible, and efficient research and development facilities conveniently located near one of New York's largest complexes of medical care, education, and research institutions. The new building would offer space for the Applicant and its research partners, large floor plates, and 16-foot floor-to-floor heights to accommodate the mechanical systems needed for both wet and dry laboratories. The combination of location, design, and program would create a vital life sciences hub that encourages collaboration and would be especially well-situated and organized to advance the City's economic development agenda and allow collaboration amongst research partners.

D. ANALYSIS FRAMEWORK

The lead agency is required to take a "hard look" at the environmental impacts of proposed actions and, to the maximum extent practicable, avoid or mitigate potentially significant adverse impacts on the environment, consistent with social, economic, and other essential considerations. An EIS is a comprehensive document used to systematically consider environmental effects, evaluate reasonable alternatives, and identify and mitigate, to the maximum extent practicable, any potentially significant adverse environmental impacts. The EIS provides a means for the lead and involved agencies to consider environmental factors and choose among alternatives in their decision-making processes related to a proposed action.

This section outlines the conditions to be examined in the EIS.

BUILD YEAR

The Proposed Project would be constructed in a single phase, anticipated to begin in 2022 and to be complete in 2026. Construction would consist of the following stages: demolition and abatement (approximately 12 months); excavation and foundation (approximately 10 months); superstructure and exteriors (approximately 31 months); and interiors and finishing (approximately 16 months). The demolition, excavation and foundation, and superstructure and exteriors stages are scheduled to occur sequentially. However, the interiors and finishing stage would begin following the start of the superstructure and exteriors construction stage and would overlap, resulting in a total anticipated construction duration of approximately 51 months.

REASONABLE WORST CASE DEVELOPMENT SCENARIO (RWCDS)

In order to assess the possible effects of the Proposed Actions, a Reasonable Worst-Case Development Scenario (RWCDS) was developed to account for existing conditions, the Future without the Proposed Actions (No Action condition) and the Future with the Proposed Actions (With Action condition). The incremental difference between the future No Action condition and future With Action condition serves as the basis for identifying potential environmental impacts, as described below.

IDENTIFICATION OF DEVELOPMENT SITES

The first step in establishing the development scenario for the Proposed Actions is to identify those sites where new development could be reasonably expected to occur. As described above, the proposed Rezoning Area would cover the Development Site and Block 1441, Lot 7501, and reach east across Second Avenue 100 feet into Block 1421, Lot 21. However, as described in the "Rezoning Area" above neither of the other two lots is expected to be developed given the size (16 and 45 stories) and the residential use of the buildings. Therefore, the NYBC site would be the only Development Site.

THE FUTURE WITHOUT THE PROPOSED ACTIONS (NO ACTION CONDITION)

Absent the Proposed Actions, the Applicant would construct a new building as-of-right containing laboratory space as well as other UG-4 community facility uses. The new building would be an approximately 229,092-gsf split between 40,161 gsf of medical offices and 188,931 gsf of space for the Applicant's operations including laboratories, offices, van parking and an auditorium space

used for meetings including some meetings of Community Board 8. The cellar level would occupy the entire Development Site and six-story-wings would rise on both street frontages to a maximum base height of approximately 60 feet, a maximum roof height of approximately 75 feet (see **Figure 6**). Thirty interior accessory parking spaces would be provided for the Applicant's fleet and select employees. No additional development is anticipated by the build year for the remainder of the Rezoning Area.

THE FUTURE WITH THE PROPOSED ACTIONS (WITH ACTION CONDITION)

As described above, the Proposed Project would be a new building of approximately 596,200 gsf, split between 206,400 gsf of UG-4 community facility uses for the Applicant and 389,800 gsf of UG-9 laboratories and related uses for the Applicant's partners. The building would have 16 floors and rise to a height of approximately 334 feet to the top of the screen wall. The main pedestrian entrance would be on East 67th Street, and service access would be on East 66th Street. Three curb cuts are proposed on East 66th Street to accommodate service access, including loading, waste removal, and six spaces for NYBC fleet parking.

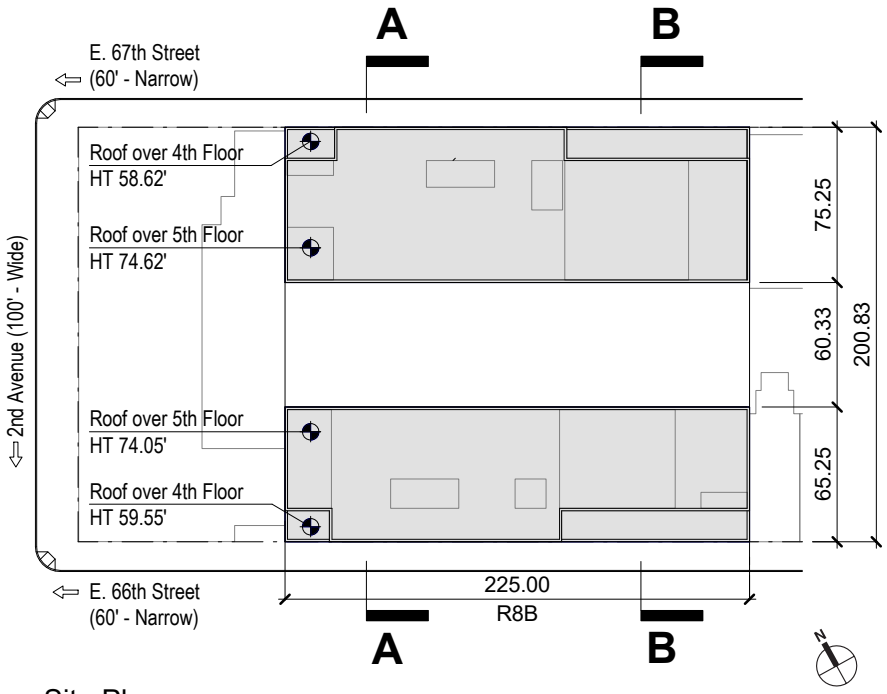
The Proposed Project has been designed specifically to accommodate the needs of the Applicant and the Applicant's partners to best house the anticipated laboratories. The building dimensions were established based on rigorous laboratory planning dimensions and provide floor plates of a minimum of 29,000 gsf with the 16-foot floor-to-floor heights required to accommodate the robust mechanical systems needed in laboratory buildings. Both the additional commercial floor area and the bulk form of the Proposed Project would be controlled by the proposed special permit, and as such the Proposed Project is appropriate as the With Action condition for the purposes of the environmental review.

The changes in floor area between the No Action condition and the With Action condition are shown below on **Table 1**.

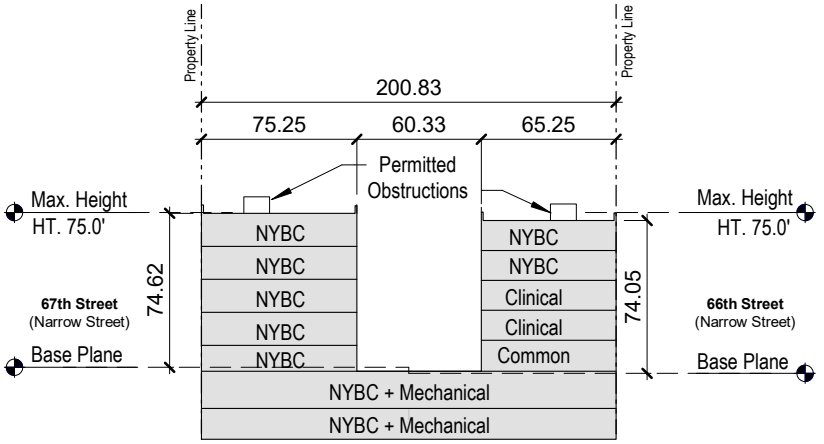
Table 1
Reasonable Worst Case Development Scenario for Analysis

Program	Existing Conditions	No Action Condition	With Action Condition	Increment
Community Facility (gsf)	159,347	229,092 (Applicant=188,931/Medical Office=40,161)	206,400 (Applicant)	(-) 22,692
Commercial (gsf)	-	-	389,800 (Commercial Labs)	(+) 389,800
Workers	230	670	2,630	(+) 1,960
Total	**159,347 gsf 230 workers**	**229,092 gsf 670 workers**	**596,200 gsf 2,630 workers**	**367,108 gsf 1,960 workers**
Source: RWCDS Memorandum and information provided by the Applicant.				

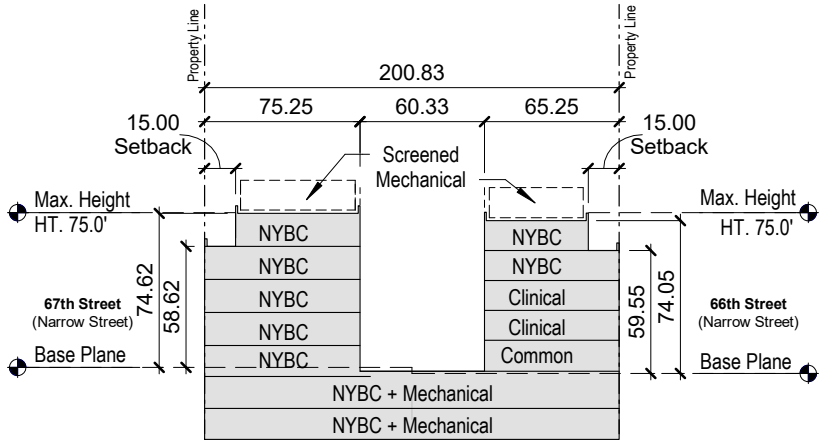
Although there would be a small increase in floor area attributed to the Applicant's uses (less than 17,500 gsf) with the Proposed Project as compared to the No Action condition, the additional area is not expected to generate additional population or activities since the additional area allows the Applicant's facilities to be optimized and right-sized. According to the Applicant, their operations, visitation, and employment would not change between No Action building and the Proposed Project. The Applicant would have the same number of daily visitors for blood donations, the



Site Plan



Section AA



Section BB

0 5 20 40 80 160

Source: Ennead Architects

No Action Construction

No Action Building Site Plan and Sections

NEW YORK BLOOD CENTER—CENTER EAST

Figure 6

same private vehicle fleet size and operations for transporting blood samples and other related materials, the same daily incoming deliveries for supplies and outgoing waste, and would employ the same number of people (approximately 580) under the No Action and With Action conditions. Pedestrians and vehicles would approach and depart NYBC using the same travel patterns and use entrances on the same block faces under either condition.

Therefore, for the purposes of the environmental review, the net difference between the No Action and With Action conditions is the addition of approximately 389,800 gsf of medical research laboratory floor area and a reduction of 22,692 gsf of community facility floor area.

CITY ENVIRONMENTAL QUALITY REVIEW AND SCOPING

The Proposed Actions are classified as Type 1 as defined under 6 NYCRR 617.4 and NYC Executive Order 91 or 1977, as amended, and are subject to environmental review in accordance with CEQR guidelines. An EAS was completed on November 13, 2020. The EAS analyzes the Proposed Actions' potential to generate significant adverse environmental impacts. A Positive Declaration, issued on November 13, 2020, established that the Proposed Actions may have a significant adverse impact on the environment, thus warranting the preparation of an EIS.

The CEQR scoping process is intended to focus the EIS on those issues that are most pertinent to the Proposed Actions. The process allows other agencies and the public a voice in framing the scope of the EIS. The scoping document sets forth the analyses and methodologies that will be utilized to prepare the EIS. During the period for scoping, those interested in reviewing the Draft Scope may do so and give their comments to the lead agency. The public, interested agencies, Manhattan Community District 8, and elected officials are invited to comment on the Draft Scope, either in writing or orally, at a public scoping meeting to be held on December 15, 2020. In support of the City's efforts to contain the spread of COVID-19, DCP will hold the public scoping meeting remotely. Comments received during the Draft Scope's public meeting and written comments received by December 31, 2020 will be considered and incorporated as appropriate into the Final Scope of Work (the "Final Scope"). The lead agency will oversee preparation of the Final Scope, which will incorporate all relevant comments on the Draft Scope and revise the extent or methodologies of the studies, as appropriate, in response to comments made during scoping. The DEIS will be prepared in accordance with the Final Scope and in conformance with all applicable laws and regulations, including SEQRA (Article 8 of the New York State Environmental Conservation Law) and its implementing regulations found at 6 NYCRR Part 617, New York City Executive Order No. 91 of 1977, as amended, and the Rules of Procedure for CEQR, found at Title 62, Chapter 5, of the Rules of the City of New York.

Once the lead agency is satisfied that the DEIS is complete, the document will be made available for public review and comment. A public hearing will be held on the DEIS in conjunction with the CPC hearing on the land use applications to afford all interested parties the opportunity to submit oral and written comments. The record will remain open for 10 days after the public hearing to allow additional written comments on the DEIS. A Final EIS (FEIS) will be prepared that will respond to all substantive comments on the DEIS, along with any revisions to the technical analyses necessary to respond to those comments. The FEIS will then be used by decision makers to evaluate CEQR findings, which will address project impacts and proposed mitigation measures in deciding whether to approve the requested discretionary actions with or without modifications.

E. SCOPE OF WORK FOR THE EIS

The environmental review provides a means for decision-makers to systematically consider environmental effects along with other aspects of project planning and design, to evaluate reasonable alternatives, and to identify, and mitigate where practicable, any significant adverse environmental impacts.

The first step in preparing the EIS document is the public scoping process. Scoping is the process of focusing the environmental impact analysis on the key issues that are to be studied in the EIS. The proposed scope of work for each technical area to be analyzed in the EIS as follows.

