Chapter 16: Construction

A. INTRODUCTION

This chapter examines the potential construction impacts of the proposed project. This chapter summarizes the construction plan for the proposed project, including a description of the anticipated construction stages and activities, followed by a discussion of the types of impacts likely to occur during construction of the proposed project. The assessment also describes methods that may be employed to avoid or minimize construction-related impacts. This Supplemental Environmental Impact Statement (SEIS) updates changes in background conditions since the 2001 *FEIS* and assesses whether any changed background conditions and the differences in program elements between the proposed development program and those assessed in the 2001 *FEIS* for the project block would result in any significant adverse impacts from construction that were not previously identified in the 2001 *FEIS* findings.

PRINCIPAL CONCLUSIONS

The analysis concludes that the proposed project would not result in significant adverse impacts that were not previously identified in the 2001 *FEIS*.

TRANSPORTATION

No significant adverse transportation impacts would be expected due to construction of the proposed project.

The proposed project would result in 67 more vehicle trips (passenger car equivalents [PCEs]) when compared to construction of the permitted building in the future without the proposed project. However, when assigned to the local network, the project construction trip increments would not result in 50 or more vehicle trips through any intersection.

The proposed project would result in 216 more transit and pedestrian trips when compared to the future without the proposed project. Since the project block is well served by mass transit including the A, B, C, D, and 1 subway lines and various bus routes along Eleventh Avenue and West 57th Street, only nominal increases in incremental transit demand would be experienced along each of those routes and at each of the transit access locations (fewer than the 2012 *CEQR Technical Manual* analysis threshold of 200 trips each). Therefore, there would not be a potential for any significant adverse transit impacts during construction. In addition, the 216 incremental peak hour pedestrian trips would be distributed among numerous sidewalks and crosswalks in the area, such that no pedestrian elements are expected to incur 200 or more incremental pedestrian trips (the 2012 *CEQR Technical Manual* analysis threshold) resulting from the construction of the proposed project. Hence, there would not be a potential for significant adverse pedestrian impacts during construction. Also, where temporary sidewalk closures are required, adequate protection or temporary sidewalks and appropriate signage would be provided in accordance with New York City Department of Transportation (NYCDOT) requirements.

AIR QUALITY

No significant adverse air quality impacts would be expected at any sensitive receptor locations due to construction of the proposed project.

To ensure that the construction of the proposed project would result in the lowest practicable diesel particulate matter (DPM) emissions, the project would implement an emissions reduction program for all construction activities, including: diesel equipment reduction; clean fuel; best available tailpipe reduction technologies; utilization of newer equipment; source location; dust control; and idle restriction.

In terms of air pollutant emissions, the most intense construction activities are excavation and foundations work and superstructure construction, expected to take 25 months. Of those 25 months, the excavation and foundations work, lasting 12 months, would be identical to the work that would be required for the permitted building; the superstructure construction would last 15 months (overlapping somewhat with foundation work). Although exterior façade work, interiors, finishing, and commissioning would continue after superstructure work is complete, those efforts would result in very little emissions since the heavy duty diesel equipment associated with excavation and concrete work would no longer be needed on-site. The equipment that would be operating in these later phases would be mostly small, and would be dispersed vertically throughout the building, resulting in very low concentration increments in adjacent areas. During the excavation, foundation, and superstructure work, a handful of large non-road diesel engines would operate throughout the site. The only engine expected to be located in a single location for a long period of time is the tower crane, located on West 58th Street, approximately 165 feet west of The Helena building's property line and approximately 190 feet from The Helena building (the nearest sensitive residential location would be further than 190 feet because of the difference in elevation). Given the elevation of the tower crane engine, its location relative to nearby sensitive locations, and the emissions controls the tower crane would not result in substantial concentration increments. The proposed project includes the construction of a single building (projected development site 1, including both the mixed-use building and the midblock community facility building), and renovations to an existing building (projected development site 2), and is therefore not as intense as some large-scale multi-building construction projects.

The only residential building adjacent to the construction site is The Helena building located in the southeast corner of the project block. Given the size of the project site and the space available, most of the heavy deliveries and intense activities such as concrete pumping would take place within the site (for foundations) or along West 58th Street (for superstructure) and away from The Helena building to the extent practicable. For superstructure work, a concrete pump would be located inside the building core (northeast corner of projected development site 1) and concrete trucks would operate next to the core on West 58th Street (at a distance of approximately 140 feet from The Helena, and behind the superstructure).

NOISE AND VIBRATION

No significant adverse noise or vibration impacts would be expected at any sensitive receptor locations due to construction of the proposed project.

The applicant has committed to taking a proactive approach during construction, which employs a wide variety of measures that exceed standard construction practices, but the implementation of which is deemed logistically feasible and practicable, to minimize construction noise and reduce potential noise impacts. These measures will be specified in the Restrictive Declaration and described in the noise mitigation plan required as part of the New York City Noise Control Code.

The only sensitive receptor adjacent to the project site is The Helena residential building on the project block. The Helena has been designed to provide at least 35 dBA of attenuation. With this level of façade attenuation, interior noise levels would be expected to be below 45 dBA L_{10}, the interior level that is considered acceptable for residential use according to the 2012 *CEQR Technical Manual*. Consequently, no significant adverse noise impacts would be expected at this location.

At the residential uses along West 61st Street between West End Avenue and Route 9A, approximately 800 feet north of the project site, the noise attenuation due to distance as well as the shielding from intervening buildings would be expected to result in maximum $L_{eq(1)}$ noise levels due to construction in the low- to mid- 60 dBA. This would not be expected to result in an exceedence of the 2012 *CEQR Technical Manual* impact criteria given the relatively high noise levels at this location in future conditions without the proposed project. In addition, the buildings at this receptor are new and have double glazed windows and central air conditioning that would be expected to provide at least 30 dBA of attenuation of exterior noise. Consequently, no significant adverse noise impacts would be expected at this location.

At the school at Eleventh Avenue and West 58th Street, approximately 100 feet east of projected development site 2 and approximately 250 feet east of projected development site 1, the noise attenuation due to distance as well as the shielding from intervening buildings would be expected to result in maximum $L_{eq(1)}$ noise levels due to construction in the high 60 to low 70 dBA. This would not be expected to result in an exceedance of the 2012 *CEQR Technical Manual* impact criteria given the relatively high baseline noise levels at this location in future conditions without the proposed project. In addition, the school building at this location is new and has double glazed windows and central air conditioning that would be expected to provide at least 30 dBA of attenuation of exterior noise. Consequently, no significant adverse noise impacts would be expected at this location.

At Hudson River Park, approximately 200 feet west of the project site, the noise attenuation due to distance as well as the shielding from the intervening elevated Route 9A highway structure would be expected to result in maximum $L_{eq(1)}$ noise levels due to construction in the high 60 to mid 70 dBA. This would not be expected result in an exceedence of CEQR impact criteria given the relatively high noise levels from Route 9A at this location in future conditions without the proposed project. Consequently, no significant adverse noise impacts would be expected at this location.