Based on the EAS, the Proposed Actions do not meet the criteria warranting analysis of community facilities and services, natural resources, solid waste and sanitation services, and energy, and no significant adverse impacts to these technical areas would occur with the Proposed Actions. The EIS will include detailed analysis in the technical areas where the Proposed Actions would potentially result in significant adverse impacts, based on the findings of the EAS. The scope of work and the proposed impact assessment criteria below are based on the methodologies and guidance set forth in the *CEQR Technical Manual*.

The EIS will contain the following:

- A description of the Proposed Actions and their environmental setting;
- A statement of the environmental impacts of the Proposed Actions, including short- and long-term effects and typical associated environmental effects;
- An identification of any adverse environmental effects that cannot be avoided if the Proposed Actions are implemented;
- A discussion of reasonable alternatives to the Proposed Actions;
- An identification of irreversible and irretrievable commitments of resources that would be involved if the Proposed Actions are implemented; and
- A description of measures proposed to minimize or fully mitigate any significant adverse environmental impacts.

TASK 1: PROJECT DESCRIPTION

The Project Description will identify and explain the Proposed Actions and the purpose and need for the Proposed Actions. It will also describe the Proposed Project. It will contain a brief discussion of current conditions, on the Development Site, in the Rezoning area and in the surrounding area; the No Action (as-of-right) development; the proposed development program; a description of the proposed site plan and the height and bulk of the proposed building; and figures to depict the Proposed Project. It will also include description of the approvals required and the approvals process. The analytical framework including the No Action building and other planned projects in the study area will also be included in this chapter. The figures will present key project elements, such as a site/ground floor plan, elevations, and views of the project in its neighborhood context.

The Project Description will include appropriate materials from the Uniform Land Use Review Procedure (ULURP) application. It will describe the role of the lead agency for CEQR as well as the environmental review and ULURP processes.

TASK 2: LAND USE, ZONING, AND PUBLIC POLICY

This analysis will consider the effects of the Proposed Actions in terms of land use compatibility and trends in zoning and public policy. It will also provide a baseline for other analyses in the EIS. Specifically, the assessment will:

- Provide a brief development history of the site and the study area. The study area will include the site and the area within approximately 400 feet.
- Describe predominant land use patterns in the study area, including recent development trends for the 400-foot study area (see **Figure 7**).
- Provide a zoning map and discuss existing zoning and any recent zoning actions in the study area.
- Summarize other public policies that may apply to the Development Site and study area, including any formal neighborhood or community plans and OneNYC.
- Describe conditions on the Development Site absent the Proposed Actions. Prepare a list of other projects expected to be built in the study area that would be completed before or concurrent with the Proposed Project. Describe the effects of these projects on land use patterns and development trends. Also, describe any pending zoning actions or other public policy actions that could affect land use patterns and trends in the study area, including plans for public improvements.
- Describe the Proposed Actions and provide an assessment of the impacts of the Proposed Actions and Proposed Project on land use and land use trends, zoning, and public policy. Consider the effects related to issues of compatibility with surrounding land use, consistency with zoning and other public policy initiatives, and the effect of the Proposed Project on development trends and conditions in the area.

TASK 3: SOCIOECONOMIC CONDITIONS

The Proposed Actions, as stated in the EAS, would not result in any potential for significant adverse impacts related to residential displacement or direct business displacement. The Proposed Actions would introduce approximately 389,800 gsf of new commercial uses to the study area, which is greater than the 200,000 sf CEQR threshold requiring an assessment of potential indirect business displacement. Therefore, an assessment of potential indirect business displacement will be performed. The anticipated scope of work for the indirect business displacement analysis is as follows:

INDIRECT BUSINESS DISPLACEMENT

The concern with respect to indirect business displacement is whether a proposed project could lead to increases in property values, and thus rents, making it difficult for some businesses to afford their rents. The objective of the indirect business displacement assessment is to determine whether the Proposed Project would introduce trends that make it difficult for businesses that are essential to the local economy to remain in the area. Following *CEQR Technical Manual* guidelines, the analysis will describe and characterize conditions and trends in employment and businesses within an approximately ½-mile study area using the most recent available data from public and private sources such as the U.S. Census Bureau, New York State Department of Labor,

Existing Land Use

NEW YORK BLOOD CENTER—CENTER EAST

Figure 7

and ESRI Business Analyst, as well as discussions with local real estate brokers, as necessary. This information will be used in a preliminary assessment to consider:

- Whether the Proposed Project would introduce enough of a new economic activity to alter existing economic patterns;
- Whether the Proposed Project would add to the concentration of a particular sector of the local economy enough to alter or accelerate existing economic patterns; and
- Whether the Proposed Project would indirectly displace workers, residents, or visitors who form the customer base of existing businesses in the area.

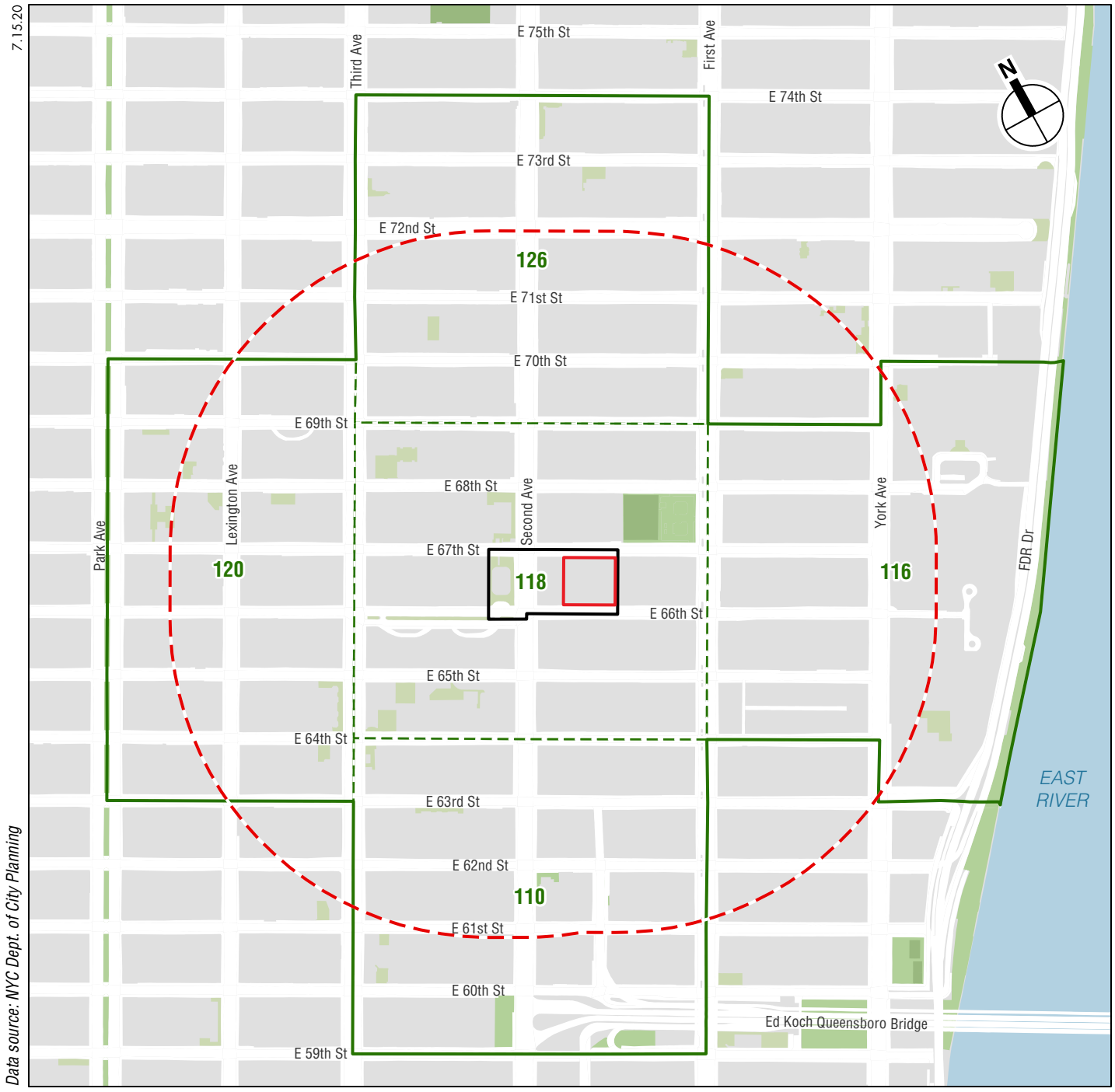
If the preliminary assessment finds that the Proposed Actions could introduce trends that make it difficult for businesses that are essential to the local economy to remain in the area, a detailed analysis will be conducted. The detailed analysis would follow the *CEQR Technical Manual* guidelines to determine whether the Proposed Actions would increase property values and thus increase rents for a potentially vulnerable category of businesses and whether relocation opportunities exist for those businesses.

TASK 4: OPEN SPACE

The *CEQR Technical Manual* recommends performing an open space assessment if a project would have a direct effect on an area open space or an indirect effect through increased population. As stated in the EAS, the Development Site falls within an area that is considered "underserved" and the threshold for an open space assessment is whether a project would introduce more than 50 residents or 125 workers. The Proposed Project would result in a net increment of approximately 1,960 workers, as noted in Table 1; therefore, a preliminary open space assessment will be prepared to determine the need for further analysis. If warranted, a detailed assessment will be prepared.

Tasks for the open space analysis will include the following:

- Inventory existing open space and recreational facilities within approximately ¼-mile of the Rezoning Area (see **Figure 8**). Tally open space acreage for passive and active publicly accessible open spaces.
- Estimate population of the open space study area.
- In conformance with *CEQR Technical Manual* methodologies, assess the adequacy of existing publicly accessible open space facilities. The assessment of adequacy is based on a comparison of the ratio of open space per 1,000 people to City guidelines.
- Assess expected changes in future levels of open space supply and demand in the build year, based on other planned development projects in the study area. Develop open space ratios for future conditions and compare them with existing ratios to determine changes in future levels of adequacy.
- Based on the Proposed Project's estimated population, assess its effects on open space supply and demand. This assessment will be based on a comparison of open space ratios with the project to open space ratios without the Proposed Project.
- In coordination with other tasks, identify any potential direct impacts on nearby open space from shadows, air quality, or noise generated by the Proposed Project.



Open Space Study Area

NEW YORK BLOOD CENTER—CENTER EAST

Figure 8

- A preliminary assessment will be conducted to determine if a detailed open space analysis is necessary and, if so, preparation of such an analysis in accordance with the *CEQR Technical Manual*.
- If the results of the detailed analysis identify a potential for significant adverse impacts, potential mitigation measures will be discussed.

TASK 5: SHADOWS

Under CEQR, a shadows assessment is required for proposed actions that would result in new structures greater than 50 feet in height, or of any height if the project site is adjacent to a sunlight-sensitive resource. According to the *CEQR Technical Manual*, sunlight-sensitive resources include publicly accessible parks and plazas, sunlight-dependent features of historic resources such as stained-glass windows, Greenstreets (planted areas in traffic islands), and natural resources such as water bodies and wetlands.

At approximately 334 feet, the Proposed Project would reach a height greater than 50 feet. In addition, it is across the street to the southwest of St. Catherine's Park. Therefore, a shadows assessment will be conducted to determine when project-generated shadow could reach this or any other nearby sunlight-sensitive resources and how much of the resources would be affected by the Proposed Project.

The shadows assessment will follow the tiered methodology described in the *CEQR Technical Manual* and will include the following tasks:

- For the first tier of the screening assessment, develop a base map illustrating the project site in relation to publicly accessible open spaces, historic resources with sunlight-dependent features, and natural features in the area. Determine a simple radius around the Proposed Project representing the longest shadow that could be cast.
- If there are sunlight-sensitive resources within this radius, the assessment proceeds to the second tier, which reduces the area that could be affected by project shadow by accounting for the fact that shadows can never be cast between a certain range of angles south of the project site due to the path of the sun through the sky at the latitude of New York City.
- If the second tier of assessment does not eliminate the possibility of new shadows on sunlight-sensitive resources, a third tier of screening assessment further refines the area that could be reached by project shadow by looking at specific representative days in each season and determining the maximum extent of shadow over the course of each representative day.For this tier, develop a three-dimensional computer model of the elements of the base map developed in the previous tiers, including the topography, existing streets and buildings, sunlight-sensitive resources, the proposed building, and the Future No Action conditions.
- If the third tier of analysis does not eliminate the possibility of new shadows on sunlight-sensitive resources, conduct a detailed analysis: Use three-dimensional computer modeling software to determine the extent and duration of new shadows that would be cast on sunlight-sensitive resources as a result of the Proposed Actions on four representative days of the year.
- Document the analysis with graphics comparing shadows resulting from the No Action condition with shadows resulting from the Proposed Project, with incremental shadow highlighted in a contrasting color. A summary table listing the entry and exit times and total

duration of incremental shadow on each applicable representative day for each affected resource will be included.

- Assess the significance of any shadow impacts on sunlight-sensitive resources. If the results of the analysis identify a potential for significant adverse impacts, potential mitigation measures will be discussed.

TASK 6: HISTORIC AND CULTURAL RESOURCES

Historic and cultural resources include archaeological (buried) resources and architectural resources. The *CEQR Technical Manual* identifies historic resources as districts, buildings, structures, sites, and objects of historical, aesthetic, cultural, and archaeological importance. Historic resources include known architectural resources (New York City Landmarks [NYCLs], Interior Landmarks, Scenic Landmarks, New York City Historic Districts; resources calendared for consideration as one of the above by LPC; resources listed on or formally determined eligible for inclusion on the State/National Register of Historic Places (S/NR), or contained within a district listed on or formally determined eligible for listing on the S/NR [S/NR-eligible]; resources recommended by the New York State Board for listing on the S/NR; and National Historic Landmarks [NHLs]) and potential architectural resources (i.e., properties that appear to meet S/NR and NYCL criteria).According to the *CEQR Technical Manual*, a historic and cultural resources assessment is required if a project would have the potential to affect either archaeological or architectural resources. The analysis will consider the potential of the Proposed Project to affect historic and cultural resources as follows.

ARCHAEOLOGICAL RESOURCES

As noted in the EAS, the New York City Landmarks Preservation Commission (LPC) determined that it has no archaeological concerns for the Development Site. Therefore, no further archaeological analysis is required.

ARCHITECTURAL RESOURCES

There are no known architectural resources on the Development Site, nor do there appear to be any potential architectural resources on the Development Site that appear to meet the criteria for S/NR listing or for NYCL designation. However, there are known architectural resources in the vicinity of the Development Site, including the Manhattan House Apartments at 200 East 66th Street (S/NR-eligible, NYCL) and the apartment building at 215 East 68th Street (S/NR-eligible).

The following tasks will be undertaken as part of the architectural resources analysis:

- Identify, map, and briefly describe known architectural resources on the Development Site and within a 400-foot study area surrounding the Development Site.
- Conduct a field survey by an architectural historian of the study area to determine whether there are any potential architectural resources that could be affected by the Proposed Project. Potential architectural resources comprise properties that appear to meet the eligibility criteria for NYCL designation and/or S/NR listing. The field survey will be supplemented, as necessary, with research at relevant repositories, online sources, and current sources prepared by LPC and the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP). Determinations of eligibility from LPC will be requested for any potential architectural resources.

- Assess the potential impacts of the Proposed Actions on any identified architectural resources, including visual and contextual changes as well as any direct physical impacts. Potential impacts will be evaluated through a comparison of the future No Action condition and future With Action condition, and a determination made as to whether any change would alter or eliminate the significant characteristics of the resource that make it important.
- If applicable, develop measures in consultation with LPC to avoid, minimize, or mitigate any adverse impacts on historic and cultural resources.

TASK 7: URBAN DESIGN AND VISUAL RESOURCES

According to the methodologies of the *CEQR Technical Manual*, if a project requires actions that would result in physical changes to a project site beyond those allowed by existing zoning and which could be observed by a pedestrian from street level, a preliminary assessment of urban design and visual resources should be prepared. The Proposed Actions include a rezoning that would increase the allowable density, and a Special Permit that would allow modifications to height and setback regulations as well as rear yard equivalent regulations, and a sign in excess of the area permitted. These actions would change the urban design and visual character of the Development Site. Therefore, a preliminary assessment of urban design and visual resources will be prepared to determine whether the Proposed Actions, in comparison to the No Action condition, would create a change to the pedestrian experience that is sufficiently significant to require greater explanation and further study.

The analysis will be undertaken based on the *CEQR Technical Manual* methodologies, as follows:

- Following the guidelines of the *CEQR Technical Manual*, the study area for the preliminary assessment of urban design and visual resources will be consistent with that of the study area for the analysis of land use, zoning and public policy. As necessary, the delineation of the study area will take into consideration any more distant views of the proposed project. A description of visual resources in the study area and view corridors, if any, will be provided.
- The preliminary assessment will include a concise narrative and graphics depicting the existing Rezoning Area, the future No Action condition, and the future With Action condition. The assessment will present photographs, depictions of the Proposed Project, including project drawings and site plans, and view corridor assessments.
- The preliminary assessment will determine whether the Proposed Actions, in comparison to the No Action condition, would create a change in the pedestrian experience that would result in significant adverse impacts to urban design and visual resources.

A detailed urban design and visual resources analysis will be prepared if warranted based on the findings of the preliminary assessment. The detailed analysis would describe the Proposed Project and the urban design and visual resources of the surrounding area. The analysis would describe the potential changes that could occur to urban design and visual resources in the With Action condition, in comparison to the No Action condition, focusing on the changes that could negatively affect a pedestrian's experience of the area.

If necessary, mitigation measures to avoid or reduce potential significant adverse impacts will be identified.

TASK 8: HAZARDOUS MATERIALS

This chapter will address the potential presence of hazardous materials, petroleum products, and/or other environmental concerns on the property, as well as necessary measures that would be required, either prior to or during construction and/or operation of the Proposed Project, to avoid significant adverse effects. A Phase I Environmental Site Assessment (ESA) has been prepared and will be used to summarize the potential for hazardous materials at the site. It is anticipated that the lead agency and the New York City Department of Environmental Protection (DEP) will require preparation of a Phase II Subsurface Investigation (laboratory analysis of soil, groundwater, and soil vapor samples) during the CEQR process. In advance of conducting the testing, a Work Plan for the investigation will need to be submitted to the agencies for approval. Regardless of the results of the testing, DEP will require preparation of a Remedial Action Plan (RAP) and associated Construction Health and Safety Plan (CHASP) for implementation during construction. If necessary, an (E) Designation, in accordance with the *CEQR Technical Manual*, Section 11-15 (Environmental Requirements) of the Zoning Resolution of the City of New York and Chapter 24, Title 15, of the Rules of the City of New York governing the placement of (E) Designations, will be placed on the property.

This task will also include an overview of hazardous materials that would be associated with operation of laboratories with a brief summary of the procedures/requirements for ensuring they are each managed safely.

TASK 9: WATER AND SEWER INFRASTRUCTURE

According to the *CEQR Technical Manual*, an analysis of an action's impact on the water supply system should be conducted only for actions that would have exceptionally large demand for water, such as power plants, very large cooling systems, or large developments. In addition, analysis should be conducted if the project is located in an area that experiences low water pressure (e.g., areas at the end of the water supply distribution system such as the Rockaway Peninsula and Coney Island). The Proposed Actions do not meet any of these criteria, and therefore, as concluded in the EAS, an analysis of water supply is not warranted.

According to the guidelines of the *CEQR Technical Manual*, a preliminary analysis of wastewater and stormwater conveyance and treatment is warranted if a project is located in a combined sewer area and would have an incremental increase above the No Action condition of 1,000 residential units or 250,000 sf of commercial, public facility, and institution and/or community facility space in Manhattan. Since the proposed actions would exceed this threshold, with over 389,800 gsf of commercial floor area, an analysis of wastewater and stormwater conveyance and treatment will be performed.

TASK 10: TRANSPORTATION

Based on the *CEQR Technical Manual*, further transportation analyses may be warranted if a proposed action is anticipated to result in an incremental increase of 50 or more peak hour vehicle trips, 200 or more peak hour subway/rail trips, 50 or more bus trips on a single line in one direction, or 200 or more peak hour pedestrian trips. An assessment and any required analysis will be provided in the Transportation chapter of the EIS, and will be subject to review and approval by the lead agency and, potentially, involved expert agencies, such as the New York City Department of Transportation (DOT) or Metropolitan Transportation Authority (MTA). The specific

transportation analysis tasks to be undertaken as part of this environmental review are outlined below.

TRAVEL DEMAND PROJECTIONS AND SCREENING ASSESSMENTS

The transportation analyses for the EIS will be included in the Transportation chapter of the EIS and will assess potential impacts associated with trip increments that could occur as a result of the Proposed Actions. Travel demand projections will be prepared for the proposed project using standard sources, such as the *CEQR Technical Manual*, U.S. census data, approved studies, and other references. The estimates will be used to prepare the Level 1 (trip generation) and Level 2 (trip assignment) screening assessments prescribed in the *CEQR Technical Manual*. As part of this effort, an inventory of the area's existing parking supply and utilization (within ¼-mile from the Rezoning Area) will be undertaken to determine likely locations where project-generated auto trips would be accommodated. The projected trips (by auto/taxi, transit, or walk/bike, and deliveries, etc.) will be assigned to the area's transportation network to identify specific transportation elements that would be subject to further detailed analyses. The Applicant has prepared a Draft Travel Demand Factors (TDF) memorandum (see **Appendix A**) preliminarily assessing the above thresholds. The findings of these assessments, along with relevant documentation and graphics, will then be summarized in the Transportation chapter of the EIS for review and concurrence by the lead agency and, potentially, involved expert agencies, such as DOT or MTA.

TRAFFIC

Per the *CEQR Technical Manual*, further traffic analyses may be warranted if a proposed action is anticipated to result in an incremental increase of 50 or more peak hour vehicle trips. Further traffic analyses will be conducted in the Transportation chapter of the EIS to identify the potential for any intersections to have significant adverse impacts resulting from the Proposed Actions. If significant impacts are identified in the Transportation chapter, the Mitigation chapter of the EIS will identify transportation improvement measures to mitigate the significant impacts, if available.

TRANSIT

As stated by the *CEQR Technical Manual*, further transit analyses may be warranted if a proposed action is anticipated to result in an incremental increase of 200 or more peak hour subway/rail trips or 50 or more bus trips on a single line in one direction. Further transit analyses will be conducted in the Transportation chapter of the EIS to identify the potential for any transit elements, i.e., subway station elements, subway lines, or bus routes, to have significant adverse impacts resulting from the Proposed Actions. If significant impacts are identified in the Transportation chapter, the Mitigation chapter of the EIS will identify transportation improvement measures to mitigate the significant impacts, if available.

PEDESTRIANS

Consistent with the *CEQR Technical Manual*, further pedestrian analyses may be warranted if a proposed action is anticipated to result in an incremental increase of 200 or more peak hour pedestrian trips. Further pedestrian analyses will be conducted in the Transportation chapter of the EIS to identify the potential for any pedestrian elements, i.e., sidewalks, corner reservoir areas, or crosswalks, to have significant adverse impacts resulting from the Proposed Actions. If significant

impacts are identified in the Transportation chapter, the Mitigation chapter of the EIS will identify transportation improvement measures to mitigate the significant impacts, if available.

VEHICULAR AND PEDESTRIAN SAFETY

Per the *CEQR Technical Manual*, a vehicular and pedestrian safety assessment is warranted at any intersection that also undergoes detailed traffic or pedestrian analysis. The safety assessments will include an analysis of historic crash data for vehicle, bicycle, and pedestrian crashes, identification of any high vehicle crash or high pedestrian/bicycle crash locations, as prescribed by the *CEQR Technical Manual,* and include an inventory of existing safety treatments and identification of safety countermeasures at high crash locations. The safety assessments will identify any intersections that have the potential for significant adverse safety impacts resulting from the Proposed Actions. If significant impacts are identified in the Transportation chapter, the Mitigation chapter of the EIS will identify transportation improvement measures to mitigate the significant impacts, if available.

PARKING

Based on the *CEQR Technical Manual*, a parking study is warranted if detailed traffic analyses are conducted. The parking study will assess the parking demand of the Proposed Action, compare it to on-site and off-site parking resources within ¼-mile of the Proposed Project, and identify and quantify any expected parking shortfalls. Since the Proposed Project is located in Manhattan south of 110th Street, it is in an area called Parking Zone 1 according to the *CEQR Technical Manual.* In Parking Zone 1, the inability of the on-site and off-site parking resources in the surrounding area to accommodate the Proposed Project's future parking demands is considered a parking shortfall, but is generally not considered a significant adverse parking impact due to the magnitude of available alternative modes of transportation.

TASK 11: AIR QUALITY

The projected number of project-generated vehicle trips is not expected to exceed the *CEQR Technical Manual* carbon monoxide (CO) or particulate matter (PM) analysis screening thresholds. If any screening thresholds are exceeded, a microscale analysis of CO and PM mobile source emissions would be performed at the intersection with the greatest number of project-generated vehicle trips.

While NYBC currently uses Con Edison steam, it is not planned to be used for the proposed project. The proposed project is designed with natural gas-fired boilers for heating and hot water. Therefore, an analysis will be performed to determine whether emissions are potentially significant.

The stationary source analysis will be performed using the U.S. Environmental Protection Agency's (EPA) AERMOD dispersion model, using available design information and five years of meteorological data. Five years of recent meteorological data, consisting of surface data from LaGuardia Airport, and concurrent upper air data from Brookhaven, New York, will be used for the simulation modeling. Concentrations of the primary air contaminants of concern (i.e., PM, and nitrogen dioxide [NO_2]) will be determined at ground level receptors as well as elevated receptors representing operable windows and air intakes on nearby buildings. Predicted values will be compared with NAAQS and the City's $PM_{2.5}$ *de minimis* criteria.

The Proposed Project is anticipated to include laboratories with fume hoods. Therefore, an analysis will be performed to examine the expected use of potentially hazardous materials in the proposed laboratories, and the procedures and systems that would be employed in the proposed laboratories to ensure the safety of staff and the surrounding community in the event of a chemical spill in one of the proposed laboratories. Information will be reviewed on chemicals and storage quantities that would be expected at the proposed laboratory. Information on toxicity, volatility, and other relevant characteristics will be reviewed. Impacts from an accidental spill occurring in the proposed laboratory will be evaluated using the information provided and the procedures and methodologies contained in the *CEQR Technical Manual*. The procedures utilize evaporation rates developed by the Shell Development Company (M.T. Fleisher, *An Evaporation/Air Dispersion Model for Chemical Spills on Land*, December 1980), an examination of recirculation potential using the methodology described by D.J. Wilson in *A Design Procedure for Estimating Air Intake Contamination from Nearby Exhaust Vents* (ASHRAE TRANS 89, Part 2A, pp.136-152, 1983), and the determination of maximum pollutant concentrations at elevated receptors downwind of the fume exhausts using EPA's AERMOD model. Maximum concentrations will be compared with the Short-Term Exposure Levels (STELs) or ceiling levels recommended by the National Institute for Safety and Health (NIOSH) and the U.S. Occupational Safety and Health Administration (OSHA) for the chemicals examined. Where necessary, recommendations will be made to reduce any potential levels of concern.