In terms of potential vibration levels that would be perceptible and annoying, the three pieces of equipment that would have the most potential for producing levels which exceed the 65 vibration decibels (VdB) limit are pile drivers, the clam shovel drop, and vibratory roller. They would produce perceptible vibration levels (i.e., vibration levels exceeding 65 VdB) at receptor locations within a distance of approximately 230 feet. However, the operation would only occur for limited periods of time at a particular location and therefore would not result in any significant adverse impacts. Any blasting that may occur would be expected to produce vibrations less perceptible than those from the operation of the three pieces of equipment cited above. In no case are significant adverse impacts from vibrations expected to occur.

OTHER TECHNICAL AREAS

Historic and Cultural Resources

Similar to the permitted building as well as the development anticipated in the 2001 *FEIS*, the proposed project would result in new construction within 90 feet of the Consolidated Edison Power House, a known architectural resource. Therefore, the proposed project would comply with the New York City Landmarks Preservation Commission's (LPC's) *Guidelines for Construction Adjacent to a Historic Landmark* as well as the guidelines set forth in section 523 of the 2012 *CEQR Technical Manual* and the procedures set forth in the New York City Department of Building's (DOB's) TPPN #10/88. This includes preparation of a Construction Protection Plan (CPP), to be prepared prior to demolition and construction activities and submitted to LPC for review and approval. The Hudson River bulkhead, which is State and National Register-eligible, is located more than 90 feet away from the project site and would not be expected to be adversely affected by the project's construction-related activities.

Hazardous Materials

Although construction on projected development site 1 (with the exception of the portion that is within Lot 36)would entail extensive subsurface disturbance at a site known to have soil, groundwater and soil vapor contamination (primarily from prior petroleum uses), impacts would be avoided by performing the subsurface work in accordance with New York State Department of Environmental Conservation (DEC) approved Remedial Action Work Plans (RAWPs) which sets out procedures during construction (e.g., for handling and disposing of any contaminated soil and any encountered petroleum tanks) and requirements for the new construction (e.g., a foundation vapor barrier). The RAWP for the eastern portion of projected development site 1 was approved in March 2010 and its implementation is being overseen by DEC as part of New York's Brownfield Cleanup Program (BCP) pursuant to a Brownfield Cleanup Agreement (BCA) entered into by the applicant. The RAWP for the western portion of projected development site 1 (under its petroleum site program) was approved by the DEC on December 20, 2011.

Redevelopment of Lot 36 (projected development site 2 and the parking area west-adjacent to Manhattan Mini-Storage) would require, prior to and during interior or other demolition, addressing asbestos containing materials, lead-based paint, etc. in conformance with established regulatory requirements. An (E) designation would be placed on Lot 36 to ensure that appropriate procedures for subsurface disturbance are followed prior to, during and following construction (see Chapter 9, "Hazardous Materials").

Socioeconomic Conditions

Construction activities associated with the proposed project would not result in any significant adverse impacts on socioeconomic conditions. Construction would, in some instances, temporarily affect pedestrian and vehicular access on street frontages immediately adjacent to the project site. However, lane and/or sidewalk closures are not expected to occur in front of entrances to any existing or planned retail businesses, and construction activities would not obstruct major thoroughfares used by customers or businesses. Utility service would be maintained to all businesses. Overall, construction of the proposed project is not expected to result in any significant adverse impacts on surrounding businesses.

Land Use and Neighborhood Character

Throughout construction, access to surrounding residences, businesses, and institutions in the area would be maintained. In addition, measures would be implemented to control noise, vibration, emissions, and dust on construction sites, including the erection of construction fencing incorporating sound-reducing measures. Because none of these impacts would be continuous or ultimately permanent, a preliminary analysis found that construction would not create significant adverse impacts on land use patterns or neighborhood character in the area.

Rodent Control

Construction contracts would include provisions for a rodent (mouse and rat) control program. Before the start of construction, the contractor would survey and bait the appropriate areas and provide for proper site sanitation. During the construction phase, as necessary, the contractor would carry out a maintenance program. Coordination would be maintained with appropriate public agencies. Only U.S. Environmental Protection Agency (EPA) and DEC-registered rodenticides would be utilized, and the contractor would be required to perform rodent control programs in a manner that avoids hazards to persons, domestic animals, and non-target wildlife.

B. SUMMARY OF 2001 FEIS FINDINGS

The 2001 *FEIS* analyzed potential impacts from construction activities, and the methods that may be employed to minimize those impacts. The analysis described the economic benefits associated with the construction of the proposed project, and the overall temporary effects on land use, historic resources, hazardous materials, traffic and transportation, air quality, and noise. Overall, the 2001 *FEIS* concluded that the then proposed project would not result in any significant adverse impacts with respect to construction.

C. CONSTRUCTION PHASING AND ACTIVITIES

INTRODUCTION

The following section describes the expected schedule and methods and means of construction. While the methods and means described below have been developed with an experienced New York City construction manager (and are commonly used in New York City), the discussion is only illustrative as other means and methods may be chosen at the time of construction. The described means and methods are conservatively chosen to serve as the basis of the analyses in this chapter and are representative of the reasonable worst case for potential impacts.

This section of the chapter first gives an overview of the anticipated construction phasing and schedule of the proposed development on projected development sites 1 and 2, and then provides a detailed description of each type of construction activity. The activities discussed include: abatement and demolition; excavation and foundations; construction of the core and shell of the building; exterior cladding; and interior fit-out. General construction practices are then presented, including those associated with deliveries and access, hours of work, and sidewalk and lane closures. Estimates of the number of construction workers and truck trips are presented. Following the discussion of construction techniques, the chapter discusses potential impacts with regard to transportation, air quality, noise and vibration, historical and cultural resources, hazardous materials, open space, socioeconomic conditions, community facilities, land use and public policy, neighborhood character, and rodent control.

CONSTRUCTION PHASING AND SCHEDULE

The conceptual construction schedule, presented in **Figure 16-1**, includes the future construction which would occur without the project, and the two components of the proposed project: construction of the mixed-use building and the mid-block community facility building (projected development site 1) and renovation, expansion and demolition activities to convert the mini-storage building to residential use (projected development site 2). This schedule represents the reasonable worst-case scenario for potential environmental impacts since it results in the highest number of workers, trucks, and non-road engines on-site at any given time within reasonable scheduling constraints of the proposed project.

Excavation and foundation work for the future without the project and for the proposed project would be the same, while the subsequent tasks, superstructure, exteriors, and interiors would be substantially longer for the proposed project. Overall, construction would take place over a period of 25 months in future conditions without the proposed project, and 42 months with the proposed project.