Large and major sources of emissions within 1,000 feet of the Rezoning Area will be evaluated, as described in the *CEQR Technical Manual*. Predicted criteria pollutant concentrations will be predicted using the AERMOD model compared with NAAQS for NO_2, SO_2 (if fuel is used), and PM_{10}, and *de minimis* criteria for $PM_{2.5}$.

The Rezoning Area is zoned C1-9 which is used for commercial districts which are residential in character. A review of DEP and NYSDEC air permits will be performed to determine whether there are any permitted industrial sources of emissions within the 400-foot study area. If any permitted industrial sources are identified, an analysis will be performed following the procedures outlined in the *CEQR Technical Manual*.

See also **Appendix B**, "Draft Air Quality Methodology Memorandum."

TASK 12: GREENHOUSE GASES AND CLIMATE CHANGE

Because the Proposed Project would exceed the 350,000 gsf threshold requiring analysis of greenhouse gas emissions, in accordance with the *CEQR Technical Manual*, greenhouse gas (GHG) emissions generated by the Proposed Project will be quantified, and an assessment of consistency with the City's established GHG reduction goal will be prepared. Emissions will be estimated for the analysis year and reported as carbon dioxide equivalent (CO_2e) metric tons per year. GHG emissions other than carbon dioxide (CO_2) will be included if they would account for a substantial portion of overall emissions, adjusted to account for the global warming potential.

In addition to GHG emissions, climate change has contributed to rising sea levels and increases in storm surge and coastal flooding. An analysis of climate change is deemed warranted for projects at sites located within the 100- or 500-year flood zone. A review of the City's flood hazard information was part of the EAS. The proposed site was found to be located over 1,000 feet outside of the nearest potential end-of-century flood hazard zone identified by the New York City Panel on Climate Change (NPCC). Therefore, the Proposed Project is unlikely to be impacted by future

climate conditions, and an assessment of the potential impacts of climate change on the proposed project (e.g., sea level rise, flooding, etc.) is not warranted.

Relevant measures to reduce energy consumption and GHG emissions that could be incorporated into the proposed project will be discussed, and the potential for those measures to reduce GHG emissions from the Proposed Project will be assessed to the extent practicable.

The GHG analysis will consist of the following subtasks:

- Direct Emissions—GHG emissions from on-site boilers used for steam, heat, and hot water; any natural gas; and fuel used for on-site electricity generation (if any) will be quantified. Emissions will be based on available project-specific information regarding the Proposed Project's expected fuel use to be provided by the project team.
- Indirect Emissions—GHG emissions from purchased electricity and/or steam generated off-site and consumed on-site during the Proposed Project's operation will be estimated.
- Indirect Mobile Source Emissions—GHG emissions from vehicle trips to and from the project site will be quantified using trip distances and vehicle emission factors provided in the *CEQR Technical Manual*.
- Direct Mobile Source Emissions—GHG emissions from the Proposed Project's vehicle fleet (e.g., ambulances) will be quantified using projected trip distances and vehicle emission factors provided in the *CEQR Technical Manual* or other more specific information if better data is identified.
- Emissions from project construction and emissions associated with the extraction or production of construction materials will be qualitatively discussed. Opportunities for reducing GHG emissions associated with construction will be considered. Should a quantified assessment of construction GHG emissions be required by the lead agency, an analysis will be performed.
- Design features and operational measures to reduce the Proposed Project's energy use and GHG emissions will be discussed and quantified to the extent that information is available.
- Consistency with the City's GHG reduction goal will be assessed. While the City's overall goal is to reduce GHG emissions by 30 percent below 2005 levels by 2030, individual project consistency is evaluated based on building energy efficiency, proximity to transit, on-site renewable power and distributed generation, efforts to reduce on-road vehicle trips and/or to reduce the carbon fuel intensity or improve vehicle efficiency for project-generated vehicle trips, and other efforts to reduce the Proposed Project's carbon footprint.

TASK 13: NOISE

The noise analysis will examine impacts of existing noise sources (e.g., vehicular traffic from adjacent roadways and surrounding playgrounds) on the proposed noise-sensitive medical and research uses and the impacts of project-generated traffic on noise-sensitive land uses nearby. This will include noise monitoring to determine existing ambient noise levels. For CEQR purposes, it is assumed that a detailed analysis of the proposed development's mechanical equipment will not be required, because any heating, ventilation, and air conditioning (HVAC) equipment would be designed to meet applicable regulations. Consequently, the noise analysis will examine existing

noise levels in the project area and the window/wall attenuation that would be required to provide acceptable interior noise levels at the Proposed Project. The subtasks are as follows:

- Select appropriate noise descriptors. Based upon CEQR criteria, the noise analysis will examine the 1-hour equivalent (L_{eq}) and the L_{10} noise levels.
- Perform a screening analysis to determine whether there are any locations where there is the potential for the Proposed Actions to result in significant noise impacts (e.g., doubling of traffic volume) due to project-generated traffic. If the results of the traffic study indicate that a doubling of traffic would occur, a mobile source noise analysis would be performed.
- Select receptor locations. Receptor sites analyzed will include locations where high existing ambient noise levels could adversely affect new residential and other sensitive uses associated with the Proposed Project.
- Determine existing noise levels. Due to the ongoing COVID-19 pandemic resulting in atypical levels of vehicular traffic activity, field measurements of noise levels may not represent expected noise exposure at the Development Site. If current traffic conditions are deemed representative of typical conditions, field measurements will be used to determine existing noise levels. However, if current traffic conditions would not be representative of typical conditions, "existing condition" noise levels would be established using a combination of noise levels measured within and adjacent to the Development Site for previous environmental reviews, mathematical models, and projections of typical vehicular traffic volumes. The specific methodology and technical approach for the establishment of existing condition noise levels will be described in a memorandum submitted to the lead agency for comment and approval (see **Appendix C**, "Draft Noise Monitoring Approach Memorandum").
- Determine future noise levels without the Proposed Actions. At each of the receptor locations identified above, determine noise levels without the Proposed Actions using existing noise levels, acoustical fundamentals, and mathematical models.
- Determine future noise levels with the Proposed Actions. At all of the receptor locations identified above, determine noise levels with the Proposed Actions using existing noise levels, acoustical fundamentals, and mathematical models.
- Determine amount of building attenuation required. The level of building attenuation necessary to satisfy CEQR requirements is a function of the exterior noise levels, and will be determined. Projected future noise levels will be compared to appropriate standards and guideline levels. As necessary, general noise attenuation measures needed for the project building to achieve compliance with standards and guideline levels will be recommended.

TASK 14: PUBLIC HEALTH

According to the *CEQR Technical Manual*, a public health analysis is warranted if a project would result in a significant unmitigated adverse impact in other CEQR analysis areas, such as air quality, water quality, hazardous materials, or noise. If unmitigated significant adverse impacts are identified in any of these technical areas, and the lead agency determines that a public health assessment is warranted, an analysis will be provided for the specific technical area or areas, in accordance with *CEQR Technical Manual* guidelines.

TASK 15: NEIGHBORHOOD CHARACTER

Neighborhood character is determined by a number of factors, such as land use, urban design, visual resources, historic resources, socioeconomic conditions, traffic, and noise. Methodologies outlined in the *CEQR Technical Manual* will be used to provide a preliminary assessment of neighborhood character. This assessment would include:

- Based on other technical analyses, describe the predominant factors that contribute to defining the character of the neighborhood surrounding the Rezoning Area.
- Based on planned development projects, public policy initiatives, and planned public improvements, summarize changes that can be expected in the character of the area in the future without the Proposed Actions.
- Evaluate whether the Proposed Actions have the potential to affect these defining features. Either through the potential for a significant adverse impact or a combination of moderate effects in the relevant technical areas.

If required based on the preliminary assessment, a detailed assessment of the Proposed Actions' effects on neighborhood character will be prepared.

TASK 16: CONSTRUCTION

Construction impacts, though temporary, can have a disruptive and noticeable effect on the adjacent community, as well as people passing through the area. The construction impact assessment will evaluate the duration and severity of the disruption and inconvenience to nearby areas. The construction assessment will focus on areas where construction activities may pose specific environmental problems. This assessment will describe the anticipated construction schedule and logistics, discuss on-site activities, and provide estimates of construction workers and truck deliveries.

The Proposed Project would be constructed in a single phase, with a total anticipated construction duration of approximately 51 months. Because the construction duration of the proposed project is anticipated to be long-term (i.e., greater than two years, in accordance with the *CEQR Technical Manual*), and because construction activities would occur in proximity to sensitive receptors including the Julia Richman Education Complex north of the project site, the Proposed Project could have substantial and extended construction effects. Large-scale developments near sensitive receptor locations with a construction duration longer than two years typically require a quantitative assessment of the potential impacts of construction activities on air quality and noise.

Technical areas to be assessed include the following:

- ***Transportation Systems.*** This assessment will consider losses in lanes, sidewalks, off-street parking, and effects on other transportation services (i.e., transit and pedestrian circulation) during the construction periods, and identify the increase in vehicle trips from construction workers and trucks. Issues concerning construction worker parking, truck staging, and potential conflicts with school buses will also be addressed. Based on the trip projections of activities associated with peak construction for the proposed project, an assessment of potential transportation impacts during construction will be provided. The assessment will include a Level 1 (Trip Generation) and Level 2 (Trip Assignment) analysis to determine if the *CEQR Technical Manual* quantified transportation analyses thresholds (50 or more vehicle

trips and/or 200 or more transit/pedestrian trips during a given peak hour) are exceeded. A separate detailed analysis will be undertaken if this effort identifies such a need.

- ***Air Quality.*** A detailed dispersion analysis of construction sources will be performed to determine the potential for air quality impacts on sensitive receptor locations. Air pollutant sources would include combustion exhaust associated with non-road construction engines (e.g., cranes, excavators) and trucks operating on-site, construction-generated traffic on local roadways, as well as onsite activities (e.g., excavation, demolition) that generate dust. The pollutants of concern include CO, PM, and NO_2. The potential for significant impacts will be determined by a comparison of the model predicted concentrations to the National Ambient Air Quality Standards (NAAQS), or by comparison of the predicted increase in concentrations to applicable New York City *de minimis* criteria. The air quality analysis will also include a discussion of the strategies to reduce project-related air pollutant emissions associated with construction activities.
- ***Noise and Vibration.*** This section will contain a quantitative (modeling) analysis of noise from the Proposed Project's construction activity. Appropriate recommendations will be made to comply with DEP Rules for Citywide Construction Noise Mitigation and the New York City Noise Control Code. The detailed analysis will estimate construction noise levels based on projected activity and equipment usage for various phases of construction on the project sites. The projected construction noise levels will be compared to existing condition noise levels as determined by the operational noise analysis. The noise analysis will identify potential construction noise impacts based on the intensity, duration, and location of emissions relative to nearby sensitive locations. As necessary, feasible and practicable project-specific control measures to further reduce construction noise disruption to the surrounding community will be considered.
- Construction activities have the potential to result in vibration levels that may result in structural or architectural damage, and/or annoyance or interference with vibration-sensitive activities. A construction vibration assessment will be performed. This assessment will determine critical distances at which various pieces of equipment may cause damage or annoyance to nearby buildings based on the type of equipment, the building construction, and applicable vibration level criteria. Should it be necessary for certain construction equipment to be located closer to a building than its critical distance, vibration mitigation options will be proposed.
- ***Community Facilities.*** As appropriate, discuss the distribution of NYBC functions to other locations during construction.
- ***Other Technical Areas.*** As appropriate, discuss other areas of environmental assessment for potential construction-related impacts, including but not limited to: historic and cultural resources, hazardous materials, open space, socioeconomic conditions, community facilities, and land use and neighborhood character.

TASK 17: ALTERNATIVES

The purpose of an Alternatives analysis in an EIS is to examine reasonable and feasible options that avoid or reduce project-related significant adverse impacts, while achieving the goals and objectives of the Proposed Actions. The alternatives are usually defined once the full extent of the Proposed Actions' impacts have been identified. However, the alternatives analyzed must include a No Action Alternative, as required by CEQR. (The No Action Alternative is described above

and would contain the same NYBC functions as the proposed project as well as medical offices.) The chapter may also include an alternative(s) that reduces any significant adverse impacts identified in the EIS analyses. If the Proposed Actions result in unmitigated significant adverse impacts, the EIS would also include a No Unmitigated Impacts Alternative. The alternatives analyses will be qualitative, except where significant adverse impacts of the Proposed Project have been identified, or if an alternative with fewer overall impacts would nevertheless have new significant adverse impacts.

TASK 18: MITIGATION

Where significant impacts have been identified in the analyses discussed above, measures will be described to mitigate those impacts. This chapter will describe the practicable measures that could mitigate those impacts. These measures will be developed and coordinated with the responsible City and/or State agencies, as necessary. Where impacts cannot be fully mitigated, they will be disclosed as unavoidable adverse impacts.

TASK 19: EIS SUMMARY CHAPTERS

In accordance with the *CEQR Technical Manual*, the EIS would include the following summary chapters, where appropriate to the Proposed Actions:

Unavoidable Adverse Impacts: which summarizes any significant adverse impacts that are unavoidable if a proposed action is implemented regardless of the mitigation employed (or if mitigation is impossible).

Growth-Inducing Aspects of the Proposed Actions: which generally refer to "secondary" impacts of a proposed action that trigger further development.