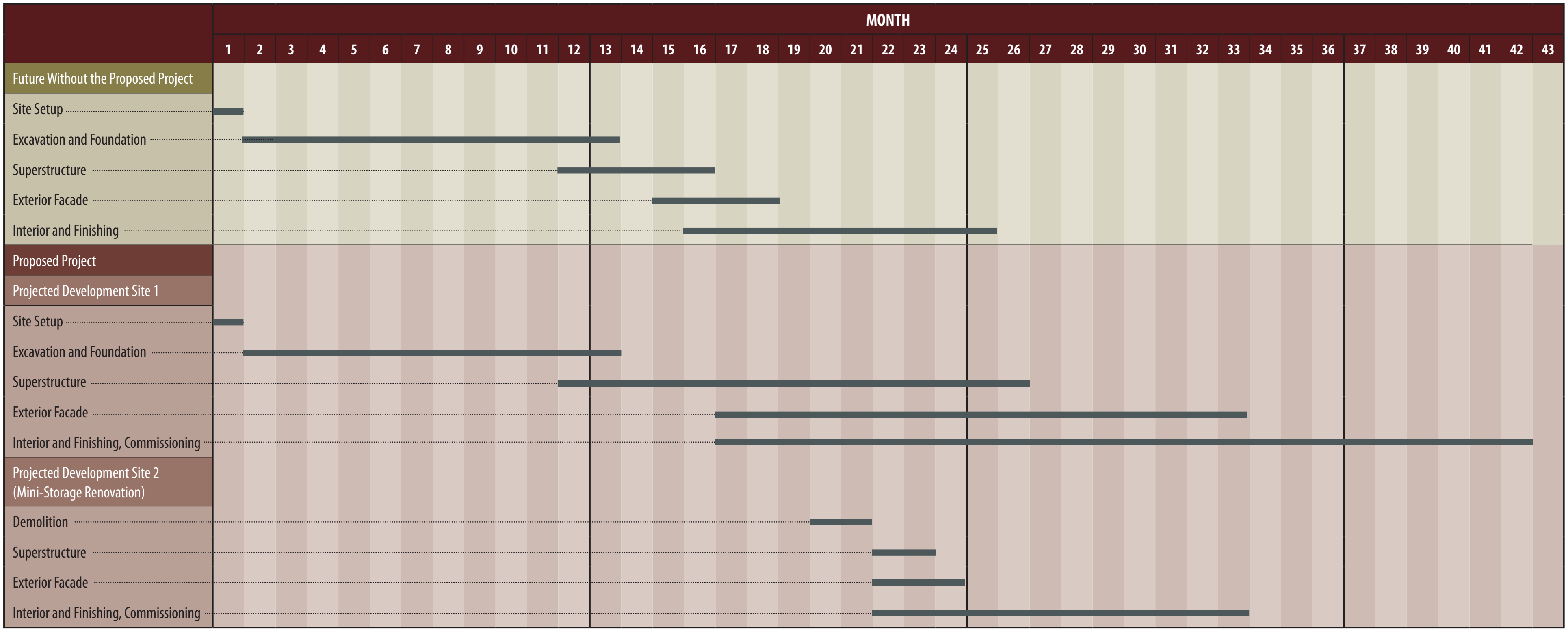
CONSTRUCTION METHODS AND ACTIVITIES

Overall, the construction of the permitted building on projected development site 1 in the future without the proposed project would use standard methods. The proposed project’s mixed-use building would require some unique methods associated mostly with the shape of the building and its cladding. The renovation of the mini-storage building would use standard construction methods, would not require any excavation or new foundations, and would require the demolition of some interior walls and changes to the exterior walls consistent with the conversion to residential use. Note that sometimes work on the tasks below will overlap, as described in **Figure 16-1**.

CONSTRUCTION STARTUP TASKS

Construction startup work prepares a site for the construction work and involves the installation of public safety measures, such as fencing, sidewalk sheds, and Jersey barriers. The site is fenced off, typically with solid fencing to minimize interference between the persons passing by the site and the construction work. Separate gates for workers and for trucks are installed, and sidewalk shed and Jersey barriers are erected. Trailers for the construction engineers and managers are hauled to the site and installed. These trailers could be placed within the fence line, in curb lane, or over the sidewalk sheds. Also, portable toilets, dumpsters for trash, and water and fuel tankers are brought to the site and installed. Temporary utilities are connected to the construction trailers. During the startup period, permanent utility connections may be made, especially if the construction manager has obtained early electric power for construction use, but utility connections may be made almost any time during the construction sequence. Construction startup tasks may have anywhere from 5 to 20 workers on-site, and usually less than 10 truck deliveries per day. The task is normally completed within weeks.

New utility connections can be made at any time during the construction process. The initial investigatory work often occurs early during excavation and foundations, with the actual connections typically occurring once the building mechanical, electrical and plumbing systems are installed. The existing utility lines in the street have sufficient capacity to support the proposed project with its new buildings. Connections to the new buildings would be made from the existing utility lines.



Conceptual Construction Schedule
Figure 16-1

EXCAVATION AND FOUNDATION

Excavation and foundation work is expected to last approximately 12 months. Rock excavation will take place mainly in the eastern portion of projected development site 1 using hoe-rams, rock splitters, and chemical expansion. Blasting may be used if conventional means are not successful or sufficiently productive, and would be completed within the guidelines of the New York City Fire Department and New York City Department of Buildings. Rock and earth will be excavated using hoe ram hammers, bob cats, excavators, line drill machines, and hand tools, and loaded into dump trucks for removal from the site. Minimal underpinning is expected since the basement of the adjacent structure aligns with that of the proposed mix-use building and since rock depth in the area is shallow.

Although construction on projected development site 1 would entail extensive subsurface disturbance at a site known to have soil, groundwater and soil vapor contamination (primarily from prior petroleum uses), impacts would be avoided by performing the subsurface work in accordance with a DEC-approved Remedial Action Work Plan (RAWP) which sets out procedures during construction (e.g., for handling and disposing of any contaminated soil and any encountered petroleum tanks) and requirements for the new buildings (e.g., a vapor barrier, basement ventilation system and ongoing maintenance requirements). The RAWP was approved in March 2010 and its implementation is being overseen by DEC as part of New York's Brownfield Cleanup Program (BCP) pursuant to a Brownfield Cleanup Agreement (BCA) entered into by the applicant.

Foundations will include driven piles, rock anchors, caissons, and concrete foundation walls and slab. A dewatering system will be on line during excavation and remediation under the RAWP and the backfill of the excavated area. In addition, rain and snow could collect in the excavation, and that water would have to be removed. The water would be sent to an on-site pretreatment system to remove the sediment. The pretreatment system often includes sedimentation tanks, filters, and carbon adsorption. The decanted water would then be discharged into either the New York City sewer system or the Hudson River. The settled sediments, spent filters and removed materials would be transported to a licensed disposal area. Discharge in the sewer system is governed by DEP regulations, and discharge into the Hudson River is governed by DEC regulations.

DEP has a formal procedure for issuing a Letter of Approval to discharge into the New York City sewer system. The authorization is issued by the DEP Borough office if the discharge is less than 10,000 gallons per day; an additional approval by the Division of Connections & Permitting is needed if the discharge is more than 10,000 gallons per day. All chemical and physical testing of the water has to be done by a laboratory that is certified by the New York State Department of Health (NYSDOH). The design of the pretreatment system has to be signed by a New York State Professional Engineer or Registered Architect. For water discharged into New York City sewers, DEP regulations specify the following maximum concentration of pollutants.

- Petroleum hydrocarbons — 50 parts per million (ppm)
- Cadmium — 2 ppm
- Hexavalent chromium — 5 ppm
- Copper — 5 ppm
- Amenable cyanide — 0.2 ppm
- Lead — 2 ppm
- Mercury — 0.05 ppm

- Nickel 3 ppm
- Zinc 5 ppm
- pH between 5 to 12
- Temperature less than 150 degrees Fahrenheit (F)
- Flash Point greater than 140 degrees F
- Benzene 134 parts per billion (ppb)
- Ethylbenzene 380 ppb
- Methyl-Tert-Butyl-Ether (MTBE) 50 ppb
- Naphthalene 47 ppb
- Tetrachloroethylene (perc) 20 ppb
- Toluene 74 ppb
- Xylenes 74 ppb
- PCB 1 ppb
- Total Suspended Solids 350 ppm

Any groundwater discharged in the New York City system would meet these limits. DEP can also impose project-specific limits, depending on the location of the project and contamination that has been found in nearby areas.

Discharge directly into the Hudson River is regulated by DEC under its State Pollutant Discharge Elimination System (SDPES) permitting. DEC imposes limits on the contaminants in the discharge based on the water quality classification of the receiving waters. The Hudson River's water quality classification in this area is I. Best usages for Use Class I waters are secondary contact recreation and fishing. Water quality should be suitable for fish propagation and survival. DEC requires testing of the water to be discharged and a pretreatment system to ensure that water quality parameters are met.

SUPERSTRUCTURE, CORE AND SHELL

Superstructure work would last approximately 15 months for projected development sites 1 and 2 months for the mini-storage renovation. In future conditions without the proposed project, superstructure work would last five months on projected development site 1. Work for this task would include reinforced concrete and some areas of structural steel for building core and shell; construction of mechanical equipment rooms located at roof and throughout the building; construction of an electrical vault located on the 2nd floor north west side of building; a vertical riser for mechanical, electrical and plumbing; perimeter sidewalks, planting, pass thru street; and storefronts and entrances. Street work will be required to bring city water, sewer, gas and electricity into the building. Connections are on both the north and south side of the building.

The following equipment will be required for these tasks:

- A tower crane, located on the north east corner of the site.
- A crawler crane, located on the western side of the site on West 57th street.
- A concrete pump will be located within the building in the mid-block area for the duration of the concrete pour.
- A four car hoist complex will be located on the north east side of the site to facilitate material deliveries and personnel access.
- Hydraulic truck cranes

- Compressors
- 2 point suspended scaffolding
- Pipe scaffolding
- Hand tools
- Lift trucks

The location of the tower crane and concrete pump and trucking operations during superstructure work are presented in **Figure 16-2**.

EXTERIORS

Construction of the proposed building's exterior façade would take approximately 16 months, and work on the mini-storage building's exterior would last approximately three months. In future conditions without the proposed project, exterior work would last approximately four months.

The proposed mixed-use building's exterior includes glass and metal vertical and sloped façades. Some of the equipment described above for superstructure work (occurring in parallel to the façade work for much of the time) will also be used for exterior work, including cranes, scaffolding, and hand tools. In addition, mobile derricks will be used for window installation. A single car hoist located on the east side of the building toward 58th Street will be used specifically for façade deliveries.

INTERIOR FIT-OUT, FINISHING, AND COMMISSIONING

This stage would include the construction of interior partitions, installation of lighting fixtures, pool installation and fit-out, amenity construction, and interior finishes (flooring, painting, millwork, glass and glazing, door and hardware, etc.), and mechanical and electrical work, such as the installation of elevators, and plumbing and fire protection fit-out work. Mechanical and other interior work would overlap for approximately 9 to 16 months with the building superstructure and exterior construction. This activity would employ the greatest number of construction workers. Equipment used during interior construction would include exterior hoists, hydraulic truck cranes, pneumatic equipment, delivery trucks, and a variety of small hand-held tools. However, this stage of construction is the quietest and does not generate fugitive dust.

GENERAL CONSTRUCTION PRACTICES

Certain activities would be on-going throughout the project construction. The applicant would have a field representative to serve as the contact point for the community and local leaders. The representative would be available to meet and work with the community to resolve concerns or problems that arise during the construction process. New York City maintains a 24-hour-a-day telephone hotline (311) so that concerns can be registered with the city.

GOVERNMENTAL COORDINATION AND OVERSIGHT

The following describes governmental construction oversight agencies and typical construction practices in New York City. In certain instances, specific practices may vary from those described below. However, the typical practices are expected to be used because they have been developed over many years and have been found to be necessary to successfully complete large projects in a

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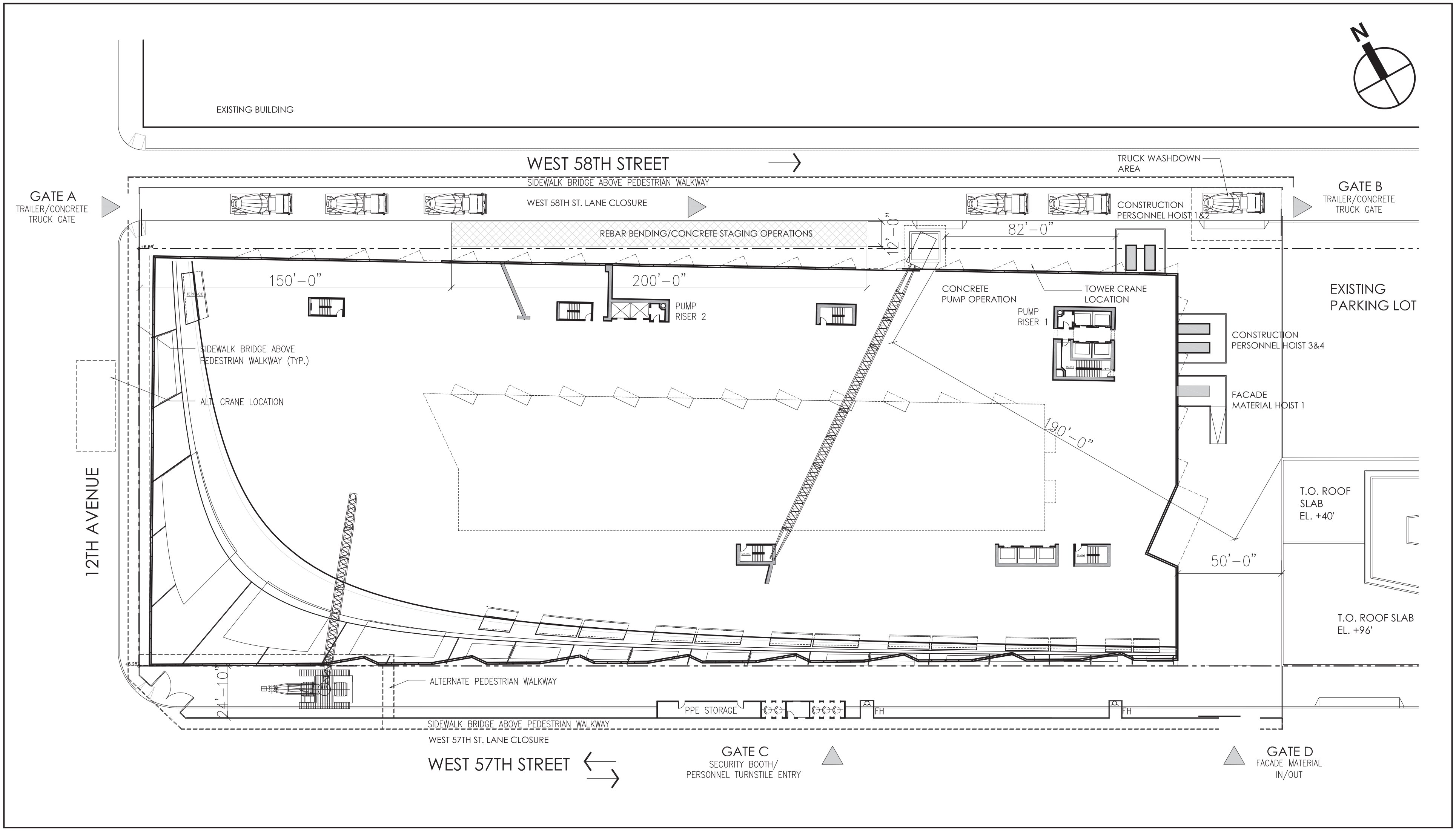