Irreversible and Irretrievable Commitments of Resources: which summarizes a proposed action and its impacts in terms of the loss of environmental resources (loss of vegetation, use of fossil fuels and materials for construction, etc.) both in the immediate future and long term.

Any significant impacts for which no mitigation can be implemented will be presented as Unavoidable Adverse Impacts. In addition to discussions of Growth-Inducing Aspects of the Proposed Project and Irreversible and Irretrievable Commitment of Resources.

TASK 20: EXECUTVIE SUMMARY

The EIS will include an Executive Summary, which will summarize relevant material from the body of the EIS to describe the Proposed Actions, their environmental impacts, measures to mitigate those impacts, and alternatives to the Proposed Actions. ✷

Appendix A
Draft Travel Demand Factors Memorandum

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Draft Memorandum

To:	Project File
From:	AKRF, Inc.
Date:	November 11, 2020
Re:	New York Blood Center—(NYBC) Center East – Travel Demand Factors
cc:	Project Team

A. INTRODUCTION

This memorandum details the trip generation assumptions and travel demand estimates for the City Environmental Quality Review (CEQR) analysis of a proposed project on the New York Blood Center (NYBC) site, which occupies a three-story building on the through-block lot at 310 East 67th Street (Block 1441, Lot 40) on the Upper East Side of Manhattan. The block is bounded by East 66th and East 67th Streets, and First and Second Avenues. Originally constructed in 1930 as a trade school, the existing building covers the entire lot. Within the existing building, there is an auditorium occupying approximately 5,200 gross square feet (gsf) which is used for training, scientific lectures and conferences, cultural events, and community meetings, including some meetings of Community Board 8. There are two curb cuts on East 66th Street for the service entrance and limited automobile parking for approximately six vehicles in an accessory parking area within the ground floor of the building. The pedestrian entrance is on East 67th Street. The trip generation assumptions and travel demand estimates are presented for the proposed project as described in the Reasonable Worst Case Development Scenario (RWCDS) memorandum.

Consistent with the RWCDS memorandum, absent the proposed actions (the "No Action" condition), NYBC would develop a modern facility under existing zoning on the site. The existing building would be demolished and a new facility providing approximately 188,900 gsf for NYBC-operated uses and approximately 40,100 gsf of medical offices would be built. In the future with the proposed actions (the "With Action" condition), the existing building would be demolished, and a new facility would be built by NYBC and a development partner. The new facility would consist of approximately 206,400 gsf for NYBC-operated uses and approximately 389,800 gsf of biomedical research laboratories, which would be operated by the development partner.

According to NYBC[1], the operation of, visitation to, and employment in the upgraded building is not expected to change between No Action and With Action conditions. The proposed building would provide

[1] Director, Facilities and Real Estate, New York Blood Center

a multipurpose room (which can be used for evening meetings such as Community Board 8 meetings). It would be smaller in size but more flexible in design than the existing auditorium. NYBC does not anticipate that new facility would change the number of daily visitors for blood donations, and expects the same private vehicle fleet size and operations for transporting blood samples and other related materials, the same daily incoming deliveries for supplies and outgoing waste, and the same number of employees (approximately 580) under the No Action and With Action conditions. NYBC would operate the same amount of laboratory space for approximately 27 research scientists and the same number of building support staff and deliveries under the No Action and With Action conditions. There are currently 55 to 65 daily visitors to NYBC who make blood donations between 7 AM and 7 PM, which supports the need for six fleet vehicles and is anticipated to remain unchanged under the No Action or With Action projects. Pedestrians and vehicles would approach and depart NYBC using the same travel patterns and use entrances on the same block faces under either condition; however, there would be a reduction in on-site parking from 30 spaces under the No Action condition to six spaces under the With Action condition to accommodate the NYBC fleet vehicles. Although there would be a small increase in floor area attributed to NYBC uses (approximately 17,500 gsf) when comparing No Action to With Action conditions, it would not generate additional trips. NYBC trip generation is based on the population of staff and visitors, which would not change between No Action and With Action, and not the square footage of the space. Part of the additional area would allow NYBC to optimize and right-size its facilities, and there would be a larger pro-rata share of the common mechanical and building support space allocated to NYBC when comparing the size of the 229,000 gsf No Action building to the 596,200 gsf With Action building (In the No Action building, there would be approximately 62,900 gsf of shared mechanical and building support space, and in the With Action building, there would be about 128,000 gsf of this space.) Therefore, for the purposes of this Travel Demand Factors (TDF) memorandum, the only difference between the No Action and With Action conditions for the proposed project is the approximately 40,100 gsf of medical office floor area in the No Action condition and the approximately 389,800 gsf of biomedical research laboratory floor area in the With Action condition; the NYBC uses would have no net incremental changes between the No Action and With Action conditions. For the purposes of this TDF memorandum, trip estimates are based on the program shown in **Table 1**.

Table 1
Comparison of No Action and With Action Scenarios

Use	No Action	With Action	Increment
New York Blood Center (gsf)*	188,931	206,400	17,469
Commercial – Biomedical Laboratory (gsf)	0	389,800	389,800
Community Facility – Medical Office (gsf)	40,161	0	-40,161
Accessory Parking (Spaces)	30	6	-24

Note:
* The existing NYBC building including the community meeting space is planned to be replaced with a new building with a similar use, but with upgraded facilities under No Action or With Action conditions. The operation of, visitation to, and employment in the upgraded building would not change between No Action and With Action Conditions. The difference in size is shown for informational purposes, and would not generate any incremental trips according to NYBC.

B. TRANSPORTATION PLANNING ASSUMPTIONS

Trip generation factors for the proposed and potential future development sites are based on information from the 2014 *City Environmental Quality Review (CEQR) Technical Manual*, U.S. Census Data, New York City Department of Transportation (NYCDOT) recommended rates, and other approved environmental review documents, as summarized in **Table 2**.

Table 2
Travel Demand Factors

Use	Biomedical Laboratory			Medical Office		
Total Daily Person Trip	(1) Weekday 6.98 Trips / KSF			(3) Weekday 76.00 Trips / KSF		
Trip Linkage	0%			0%		
Net Daily Person Trip	Weekday 6.98 Trips / KSF			Weekday 76.00 Trips / KSF		
Temporal	**AM**	**MD**	**PM**	**AM**	**MD**	**PM**
	(1)			(3)		
	13%	10%	10%	11%	13%	9%
Direction	(1)			(3)		
In	89%	49%	23%	62%	47%	35%
Out	11%	51%	77%	38%	53%	65%
Total	100%	100%	100%	100%	100%	100%
Modal Split	(2)			(3)		
	AM	**MD**	**PM**	**AM**	**MD**	**PM**
Auto	17.0%	17.0%	17.0%	1.0%	1.0%	1.0%
Taxi	2.0%	2.0%	2.0%	5.0%	5.0%	5.0%
Subway	45.0%	45.0%	45.0%	60.0%	60.0%	60.0%
Railroad	8.0%	8.0%	8.0%	0.0%	0.0%	0.0%
Bus	12.0%	12.0%	12.0%	5.0%	5.0%	5.0%
Walk	16.0%	16.0%	16.0%	29.0%	29.0%	29.0%
Total	100%	100%	100%	100%	100%	100%
Vehicle Occupancy	(1,2) Weekday			(3) Weekday		
Auto	1.12			1.53		
Taxi	1.40			1.53		
Daily Delivery Rate Generation Rate	(1) Weekday 0.32 Delivery Trips / KSF			(4) Weekday 0.29 Delivery Trips / KSF		
	AM	**MD**	**PM**	**AM**	**MD**	**PM**
Delivery Temporal	(1)			(4)		
	10%	11%	2%	3%	11%	1%
Delivery Direction	(1)			(4)		
In	50%	50%	50%	50%	50%	50%
Out	50%	50%	50%	50%	50%	50%
Total	100%	100%	100%	100%	100%	100%

Sources:
(1) *Bronx Psychiatric Center Land Use Improvement Project FEIS (2019)* – Bio-Tech/Research Use
(2) U.S. Census Bureau, ACS 2012-2016 Five-Year Estimates – Reverse Journey-to-Work (RJTW) Data for New York County census tracts 106.02, 110, 116, 118, 120, 124, 126, and 128.
(3) Based on NYCDOT's trip generation rate Survey for Medical Office in Manhattan (Within Transit Zone)
(4) *East Harlem Rezoning FEIS (2017)*

BIOMEDICAL LABORATORY

The daily person trip rate, as well as the temporal and directional distributions for the biomedical laboratory component, are from the 2019 *Bronx Psychiatric Center Land Use Improvement Project FEIS* Bio-Tech/Research Use, which was based on the 2015 *New York City Department of Sanitation Proposed Manhattan Districts 6/6A/8 Preliminary Transportation Demand Factors & Screening Assessment Memorandum* Scientific Research Laboratory Use. This source is based on a survey of travel demand factors at the Alexandria Center for Life Science, which is a successful model for the biomedical laboratories proposed for the Proposed Project. These types of facilities have laboratory and collaborative research shared spaces spread over large square foot areas. Reverse Journey-to-Work (RJTW) data for the 2012–2016 U.S. Census Bureau American Community Survey (ACS) have been used to estimate modal splits for the standard weekday AM, midday, and PM analysis peak hours. The vehicle occupancies are from the U.S. Census ACS for autos and from the *Bronx Psychiatric Center Land Use Improvement Project*

FEIS for taxis. The daily delivery trip rate and temporal and directional distributions are from the *Bronx Psychiatric Center Land Use Improvement Project FEIS*.

MEDICAL OFFICE

The daily trip generation, temporal and directional distributions, and vehicle occupancies for the medical office component are based on NYCDOT recommended rates for medical offices in Manhattan. The modal splits are based on the NYCDOT modal split survey for medical offices in Manhattan. The temporal distributions for the delivery trips are from the 2017 *East Harlem Rezoning FEIS*.

C. CEQR TRANSPORTATION ANALYSIS SCREENING

The *CEQR Technical Manual* identifies procedures for evaluating a proposed project's potential impacts on traffic, transit, pedestrian, and parking conditions. This methodology begins with the preparation of a trip generation analysis to determine the volume of person and vehicle trips associated with the proposed project. The results are then compared with the *CEQR Technical Manual*-specified thresholds (Level 1 screening analysis) to determine whether additional quantified analyses are warranted. If the proposed project would result in 50 or more peak hour vehicle trips, 200 or more peak hour transit trips (200 or more peak hour transit riders at any given subway station or 50 or more peak hour bus trips on a particularly route in one direction), and/or 200 or more peak hour pedestrian trips, a Level 2 screening analysis (involving trip assignment) is undertaken.

For the Level 2 screening analysis, project-generated trips would be assigned to specific intersections, transit routes, and pedestrian elements. If the results of this analysis show that the proposed project would generate 50 or more peak hour vehicle trips through an intersection, 50 or more peak hour bus riders on a bus route in a single direction, 200 or more peak hour subway passengers at any given station, or 200 or more peak hour pedestrian trips per pedestrian element, further quantified analyses may be warranted to evaluate the potential for significant adverse traffic, transit, pedestrian, and parking impacts.

TRIP GENERATION SUMMARY

As summarized in **Table 3**, the proposed actions would generate 21, -124, and -3 incremental person trips during the weekday AM, midday, and PM peak hours, respectively. Approximately 54, 36, and 34 incremental vehicle trips would be generated during the same respective peak hours.

Table 3
Trip Generation Summary: Incremental Trips

Use	Peak Hour	In/Out	Person Trip							Vehicle Trip			
			Auto	Taxi	Subway	Railroad	Bus	Walk	Total	Auto	Taxi	Delivery	Total
Biomedical Laboratory	AM	In	54	6	142	25	38	50	315	48	4	6	58
		Out	7	1	18	3	5	6	40	6	4	6	16
		Total	61	7	160	28	43	56	355	54	8	12	74
	Midday	In	23	3	60	11	16	21	134	21	3	7	31
		Out	24	3	62	11	17	22	139	21	3	7	31
		Total	47	6	122	22	33	43	273	42	6	14	62
	PM	In	11	1	28	5	8	10	63	10	4	1	15
		Out	36	4	94	17	25	34	210	32	4	1	37
		Total	47	5	122	22	33	44	273	42	8	2	52
Medical Office	AM	In	-2	-10	-125	0	-10	-60	-207	-1	-9	0	-10
		Out	-1	-6	-77	0	-6	-37	-127	-1	-9	0	-10
		Total	-3	-16	-202	0	-16	-97	-334	-2	-18	0	-20
	Midday	In	-2	-9	-112	0	-9	-54	-186	-1	-11	-1	-13
		Out	-2	-11	-126	0	-11	-61	-211	-1	-11	-1	-13
		Total	-4	-20	-238	0	-20	-115	-397	-2	-22	-2	-26
	PM	In	-1	-5	-58	0	-5	-28	-97	-1	-8	0	-9
		Out	-2	-9	-107	0	-9	-52	-179	-1	-8	0	-9
		Total	-3	-14	-165	0	-14	-80	-276	-2	-16	0	-18
Total	AM	In	52	-4	17	25	28	-10	108	47	-5	6	48
		Out	6	-5	-59	3	-1	-31	-87	5	-5	6	6
		Total	58	-9	-42	28	27	-41	21	52	-10	12	54
	Midday	In	21	-6	-52	11	7	-33	-52	20	-8	6	18
		Out	22	-8	-64	11	6	-39	-72	20	-8	6	18
		Total	43	-14	-116	22	13	-72	-124	40	-16	12	36
	PM	In	10	-4	-30	5	3	-18	-34	9	-4	1	6
		Out	34	-5	-13	17	16	-18	31	31	-4	1	28
		Total	44	-9	-43	22	19	-36	-3	40	-8	2	34

LEVEL 1 SCREENING

TRAFFIC

As shown in **Table 3**, the estimated trips generated by the proposed actions would be 54, 36, and 34 incremental vehicle trips during the weekday AM, midday, and PM peak hours, respectively.

Although the number of weekday AM peak hour incremental vehicle trips is projected to exceed the CEQR threshold for Level 2 screening assessments by four vehicles per hour, it is not anticipated that quantified traffic analysis would be warranted. The 54 vehicles per hour would be dispersed throughout a large street grid network consisting of one-way streets, which reduces the potential for trips to overlap at the same intersections. Furthermore, since the proposed project would only include six parking spaces, all intended for NYBC fleet vehicles, and with nearly 50 public parking facilities within ¼-mile of the site, no single intersection is anticipated to incur 50 or more vehicles during this peak hour.

Furthermore, since the incremental vehicle trips would be fewer than 50 vehicles for all other peak hours, a detailed traffic analysis is not warranted, and the proposed project would not result in any significant adverse traffic impacts.

TRANSIT

As detailed in **Table 3**, the incremental transit trips generated by the proposed actions would include -42, -116, and -43 person trips by subway during the weekday AM, midday, and PM peak hours, respectively. Correspondingly, there would be 27, 13, and 19 incremental person trips by bus and 28, 22, and 22 incremental person trips by rail during these same peak hours. In addition to the availability of multiple subway stations/lines and bus routes near the proposed project, these incremental transit trips are below the

CEQR Technical Manual analysis thresholds of 200 or more peak hour subway/rail trips and 50 or more peak hour bus riders in a single direction. Therefore, a detailed transit analysis is not warranted, and the proposed project would not result in any significant adverse transit impacts.

PEDESTRIAN

All incremental person trips generated by the proposed actions would traverse the pedestrian elements surrounding the Project Area. As shown in **Table 3**, the incremental pedestrian trips would be fewer than 200 during the AM, midday, and PM peak hours. Therefore, a detailed pedestrian analysis is not warranted, and the proposed project would not result in any significant adverse pedestrian impacts.

Appendix B
Draft Air Quality Methodology Memorandum

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Draft Memorandum

To:	New York City Department of City Planning
From:	Henry Kearney, Lindsay Garten/AKRF, Inc.
Date:	November 11, 2020
Re:	New York Blood Center—Center East – Air Quality Methodology
cc:	File

The purpose of this memorandum is to describe the air quality analysis approach for the New York Blood Center Environmental Impact Statement (EIS). NYBC is requesting a rezoning and other discretionary actions (the "Proposed Actions") to facilitate the construction of the Proposed Project, an approximately 596,200 gross-square-foot (gsf) building on the site of its existing building at 310 East 67th Street, Block 1441 Lot 40 (the "Development Site"). The Development Site is located on the Upper East Side in Manhattan Community District 8. Block 1441 is bounded by East 66th and East 67th Streets and First and Second Avenues and is part of a larger Project Area which also includes Block 1441, Lot 7501, and Block 1421, p/o Lot 21.

As discussed in the preliminary Draft Scope of Work, a detailed analysis of traffic is not anticipated to be warranted. Therefore, an analysis of mobile sources of emissions is not required.

Accordingly, this memorandum presents a summary of the methodology and assumptions to be used for the stationary source air quality analyses of the Proposed Actions.

STATIONARY SOURCES

HEAT AND HOT WATER SYSTEMS

The Proposed Project is anticipated to include natural gas-fired boilers and hot water heaters. In addition, one or more oil-fired generators would be installed to provide power in the event of a loss of utility electric power. Since the generators would only be used for very limited periods of time for testing outside of an actual emergency, no analysis of this equipment is considered to be necessary. Therefore, the stationary analysis will be performed to evaluate potential air quality associated with the Proposed Project's heating and hot water systems.

The analysis will be performed using the American Meteorological Society (AMS)/Environmental Protection Agency (EPA) Regulatory Model (AERMOD) dispersion model.[1] The AERMOD analysis of

[1] EPA. AERMOD Implementation Guide. 454/B-16-013. December 2016.
EPA. AERMOD Model Formulation and Evaluation. 454/R-17-001. May 2017.
EPA. User's Guide for the AMS/EPA Regulatory Model (AERMOD). 454/B-16-011. December 2016.

potential impacts from exhaust stacks will be performed assuming stack tip downwash, urban dispersion and surface roughness length, with and without building downwash, and elimination of calms. The AERMOD model also incorporates the algorithms from the PRIME model, which is designed to predict impacts in the "cavity region" (i.e., the area around a structure which, under certain conditions, may affect an exhaust plume, causing a portion of the plume to become entrained in a recirculation region). The Building Profile Input Program (BPIP) program for the PRIME model (BPIPRM) will be used to determine the projected building dimensions modeling with the building downwash algorithm enabled. The modeling of downwash from sources accounts for all obstructions within a radius equal to five obstruction heights of the stack.

Emission Estimates and Stack Parameters

The air quality analysis of heating and hot water systems will be based on the available design information. If design information is not available, the following assumptions will be utilized, as appropriate:

Emission Factors

Emissions factors would be obtained from the EPA *Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume I: Stationary Point and Area Sources*. $PM_{2.5}$ emissions would include both the filterable and condensable fractions.

Fuel Usage

Annual fuel consumption rates for the heating and hot water systems of the proposed buildings would be calculated using energy use estimates based on type of development and size of the building as recommended in the 2014 *City Environmental Quality Review (CEQR) Technical Manual.* Short-term emissions would be based on equipment design capacities if available; otherwise they will be conservatively estimated assuming a 100-day heating season.

Stack Parameters

If design information on the heat and hot water systems' design is not available, it would be assumed that exhaust stacks would be located three feet above roof height (as per the *CEQR Technical Manual*). The exhaust velocity would be calculated based on the exhaust flowrate for the estimated boiler capacity, using the energy use of the proposed building and EPA's fuel factors. Assumptions for stack diameter and exhaust temperature for the proposed systems will be obtained from a survey of boiler exhaust data undertaken and provided by DEP.

Methodology for Estimating NO_2 Concentrations

Annual NO_2 concentrations from stationary sources will be estimated using a NO_2 to NO_x ratio of 0.75, as described on EPA Guidance. The 1-hour average NO_2 concentration increments from the Proposed Action's stationary combustion sources will be estimated using the AERMOD model's Plume Volume Molar Ratio Method (PVMRM) module to analyze chemical transformation within the model. The PVMRM module incorporates hourly background ozone concentrations to estimate NO_x transformation within the source plume. Ozone concentrations will be taken from the New York State Department of Environmental Conservation (NYSDEC) IS 52 monitoring station that is the nearest ozone monitoring station and has complete five years of hourly data available. An initial NO_2 to NO_x ratio of 10 percent at the source exhaust stack will be assumed, which is considered representative for boilers.

Meteorological Data

NYSDEC-supplied meteorological data processed with the AERMET Version 19191 processor will be used for the modeling analysis. The meteorological data set will consist of five consecutive years of meteorological data: surface data collected at LaGuardia Airport (2015–2019), and concurrent upper air data collected at Brookhaven, New York. The meteorological data provide hour-by-hour wind speeds and directions, stability states, and temperature inversion elevation over the five-year period.

Receptor Placement

A comprehensive receptor network (i.e., locations with continuous public access) will be developed for the modeling analysis. Discrete receptors (i.e., locations at which concentrations are calculated) will be

modeled along the existing and proposed buildings' façades (including No Action developments) to represent potentially sensitive locations such as operable windows and intake vents. To evaluate project-on-project impacts, receptors will be conservatively placed on the façades of the proposed commercial development. Rows of receptors at spaced intervals on the modeled buildings will be analyzed at multiple elevations. Generally, receptors would be spaced at a three-meter interval vertically to represent individual floors of a building, while horizontally, receptor spacing would be a minimum of three meters and a maximum of 10 meters. Receptors will also be placed at publicly accessible ground-level locations.

Background Concentrations

To estimate the maximum expected pollutant concentration at a given location (receptor), the predicted impacts must be added to a background value that accounts for existing pollutant concentrations from other sources that are not directly accounted for in the model (see **Table 1**). To develop background levels, concentrations measured at the most representative NYSDEC ambient monitoring station over the latest available three-year period (2017–2019) will be used (consistent with NYSDEC guidance).

Table 1
Background Pollutant Concentrations for Stationary Souce Analysis

Pollutant	Average Period	Location	Concentration (µg/m³)	NAAQS (µg/m³)
NO_2	Annual[1]	IS 52	32.8	100
	1-hour[2]		110.6	188
SO_2	1-hour[3]	IS 52	14.6	196
$PM_{2.5}$	24-hour	JHS 126, Brooklyn	18.3	35
	Annual		7.6	12

Notes:
[1] Annual average NO_2 background concentration is based on the three-year highest value from 2017–2019.
[2] The one-hour NO_2 background concentration is based on the maximum 98th percentile one-hour NO_2 concentration averaged over three years of data, from 2017–2019.
[3] The one-hour SO_2 background concentration is based on the maximum 99th percentile concentration averaged over three years of data, from 2017–2019.
Source: New York State Air Quality Report Ambient Air Monitoring System, NYSDEC, 2017–2019.

The $PM_{2.5}$ 24-hour average background concentration of 18.3 µg/m³ (based on the 2017 to 2019 average of 98th percentile concentrations measured at the JHS 126 monitoring station) will be used to establish the *de minimis* value for the 24-hour increment, consistent with the guidance provided in the *CEQR Technical Manual.*

Total 1-hour NO_2 concentrations will be calculated following methodologies that are accepted by the EPA and are considered appropriate and conservative. The methodology used to determine the compliance of total 1-hour NO_2 concentrations from the proposed sources with the 1-hour NO_2 National Ambient Air Quality Standards (NAAQS)[2] will be based on adding the monitored background to modeled concentrations, as follows: hourly modeled concentrations from proposed sources will be first added to the seasonal hourly background monitored concentrations; then the highest combined daily 1-hour NO_2 concentration will be determined at each receptor location and the 98th percentile daily 1-hour maximum concentration for each modeled year will calculated within the AERMOD model; finally the 98th percentile concentrations will be averaged over the latest five years.

Determining the Significance of Air Quality Impacts

For the stationary source analysis, the exhaust stacks for the heat and hot water systems will be assumed to be located at the edge of the development massing closest to the receptor, unless the source and receptor are immediately adjacent to each other. In these cases, the stack will be assumed to be located at an initial

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

distance of 10 feet from the nearest receptor. If a source could not meet the NAAQS or $PM_{2.5}$ *de minimis* criteria, the stack would then be set back in 20 foot (or similar) increments, until the source met the respective criteria. If necessary, further restrictive measures will be considered, including use of low NO_x burners, increasing stack heights, or a combination of these measures.

Predicted values will be compared with NAAQS for NO_2, and SO_2, and the City's CEQR *de minimis* criteria for $PM_{2.5}$. In the event that violations of standards are predicted, an air quality E-designation would be proposed for the site, describing the fuel and/or heat and hot water system exhaust stack restrictions that would be required to avoid a significant adverse air quality impact.

LARGE OR MAJOR SOURCES

A review of NYSDEC Title V and State Facility Air permits as well as EPA's Envirofacts database was performed to identify any federal or state-permitted facilities. Existing large and major sources of emissions (i.e., sources having a Title V or State Facility Air Permit) within 1,000 feet of the development sites were surveyed. One facility with a State Facility Air Permit was identified: 245 East 63 Street Building.

Therefore, an analysis of these sources will be performed to assess the potential effects of this source on the Proposed Project. Predicted criteria pollutant concentrations will be predicted using the AERMOD model compared with NAAQS. In the event that an exceedance of a standard is predicted, potential measures to avoid air quality impacts will be investigated.

INDUSTRIAL SOURCES

The Rezoning Area is zoned C1-9 which is used for commercial districts which are residential in character. Based on the zoning and land use characteristics of the study area, it is unlikely that any industrial sources of emissions exist that would require analysis. However, a review of DEP and NYSDEC air permits will be performed to determine whether there are any permitted industrial sources of emissions within the 400-foot study area. If any permitted industrial sources are identified, an analysis would be performed following the procedures outlined in the *CEQR Technical Manual*. The EPA's AERMOD refined dispersion model would be used to estimate the short-term and annual concentrations of critical pollutants at sensitive receptor locations. Predicted values would be compared with the short-term guideline concentrations (SGC) and annual guideline concentrations (AGC) reported in DEC's DAR-1 AGC/SGC Tables guidance document to determine the potential for significant impacts. Potential cumulative effects of air toxic compounds would be evaluated, if required.

CHEMICAL SPILL ANALYSIS

The Proposed Project is anticipated to include wet laboratories equipped with fume hoods. Fume hoods are enclosures maintained under negative pressure and continuously vented to the outside. Their function is to protect laboratory staff from potentially harmful fumes. By providing a continuous exhaust from laboratory rooms, they also prevent any fumes released within the laboratory from escaping into other areas of the building, or through windows to the outside.

A quantitative analysis employing mathematical modeling will be performed to assess the potential effects of an accidental chemical spill in any one of the proposed laboratory fume hoods. The chemical spill analysis will follow the procedures and methodologies contained in the *CEQR Technical Manual* and examined the potential impacts on nearby buildings and places of public access, as well as potential impacts due to recirculation into air intake systems or windows of the proposed building. Maximum predicted concentrations will be compared to the short-term exposure levels (STELs) or ceiling levels recommended by the U.S. Occupational Safety and Health Administration (OSHA) for the chemicals examined.