Concrete Operation and Crane Location Plan

Figure 16-2

625 WEST 57TH STREET

confined urban area. All deliveries, material removals, and hoist uses have to be tightly scheduled to maintain an orderly work area and to keep the construction on schedule and within budget.

The governmental oversight of construction in New York City is extensive and involves a number of city, state, and federal agencies. **Table 16-1** shows the main agencies involved in construction oversight and the agency's areas of responsibilities. The primary responsibilities lie with New York City agencies. DOB has the primary responsibility for ensuring that the construction meets the requirements of the Building Code and that the building is structurally, electrically, and mechanically safe. In addition, DOB enforces safety regulations to protect both the workers and the public. The areas of responsibility include installation and operation of the equipment, such as cranes and lifts, sidewalk shed, and safety netting and scaffolding. In addition, DOB approves the CPP used when the construction is in proximity to fragile historic structures. DEP enforces the Noise Code, approves RAP's/CHASP's, and regulates water disposal into the sewer system. FDNY has primary oversight for compliance with the Fire Code and for the installation of tanks containing flammable materials. NYCDOT reviews and approves any traffic lane and sidewalk closures. New York City Transit (NYCT) is in charge of bus stop relocations. LPC approves studies and testing to prevent loss of archaeological materials and to prevent damage to fragile historic structures. DEC regulates discharge of water into rivers and streams, disposal of hazardous materials, and construction, operation, and removal of bulk petroleum and chemical storage tanks. The New York State Department of Labor (DOL) licenses asbestos workers. On the federal level, the EPA has wide ranging authority over environmental matters, including air emissions, noise, hazardous materials, and the use of poisons. Much of the responsibility is delegated to the state level. The Occupational Safety and Health Administration (OSHA) sets standards for work site safety and the construction equipment.

Table 16-1
Construction Oversight in New York City

Agency	Areas of Responsibility
New York City	
Department of Buildings	Primary oversight for Building Code and site safety
Department of Environmental Protection	Noise, hazardous materials, dewatering
Fire Department	Compliance with Fire Code, tank operation
Department of Transportation	Lane and sidewalk closures
Landmarks Preservation Commission	Archaeological and architectural protection
New York State	
Department of Labor	Asbestos workers
Department of Environmental Conservation	Dewatering, hazardous materials, tanks, Stormwater Pollution Prevention Plan, Industrial SPDES, if any discharge into the Hudson River
United States	
Environmental Protection Agency	Air emissions, noise, hazardous materials, toxic substances
Occupational Safety and Health Administration	Worker safety

DELIVERIES AND ACCESS

Because of site constraints, the presence of large equipment, and the type of work, access to the construction sites would be tightly controlled. The work areas would be fenced off, and limited access points for workers and trucks would be provided. Typically, worker vehicles would not be allowed into the construction area. Security guards and flaggers would be posted, and all persons and trucks would have to pass through security points. Workers or trucks without a need to be on the site would not be allowed entry. After work hours, the gates would be closed and locked. Security guards would patrol the construction sites after work hours and over the weekends to prevent unauthorized access.

As is the case with almost all large urban construction sites, material deliveries to the site would be highly regimented and scheduled. Because of the high level of construction activity and constrained space, unscheduled or haphazard deliveries would not be allowed. For example, during excavation, each dump truck would be assigned a specific time that it must arrive on the site and a specific allotment of time to receive its load. If a truck is late for its turn, it would be accommodated if possible, but if not, the truck would be assigned to a later time. A similar regimen would be instituted for concrete deliveries, but the schedule would be even stricter. If a truck is late, it would be accommodated if possible, but if on-time concrete trucks are in line, the late truck would not be allowed on site. Because contract documents specify a short period of time within which concrete must be poured (typically 90 minutes), the load would be rejected if this time limit is exceeded.

During the finishing of the building interiors, individual deliveries would be scheduled to the extent practicable. Studs for the partitions, drywall, electrical wiring, mechanical piping, ductwork, and other mechanical equipment are a few of the myriad materials that must be delivered and moved within the building. The available time for the hoist would be fully and tightly scheduled. Each trade, such as the drywall subcontractor, would be assigned a specific time to have its materials delivered and hoisted into the building. If the delivery truck arrives outside its assigned time slot, it would be accommodated if possible without disrupting the schedule of other deliveries. However, if other scheduled deliveries would be disrupted, the out-of-turn truck would be turned away. This is a penalty for the subcontractor, because if its materials are not on-site, it cannot complete the task. Therefore, the contractor has a strong incentive to stay on schedule.

To aid in adhering to the delivery schedules, as is normal for building construction in New York City, flaggers would be employed at each of the gates. The flaggers could be supplied by the subcontractor on-site at that time or by the construction manager. The flaggers would control trucks entering and exiting the site, so that they would not interfere with one another. In addition, they would provide an additional traffic aid as the trucks enter and exit the on-street traffic streams.

HOURS OF WORK

Construction activities for the buildings would generally take place Monday through Friday, with exceptions that are discussed separately below. In accordance with city laws and regulations, construction work would generally begin at 7:00 AM on weekdays, with some workers arriving to prepare work areas between 6:00 AM and 7:00 AM. Normally, work would end at 3:30 PM, but it can be expected that to meet the construction schedule, the workday would be extended to complete some specific tasks beyond normal work hours. The work could include such tasks as completing the drilling of piles, finishing a concrete pour for a floor deck, or completing the bolting of a steel frame erected that day. The extended workday would generally last until about 6:00 PM and would not include all construction workers on-site, but just those involved in the specific task requiring additional work time. Limited extended workdays are expected to occur on weekdays over the course of construction.

At limited times over the course of constructing a building, weekend work would be required. Again, the numbers of workers and pieces of equipment in operation would be limited to those needed to complete the particular task at hand. For extended weekday and weekend work, the level of activity would be reduced from the normal workday. The typical weekend workday would be on Saturday from 7:00 AM with worker arrival and site preparation to 5:00 PM for site cleanup.

A few tasks may have to be completed without a break, and the work can extend more than a typical 8-hour day. For example, in certain situations, concrete must be poured continuously to form one structure without joints. If the concrete is poured and then stopped for a period of time before more concrete is poured, a weak joint is formed. This weak joint may not be structurally sound and could weaken the building. An example of this is pouring concrete for slabs and foundations, which would be poured in sections. These long concrete pours often begin late on a Saturday, when traffic is light, and continue into Sunday. The plans for each long concrete pour would be coordinated with NYCDOT. In addition, a Construction Noise Mitigation Plan required by the New York City Noise Control Code[1] would be developed and implemented to minimize intrusive noise emanating into nearby areas and affecting sensitive receptors. A copy of the Construction Noise Mitigation Plan would be kept on-site for compliance review by DEP and DOB.

SIDEWALK AND LANE CLOSURES

During the course of construction, traffic lanes and sidewalks would have to be closed or protected for varying periods of time. A lane closure is practical for both West 57th and West 58th Streets for the width of the development site. Truck movements would be spread throughout the day and would generally occur between the hours of 6:00 AM and 3:00 PM, depending on the stage of construction. No rerouting of traffic is anticipated and moving lanes of traffic are expected to be available at all times. It is anticipated that the sidewalks immediately adjacent to the project site would also be closed to accommodate heavy loading areas for at least several months of the construction period. Pedestrians would either walk on the opposite side of the street or in a sectioned-off portion of the street. NYCDOT would be consulted to determine the appropriate protective measures for ensuring pedestrian safety surrounding the development site.

CONSTRUCTION WORKERS AND DELIVERIES

The projected average daily number of construction workers and trucks by month throughout the construction period is presented in **Table 16-2**.

The number of construction workers on-site without the project would peak at 415 in the 16th and 17th construction months, when superstructure, exteriors, interiors, and finishing work would occur simultaneously. With the proposed project, the number of worker on-site would peak at 821 in the 21st month, combining superstructure, exterior, interiors, and finishing work for projected development site 1 with the demolition activities for the mini-storage building.

Truck loads would peak at 67 per day in the fifth month of construction both with and without the proposed project, during the excavation and foundations work, mostly associated with soil and rock removal.

The individual and overlapping activities projected for various stages of construction would result in a maximum of 821 construction workers and 67 trucks per day. Compared with the future without the proposed project, the proposed project would have 406 more construction workers at its maximum, however, would have the same amount of trucks per day, 67 trucks.

[1] New York City Noise Control Code (i.e., Local Law 113). Citywide Construction Noise Mitigation, Chapter 28, Department of Environmental Protection of New York City, 2007.

Table 16-2
Average Daily Construction Workers and Delivery Trucks

Quarter	Month	Workers			Trucks		
		Future Without the Project	Proposed Project		Future Without the Project	Proposed Project	
			Projected Development Site 1	Projected Development Site 2		Projected Development Site 1	Projected Development Site 2
1	1	40	40		1	1	
	2	69	69		64	64	
	3	73	73		64	64	
2	4	74	74		65	65	
	5	84	84		**67**	**67**	
	6	113	113		6	6	
3	7	125	125		17	17	
	8	119	119		17	17	
	9	123	123		17	18	
4	10	121	121		17	18	
	11	112	112		8	11	
	12	105	105		18	26	
5	13	175	285		17	25	
	14	312	298		16	24	
	15	370	321		19	24	
6	16	**415**	308		21	25	
	17	**415**	621		6	25	
	18	380	694		6	29	
7	19	345	720	56	5	29	7
	20	375	691	59	6	29	7
	21	375	**761**	**60**	6	29	4
8	22	320	751	63	6	29	4
	23	270	666	79	5	30	3
	24	221	691	96	5	31	4
9	25	150	515	100	5	12	4
	26		522	99		12	5
	27		556	94		12	5
10	28		528	83		12	6
	29		608	77		12	6
	30		588	69		12	6
11	31		594	66		12	6
	32		552	60		13	6
	33		551			13	
12	34		511			11	
	35		482			9	
	36		460			9	
13	37		400			9	
	38		350			9	
	39		313			8	
14	40		274			7	
	41		200			7	
	42		115			7	
15	43		75			3	
	44		none			none	

D. THE FUTURE WITHOUT THE PROPOSED PROJECT

As described in Chapter 1, “Project Description,” the future without the proposed project assumes that development will be constructed pursuant to the new building application that the applicant filed with the DOB for a development on the western and midblock portions of the project block. This development, which is described in more detail below, conforms to the existing zoning and approvals for the project block. As is also described in Chapter 1, “Project Description,” the future without the proposed project assumes that the existing mini-storage building on projected development site 2 will remain in its current configuration.

The future without the proposed project scenario will consist of new construction of approximately 331,300 gsf of office use and 67,500 gsf of retail uses and 239 public parking spaces on projected development site 1 (see Table 1-2 of Chapter 1, “Project Description”) (the permitted building). The permitted building on projected development site 1 would be five stories tall (95 feet) with office uses located on floors 3 through 5 and ground floor retail. It is assumed that the mini-storage facility would remain in its current use in the future without the proposed project.

As described above, the conceptual construction schedule, presented in **Figure 16-1**, includes the future construction which would occur without the project. Construction would begin with an estimated 13 months of site setup and excavation and foundation work.

E. PROBABLE IMPACTS OF THE PROPOSED PROJECT

TRANSPORTATION

Construction of the proposed project would generate trips from workers traveling to and from the site, as well as from the movement of materials and equipment, and removal of construction waste. With the proposed project, the estimated number of daily construction workers on-site at any one time would vary between 40 and 821, depending on the stage of construction, as follows:

- Excavation and foundation of the proposed project work would require between 40 and 125 workers on-site.
- The combination of the excavation and foundation plus superstructure, core and shell construction work would require between 105 and 285 workers on-site.
- The superstructure, core and shell construction work after the excavation and foundation work would require between 298 and 621 workers on-site.
- The combined work of superstructure, core and shell construction, the interior construction and finishing, and the renovation of the mini-storage would require between 612 and 821 workers on-site.
- The interior construction and finishing work after the superstructure, core and shell work and the mini-storage renovation is finished would require between 75 and 551workers on-site.