Detailed design information for the proposed laboratory ventilation systems will be used to develop assumptions for the analysis of the potential for impacts from a chemical spill in one of the proposed laboratories.

Chemicals for Analysis

An inventory of the types and quantities of chemicals that are likely to be used in the proposed laboratories was developed for the Proposed Project. Common buffers, salts, enzymes, nucleotides, peptides, and other biochemicals were not considered in the analysis since they are not typically categorized as air pollutants. Chemicals were identified for further examination based on their toxicity and vapor pressure. Vapor pressure is a measure of the material's volatility—its tendency to evaporate, or to form vapors, which is a critical parameter in determining potential impacts from chemical spills. Nonvolatile chemicals, defined as chemicals with a vapor pressure of less than 10 mm mercury (Hg), were excluded. Exposure standards are safety- and health-based standards indicative of the chemical's toxicity—substances with higher toxicity have lower exposure standards. These include OSHA permissible exposure limit (PEL), National Institute for Occupational Safety and Health (NIOSH), immediately dangerous to life or health (IDLH), and OSHA and/or NIOSH STEL and ceiling values.

The worst-case chemical spill analysis will be performed for the chemicals with the greatest potential hazard, presented in **Table 2**, which were selected from the full chemical inventory based on relative exposure thresholds and vapor pressures. Chemicals with high vapor pressures are most likely to have high evaporation rates. Since the chemicals selected for detailed analysis are most likely to have the highest emissions rates and the lowest exposure standards, if the analysis of these chemicals results in no significant impacts, it would indicate that the other chemicals in the inventory would also not present a potential for significant impacts.

Table 2
Chemicals to be Analyzed

Chemical	Vapor Pressure (mm Hg)	STEL (ppm)	Ceiling (ppm)
Acetic Acid, Glacial	11	--	10
Acetonitrile	73	--	40
Acrolein	210	0.3	--
Benzene*	75	--	--
Carbon Tetrachloride	91	2	--
Dichloromethane	350	125	--
Glutaraldehyde	17	--	0.2
Hydrochloric acid	14.62	--	5
Hydrogen Peroxide	25	--	1
Nitric acid*	48	--	--
Threthylamine*	54	--	--

Notes:
* No STEL or Ceiling values published. The listed OSHA Permissible Exposure Limit will be applied (time weighted average for up to a 10-hour workday during a 40-hour workweek.)
STEL: Short-Term Exposure Limit is a 15-minute TWA exposure that should not be exceeded at any time during a workday.
Ceiling: Level set by NIOSH or OSHA not to be exceeded in any work place based on 15 minutes exposure.
PPM: parts per million.

Estimates of Worst-Case Emission Rates

The dispersion of chemicals from a spill within the proposed laboratories will be analyzed to assess the potential for exposure of the general public and of staff within the proposed laboratory building to hazardous fumes in the event of an accidental release. Evaporation rates for volatile chemicals expected to be used in the proposed laboratories will be estimated using the model developed by the Shell Development Company.[3]

The Shell model, which was developed specifically to assess air quality impacts from chemical spills, calculates evaporation rates based on physical properties of the chemical, temperature, and rate of air flow over the spill surface. Room temperature conditions (20° C) and an air flow rate of 0.5 meters/second were assumed for calculating evaporation rates.

The analysis will assume that a chemical spill in a fume hood would extend to an area of 12 square feet (approximately 1.11 square meters) unless specific design information is available. The emission rates will be determined using the evaporation rates and assuming this maximum spill area.

[3] Fleischer, M.T. *An Evaporation/Air Dispersion Model for Chemical Spills on Land*, Shell Development Company, December 1980.

Dispersion Modeling

Recirculation in Laboratory Building Intakes

The potential for recirculation of the fume hood emissions back into the proposed laboratory building air intakes will be assessed using the Wilson method.[4] This empirical procedure, which has been verified by both wind-tunnel and full-scale testing, is a refinement of the 1981 ASHRAE Handbook procedure, and takes into account such factors as plume momentum, stack-tip downwash, and cavity recirculation effects. The procedure determines the worst-case, absolute minimum dilution between exhaust vent and air intake. Three separate effects determine the eventual dilution: internal system dilution, obtained by combining exhaust streams (i.e., mixing in plenum chambers of multiple exhaust streams, and introducing fresh air supplied from roof intakes); wind dilution, dependent on the distance from vent to intake and the exit velocity; and dilution from the stack, caused by stack height and plume rise from vertical exhaust velocity. The critical wind speed for worst-case dilution is dependent on the exit velocity, the distance from vent to intake, and the cross-sectional area of the exhaust stack.

Dispersion in Surrounding Area

Dispersion modeling in the surrounding area will be modeled using the AERMOD methodology described above. Discrete receptors (i.e., locations at which concentrations are calculated) will be placed on nearby buildings. The model receptor network will consist of locations along the facades and roof of the buildings, at operable windows, intake vents, and otherwise accessible locations.

The power law relationship will be used to convert the calculated 1-hour average maximum concentrations to short-term 15-minute averages. The 15-minute average concentrations will then be compared to the STELs for the chemicals examined or, if the STEL is not established for the chemical, to the ceiling level.

[4] D.J. Wilson. *A Design Procedure for Estimating Air Intake Contamination from Nearby Exhaust Vents*, ASHRAE TRAS 89, Part 2A, pp. 136-152, 1983.

Appendix C
Draft Noise Monitoring Approach Memorandum

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Draft Memorandum

To:	NYC Department of City Planning (DCP)
From:	Daniel Abatemarco and Denise Miller / AKRF
Date:	November 11, 2020
Re:	New York Blood Center EIS — Noise Monitoring Approach
cc:	File

INTRODUCTION

The purpose of this memorandum is to describe the noise analysis approach for the New York Blood Center Environmental Assessment Statement (EAS). The New York Blood Center (NYBC) proposes to construct a new 16-story building containing state-of-the-art research and development facilities on the midblock area of the block bounded by East 66th Street, East 67th Street, First Avenue, and Second Avenue (Block 1441, Lot 40) in the Upper East Side of Manhattan. The proposed new building would include community facility uses for the NYBC and laboratories and related uses for NYBC partners.

This memorandum presents a summary of the selection of noise receptor locations and describes the noise monitoring approach to determine existing ambient noise levels in the project area. The measured existing noise levels will be used as part of the noise analysis to examine: 1) whether there are any locations where there is the potential for the Proposed Actions to result in significant noise impacts, and 2) what level of building attenuation would be necessary to provide acceptable interior noise levels at the development site under guidelines contained in the 2014 *City Environmental Quality Review (CEQR) Technical Manual*.

SELECTION OF NOISE RECEPTOR LOCATIONS

In general, the levels of existing noise within the Project Area are primarily influenced by the amount of vehicular traffic on the immediately adjacent roadway or nearby roadways. Measurements of existing noise were determined not to be representative of typical noise exposure due to atypical conditions for vehicular and pedestrian/cyclist traffic, goods movement, and transit use as a result of the COVID-19 pandemic. As an alternative, measurements of noise levels previously conducted in the Project Area are proposed to represent existing noise levels, with adjustments made as necessary to account for changes in traffic that have occurred since the years in which measurements were conducted.

AKRF identified two measurement locations near the Project Area at which noise levels were previously measured as part of the 2001 Memorial Sloan-Kettering Cancer Center (MSKCC) Rezoning Environmental Impact Statement (EIS). These measurement locations are shown in **Figure 1** and summarized below in **Table 1**. These receptors, due to their proximity to the project site, provide an effective representation of

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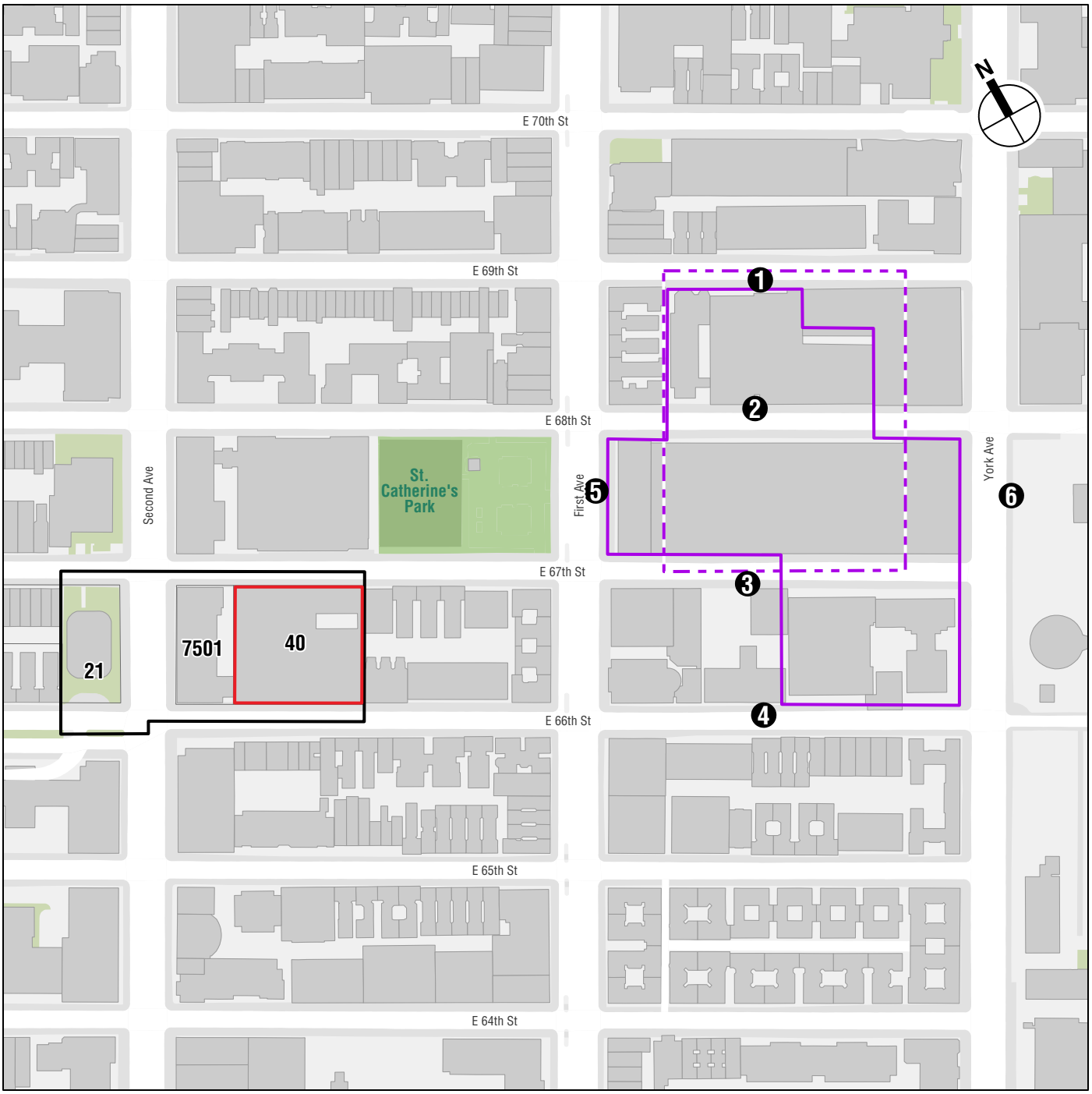


Proposed Actions

Development Site

Project Area

MSKCC Rezoning EIS

Rezoning Area

Large Scale Community Facility Development

1 *Noise Receptor*

Noise Receptor Locations

NEW YORK BLOOD CENTER—CENTER EAST

Figure 1

existing ambient noise levels at the project site at the time the measurements were conducted. It is expected that measurements from the monitoring locations could apply to sites adjacent to the project site, which are on the same road corridors. The MSKCC Rezoning EIS noise analysis projected Build (With Action) noise levels with the MSKCC project for the analysis year 2011, as shown in the EIS Appendix A included as **Attachment A**. These projections were based on traffic volumes and vehicle classification information, which are shown in **Attachment A**. As described below, the traffic data in **Attachment A** will be used to scale the measured levels to represent current 2020 existing noise levels as well as levels in 2026, which is the analysis year for the Proposed Actions.

The noise receptor locations were selected based on the location of the project site and the locations of noise level data available from the MSKCC Rezoning EIS. The two receptor sites selected for the noise analysis in the project area are described in **Table 1**. These receptors, due to their proximity to the Proposed Project, provide an effective and conservative representation of existing ambient noise levels.

Table 1
Locations of Previously Conducted Noise Measurements

Noise Receptor Site	Location
1	E 68th Street between First and York Avenues[1]
2	E 66th Street between First and York Avenues[2]

Notes:
[1] MSKCC Rezoning EIS Noise Receptor Site 2
[2] MSKCC Rezoning EIS Noise Receptor Site 4

ESTABLISHMENT OF EXISTING CONDITION NOISE LEVELS

MSKCC REZONING EIS NOISE DATA

As part of the noise analysis for the MSKCC Rezoning EIS, noise measurements were conducted at six sites. At the receptor sites, 20-minute duration noise measurements were conducted during typical weekday AM (7:15 AM–9:15 AM), midday (12:00 PM–2:00 PM), and PM (4:00 PM–6:00 PM) peak periods. Measurements were conducted between Tuesday and Thursday on weeks when New York City Public Schools were in session as recommended by the *CEQR Technical Manual*. Measurements were performed using Type 1 Sound Level Meter (SLM) instruments according to ANSI Standard S1.4-1983 (R2006). The SLMs had laboratory calibration dates within one year of the date of the measurements. All measurement procedures were based on the guidelines outlined in ANSI Standard S1.13-2005. All noise measurement locations were located approximately 5 feet above grade. Traffic on adjacent roadways were counted concurrently with the noise measurements.