Truck movements would generally be distributed throughout the day with peak activities occurring in the early morning. Trucks would access the site from both West 57th Street and West 58th Street. The estimated trucks per day for the construction of the proposed project are as follows:

- Excavation and foundation of the proposed project work would require between one and 67 deliveries per day.

- The combination of the excavation and foundation plus superstructure, core and shell construction work would require between 18 and 26 deliveries per day.
- The superstructure, core and shell construction work after the excavation and foundation work would require between 24 and 25 deliveries per day.
- The combined work of superstructure, core and shell construction, the interior construction and finishing, and the renovation of the mini-storage would require between 13 and 36 deliveries per day.
- The interior construction and finishing work after the superstructure, core and shell work and the mini-storage renovation is finished would require between 3 and 13 deliveries per day.

Delivery of material, truck holding and staging would occur on West 57th and West 58th Streets between Eleventh and Twelfth Avenues, where one parking lane adjacent to the project site would be closed during the construction period. During the interior construction and finishing stage, it is likely that there would be fewer large trucks and a greater number of smaller delivery vehicles. While truck staging is expected on both the north and south sides of the construction site, moving lanes of traffic would be available at all times. To the extent that there would be any disruption in traffic flow from construction, the changes would be relatively minor and short-term.

CONSTRUCTION WORKER VEHICLE AND TRUCK TRIPS

The estimated daily vehicle trips were distributed throughout the workday based on projected work shift allocations and conventional arrival/departure patterns of construction workers and trucks. For construction workers, the majority (80 percent) of the arrival and departure trips would take place during the hour before and after each shift (6-7 AM for arrival and 3-4 PM for departure on a regular day shift). Based on the survey conducted at the construction site of the New York Times Building in 2006, it is anticipated that construction workers' travel within or commute to Manhattan would be primarily by public transportation (approximately 71 percent), with a smaller percentage by private auto (approximately 29 percent). For construction trucks, deliveries would occur throughout the day when the construction site is active. Construction truck deliveries typically peak during the hour before the normal work day (25 percent of daily total), overlapping with construction worker arrival traffic. Therefore, the early morning 6-7 AM construction peak hour is generally considered the most critical hour for a construction traffic analysis. Since construction activities vary among different construction stages and tasks, representative daily construction traffic is typically summarized using quarterly averages. **Table 16-3** presents the quarterly breakdown of the average construction vehicle trips (including the worker and truck trips in passenger car equivalents [PCEs]) for the 6-7 AM construction peak hour. The construction of the proposed project would result in peak construction trips during the seventh and eighth quarter of construction, with maximum of 124 PCEs occurring in the seventh quarter of construction. On average, construction of the proposed project would result in 65 PCEs.

Using the same methodology, construction vehicle trip projections were also developed for the future without the proposed project condition (see **Table 16-4**). The construction vehicle activities associated with the future without the proposed project scenario represent the future conditions without the proposed project and the baseline to which projected construction activities would be compared to determine potential construction traffic impacts. The incremental 6-7 AM peak hour construction vehicle trips in PCEs are also presented in **Table 16-4**.

Table 16-3
Average Peak Hour Construction Vehicle Trips in PCEs (Quarterly)

Quarter	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
Workers[1]	61	90	122	113	301	541	782	782	629	651	608	484
Trucks[2]	43	46	17	18	24	26	35	34	16	18	17	9
Total PCE[3]	50	56	31	31	58	87	124	123	87	92	86	64

Quarter	Q13	Q14	Q15	Average
Workers[1]	354	196	75	386
Trucks[2]	8	7	3	21
Total PCE[3]	48	29	12	65

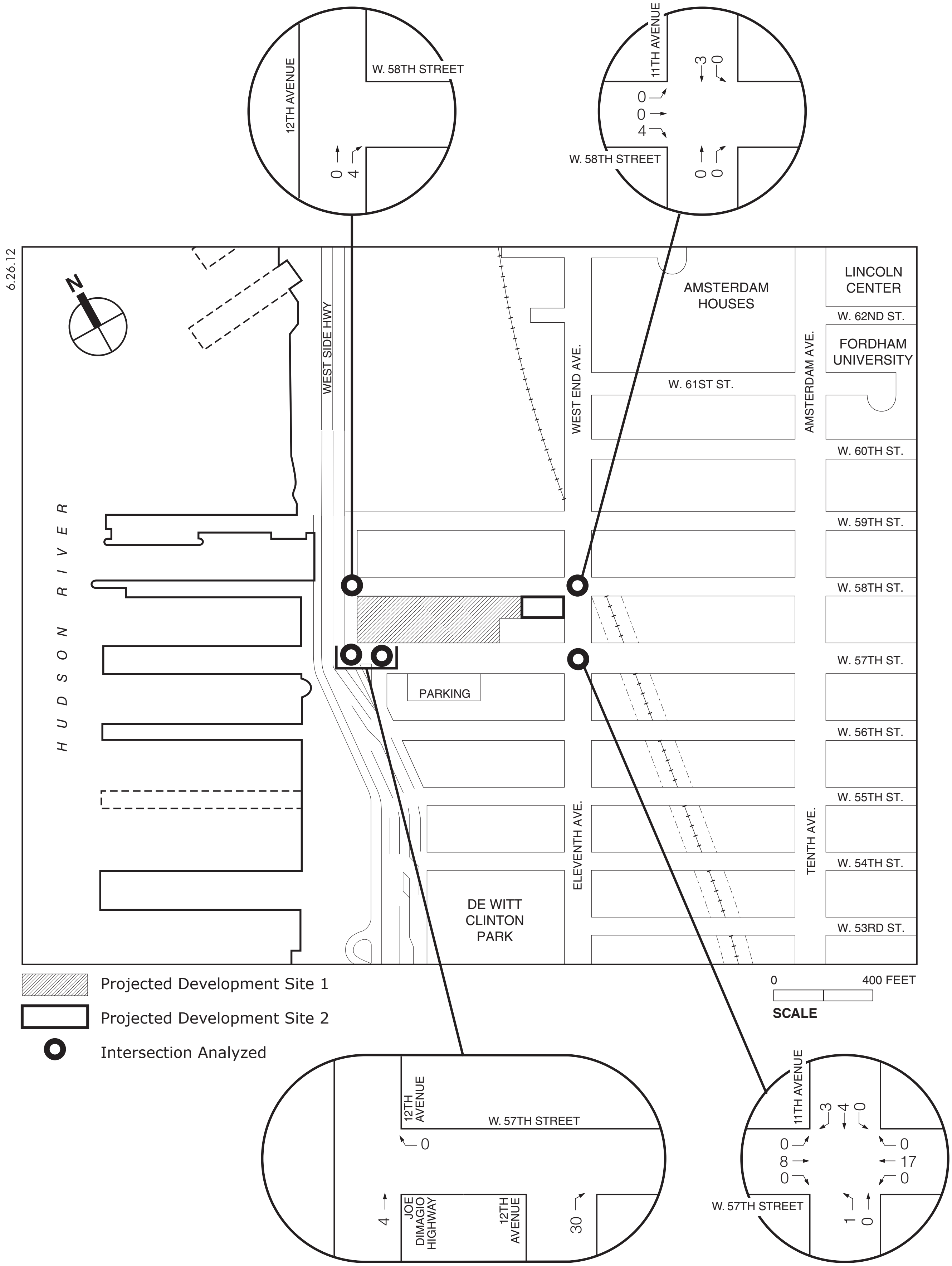
Notes:
1. Averages number of workers per quarter
2. Average number of trucks per quarter
3. Total PCE = workers * (modal split/occupancy[a])*(percent arriving in peak hour[b]) + trucks*PCE[c]*(trips in and out[d])*(percent in peak hour[e]).
   a. 28.9-percent auto split with an auto-occupancy of 2.04, based on survey conducted by AKRF, Inc. at the construction site of the New York Times Building in 2006.
   b. Percent peak hour arrival for construction workers = 80 percent
   c. PCE = 2.0
   d. Truck trips in and out = 2 (arrival and departure within peak hour)
   e. Percent peak hour arrival for trucks = 25 percent