Of the six MSKCC Rezoning EIS measurement locations, two locations are located on nearby corridors to the Proposed Project site (i.e., East 68th and East 66th Streets), one block to the east. The measured $L_{eq(1)}$ and $L_{10(1)}$ noise levels at these two locations are summarized in **Table 2**.

Table 2
MSKCC Rezoning EIS Measured Noise Levels near Proposed Project (in dBA)

Site	Location	Time	L_{eq}	L_{10}
1	E 68th Street between First and York Avenues (MSKCC FEIS Site 2)	AM	68.9	71.0
		MD	68.1	69.0
		PM	71.8	74.5
2	E 66th Street between First and York Avenues (MSKCC FEIS Site 4)	AM	69.1	69.5
		MD	65.6	67.5
		PM	66.1	69.0

PROJECTION OF NOISE LEVELS TO ANALYSIS YEAR

VEHICULAR TRAFFIC NOISE

It is expected that noise levels would have increased between 2001, when the above measurements were conducted, and the Proposed Project Build Year (i.e. 2026) due to additional traffic growth in the area. The measured MSKCC Rezoning EIS noise levels will be scaled to the 2020 "existing condition" traffic volumes that would represent typical conditions, as well as the 2026 With Action condition using the proportionality equation described in section 332.1 of the *CEQR Technical Manual*. The scaling will be based on traffic volumes and vehicle classification breakdowns at these two sites developed for both the 2020 existing and 2026 With Action condition. In cases where the predicted traffic in the 2020 existing or 2026 With Action condition would be less than the traffic for 2001 shown in **Attachment A**, noise levels will be assumed to remain stable in order to ensure a conservative analysis. The L_{10} is assumed to be 3 dBA greater than the predicted L_{eq} for all future conditions.

PLAYGROUND NOISE

St. Catherine's Park is approximately 60 feet from the northern façade of the project development site. Noise associated with the nearby playground will be estimated using the Early Childhood playground boundary noise level (to conservatively represent children of any age using the playground) and any applicable noise level reduction due to distance.

Table 3 shows measured maximum hourly playground boundary noise levels. These values are based upon measurements made at a series of New York City school playgrounds for the New York City School Construction Authority (SCA).[1] The noise associated with nearby playgrounds will be estimated using the Early Childhood playground boundary noise level to conservatively represent children of any age using the playground. At receptors with line-of-sight to the playground, cumulative noise levels including contribution from traffic on adjacent roadways and playground noise will be calculated. Cumulative L_{10} noise levels are assumed to be 3 dBA greater than projected L_{eq} values.

Table 3
Playground Boundary Noise $L_{eq(1)}$ Noise Levels (in dBA)

Early Childhood	Elementary Schools	Intermediate Schools	High Schools
71.5	71.4	71.0	68.2
Source: SCA Playground Noise Study, AKRF, Inc., October 23, 1992.			

FAÇADE NOISE ATTENUATION REQUIREMENTS

As shown in **Table 4**, the New York City *CEQR Technical Manual* has set noise attenuation quantities for buildings based on exterior $L_{10(1)}$ noise levels to maintain acceptable interior noise levels. The acceptable interior noise level thresholds for the EIS noise analysis will be 45 dBA or lower for community facility uses and 50 dBA for commercial uses, and are determined based on exterior $L_{10(1)}$ noise levels.

[1] SCA Playground Noise Study, AKRF, Inc., October 23, 1992.

Table 4
Required Attenuation Values to Achieve Acceptable Interior Noise Levels

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

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

Minimum façade noise attenuation ratings will be established based on projected $L_{10(1)}$ noise levels in the future with the Proposed Project. The projected future $L_{10(1)}$ noise levels will comprise of a combination of vehicular traffic noise and stationary source noise from the surrounding uses, including playground noise.

✷

Attachment A

RECEPTOR NOISE LEVEL CALCULATION (1)

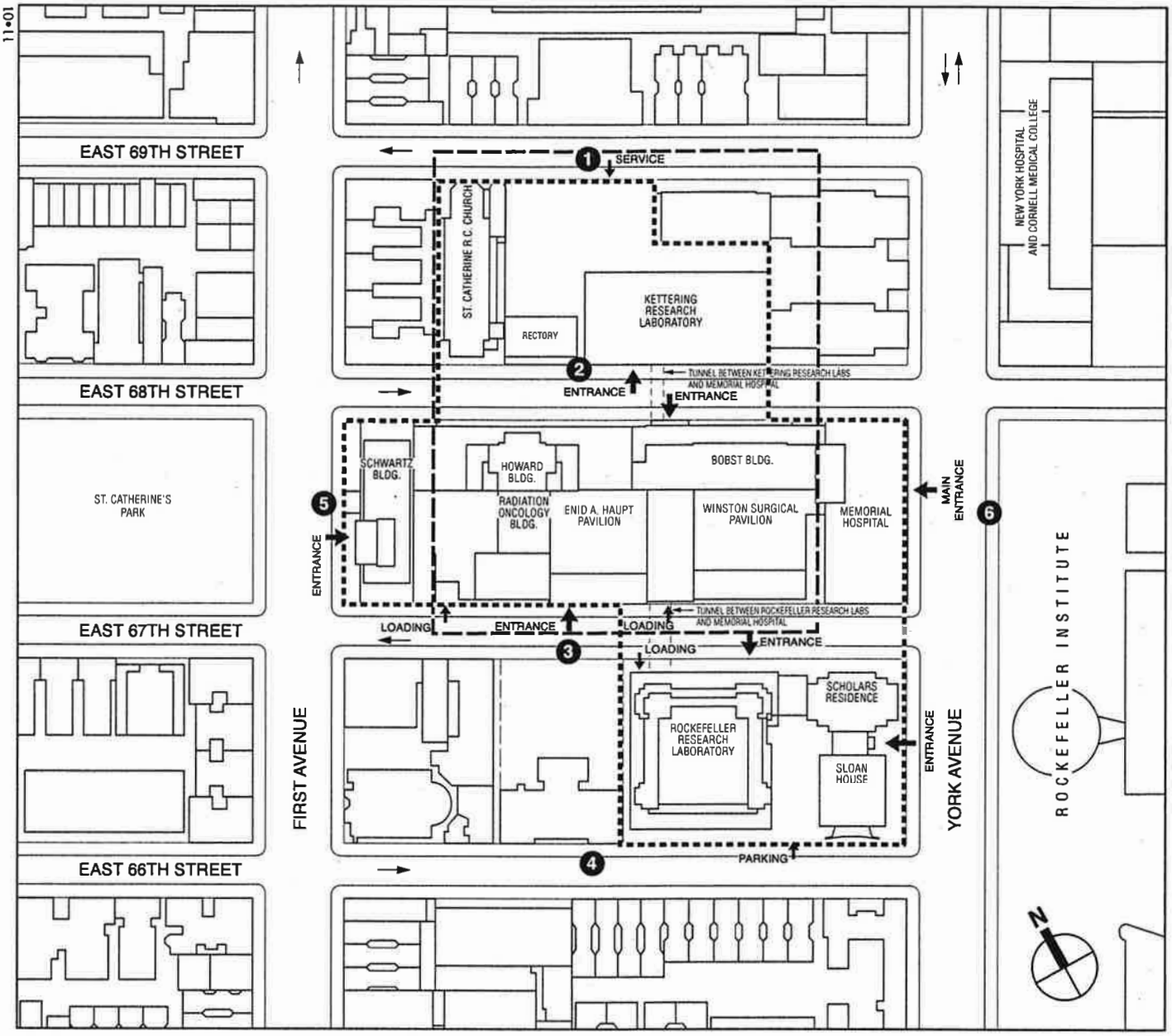
Site	Hour	EXISTING CONDITIONS							2011 NO BUILD			2011 BUILD				
		Volume	%Auto	%Medium	%Heavy	PCEs	Leq(1)	Factor	Volume	PCE's	Leq(1)	Auto	Medium	Heavy	PCEs	Leq(1)
1	AM	150	96.0%	2.0%	2.0%	447	67.5	41.00	158	471	67.7	8	4	2	713	69.5
	MD	230	91.0%	6.0%	3.0%	1017	66.8	36.73	242	1070	67.0	3	4	2	1307	67.9
	PM	215	95.0%	5.0%	0.0%	376	67.7	41.95	226	396	67.9	9	3	1	538	69.2
2	AM	320	95.0%	4.0%	1.0%	781	68.9	39.97	347	847	69.3	37	4	2	1118	70.5
	MD	340	90.0%	6.0%	4.0%	1788	68.1	35.58	359	1888	68.3	15	4	2	2137	68.9
	PM	320	90.0%	4.0%	6.0%	2125	71.8	38.53	340	2258	72.1	23	2	1	2398	72.3
3	AM	230	58.0%	14.0%	28.0%	6123	70.0	32.13	242	6442	70.2	12	4	2	6688	70.4
	MD	260	81.0%	9.0%	10.0%	2795	69.8	35.34	273	2935	70.0	17	4	2	3186	70.4
	PM	160	71.0%	18.0%	11.0%	2070	68.8	35.64	171	2213	69.1	21	3	1	2367	69.4
4	AM	85	84.0%	8.0%	8.0%	758	69.1	40.30	98	874	69.7	34	0	0	908	69.9
	MD	85	92.0%	4.0%	4.0%	422	65.6	39.35	96	476	66.1	0	0	0	476	66.1
	PM	100	94.0%	4.0%	2.0%	328	66.1	40.94	111	364	66.6	31	0	0	395	66.9
5	AM	2470	91.0%	3.0%	6.0%	16030	75.7	33.65	2625	17036	76.0	19	6	3	17406	76.1
	MD	2200	92.0%	2.0%	6.0%	13948	73.6	32.15	2326	14747	73.8	7	6	3	15105	73.9
	PM	2780	98.0%	1.0%	1.0%	5532	75.3	37.87	2947	5865	75.6	17	4	2	6116	75.7
6	AM	1725	97.0%	2.0%	1.0%	3692	71.4	35.73	1843	3944	71.7	89	4	2	4267	72.0
	MD	1905	94.0%	3.0%	3.0%	7563	72.2	33.41	2016	8004	72.4	55	4	2	8293	72.6
	PM	1830	96.0%	2.0%	2.0%	5453	72.3	34.93	1951	5814	72.6	82	2	1	6013	72.7

RECEPTOR NOISE LEVEL CALCULATION (2)

Site	Hour	Existing		2011 No Build		2011 Build		Build Attenuation	
		Leq(1)	L10(1)	Leq(1)	Difference	Leq(1)	Difference	L10(1)	dBA
1	AM	67.5	69.0	67.7	0.2	69.5	1.8	71.0	30
	MD	66.8	67.5	67.0	0.2	67.9	0.9	68.6	
	PM	67.7	68.0	67.9	0.2	69.2	1.3	69.5	
2	AM	68.9	71.0	69.3	0.4	70.5	1.2	72.6	
	MD	68.1	69.0	68.3	0.2	68.9	0.5	69.8	
	PM	71.8	74.5	72.1	0.3	72.3	0.3	75.0	30
3	AM	70.0	71.0	70.2	0.2	70.4	0.2	71.4	
	MD	69.8	73.0	70.0	0.2	70.4	0.4	73.6	30
	PM	68.8	67.5	69.1	0.3	69.4	0.3	68.1	
4	AM	69.1	69.5	69.7	0.6	69.9	0.2	70.3	30
	MD	65.6	67.5	66.1	0.5	66.1	0.0	68.0	
	PM	66.1	69.0	66.6	0.5	66.9	0.4	69.8	
5	AM	75.7	79.0	76.0	0.3	76.1	0.1	79.4	35
	MD	73.6	76.0	73.8	0.2	73.9	0.1	76.3	
	PM	75.3	78.0	75.6	0.3	75.7	0.2	78.4	
6	AM	71.4	74.5	71.7	0.3	72.0	0.3	75.1	
	MD	72.2	75.0	72.4	0.2	72.6	0.2	75.4	35
	PM	72.3	75.0	72.6	0.3	72.7	0.1	75.4	

NOISE MONITORING RESULTS

Site	Time	Leq	L1	L10	L50	L90
1	AM	67.5	76.5	69.0	65.5	64.5
	MD	66.8	78.0	67.5	64.0	62.5
	PM	67.7	77.5	68.0	65.0	64.0
2	AM	68.9	77.0	71.0	66.5	65.5
	MD	68.1	78.0	69.0	65.5	64.5
	PM	71.8	81.5	74.5	68.5	66.5
3	AM	70.0	81.5	71.0	63.5	61.5
	MD	69.8	78.5	73.0	67.5	61.0
	PM	68.8	82.5	67.5	61.0	59.5
4	AM	69.1	82.0	69.5	63.5	61.0
	MD	65.6	75.5	67.5	63.0	59.5
	PM	66.1	76.0	69.0	62.0	59.0
5	AM	75.7	84.5	79.0	73.5	67.0
	MD	73.6	82.5	76.0	71.0	67.0
	PM	75.3	85.0	78.0	73.0	65.5
6	AM	71.4	80.0	74.5	69.0	64.5
	MD	72.2	81.0	75.0	69.5	63.0
	PM	72.3	82.0	75.0	69.5	62.5



Boundary of Proposed Rezoning Area

Boundary of Proposed Large Scale Community Facility Development

1 *Noise Receptor Location*

Noise Receptor Locations

FIGURE 15-1

MEMORIAL SLOAN-KETTERING CANCER CENTER