Table 16-4
Incremental Peak Hour Construction Vehicle Trips in PCEs

Scenario	Auto Trips[1]			Truck Trips (PCE)[2]			Total (PCE)		
	In	Out	Total	In	Out	Total	In	Out	Total
Proposed Project	89	0	89	18	17	35	107	17	124
Future Without the Proposed Project	46	0	46	6	5	11	52	5	57
Incremental	43	0	43	12	12	24	55	12	67

Notes: Peak construction worker and truck trips were derived from an estimated quarterly average number of construction workers and truck deliveries per day, with each truck delivery resulting in two daily trips (arrival and departure).
1. Auto Trips = workers * (modal split/occupancy[a])*(percent arriving in peak hour[b])
   a. 28.9-percent auto split with an auto-occupancy of 2.04, based on survey conducted by AKRF, Inc. at the construction site of the New York Times Building in 2006.
   b. Percent peak hour arrival for construction workers = 80 percent
2. Truck Trip PCE = trucks*PCE[a]*(trips in and out[b])*(percent in peak hour[c]).
   a. PCE = 2.0
   b. Truck trips in and out = 2 (arrival and departure within peak hour)
   c. Percent peak hour arrival for trucks = 25percent

Compared to the future without the proposed project, whose peak quarter construction activities are expected to yield 57 peak hour (6-7 AM) PCEs the proposed project would generate 67 more PCEs. The proposed project's incremental construction PCEs would exceed the 50 vehicle-trip 2012 *CEQR Technical Manual* analysis threshold; therefore, the incremental construction PCEs were assigned to the local network to determine if any intersection would exceed the 50 vehicle-trip at an intersection 2012 *CEQR Technical Manual* threshold. The incremental construction trips in PCEs are presented in **Figure 16-3**. As shown in **Figure 16-3**, the project construction trip increments would not result in 50 or more vehicle trips through any intersection); therefore, the proposed project is not expected to result in any significant adverse construction traffic impacts.



Construction Incremental Passenger Car Equivalent Trips

Figure 16-3

Street Lane and Sidewalk Closures

There could be various parking lane and/or sidewalk closures associated with the project's construction activities. A lane closure is practical for both West 57th and West 58th Streets for the width of the development site. Truck movements would be spread throughout the day and would generally occur between the hours of 6:00 AM and 3:00 PM, depending on the stage of construction. No rerouting of traffic is anticipated and, as mentioned above, moving lanes of traffic are expected to be available at all times. It is anticipated that the sidewalks immediately adjacent to the project site would also be closed to accommodate heavy loading areas for at least several months of the construction period. Pedestrians would either walk on the opposite side of the street or in a sectioned-off portion of the street. NYCDOT would be consulted to determine the appropriate protective measures for ensuring pedestrian safety surrounding the development site.

PARKING

The construction activities would generate an estimated daily parking demand of up to 111 parking spaces during peak construction. This parking demand could be fully accommodated by the off-street spaces available within a ¼-mile radius, where over 1,600 public parking spaces are currently available during the peak midday parking utilization period, as shown in Chapter 10, "Transportation."

TRANSIT AND PEDESTRIAN

With approximately 30 percent of the construction workers predicted to commute via auto, the remaining 70 percent are expected to travel to and from the project site via transit and walking. During the peak quarter of construction, up to approximately 782 could be at the project site on a given day. This would result in approximately 556 construction-related transit trips as compared to approximately 287 under the future without the proposed project condition. This results in incremental transit trips of 269. **Table 16-5** provides a summary of the peak hour person trip generation during peak construction under the proposed project and the future without the proposed project condition.

Table 16-5
Peak Hour Construction Person Trip Projections

Scenario	Person Trips By Auto	Person Trips by Transit or Walking	Total Person Trips
Proposed Project	181	445	626
Future Without the Proposed Project	93	229	322
Incremental	88	216	304

Notes: The peak hour person trips summarized in this table represents 80 percent of the daily construction workers described above.
1. Person trips by auto = workers *28.9% modal split* 80% arrival in peak hour
2. Person trips by transit or walking = workers * 71.1% modal split* 80% arrival in peak hour

Since the project location is well served by mass transit including the A, B, C, D, N, Q, R, F, and 1 subway lines, and the M11, M31, and M57 bus routes along Eleventh Avenue and West 57th Street, only nominal increases in incremental transit demand would be experienced along each of those routes and at each of the transit access locations (fewer than the 2012 *CEQR Technical Manual* analysis threshold of 200 subway trips and fewer than 50 bus riders in one direction). Therefore, there would not be a potential for any significant adverse transit impacts during construction. In addition, the 216 incremental peak hour pedestrian trips would be distributed among numerous sidewalks and crosswalks in the area, such that no pedestrian elements are expected to incur 200 or more incremental pedestrian trips (the 2012 *CEQR Technical Manual* analysis threshold) resulting from the construction of the proposed project. Hence, there would not be a potential for significant adverse pedestrian impacts during construction. Also, where temporary sidewalk closures are required, adequate protection or temporary sidewalks and appropriate signage would be provided in accordance with NYCDOT requirements.

AIR QUALITY

The 2012 *CEQR Technical Manual* lists several factors for consideration in determining whether a detailed construction impact assessment is appropriate. The following preliminary assessment describes the proposed project in the context of each of those factors.

ON-ROAD SOURCES

Generally, if a transportation analysis is not needed with regard to construction activities, an air quality assessment of construction vehicles is likely not warranted. As demonstrated above under "Transportation," construction of the proposed project does not require a transportation analysis. The construction would not result in substantial increases in vehicle volumes, lane or roadway closures, or traffic diversions. At peak-hour, the intersection with the highest increment in worker vehicle volumes would be Twelfth Avenue and West 58th Street, with 30 vehicles arriving at that intersection; no truck movements would occur at that intersection. The highest hourly truck volume would occur at Eleventh Avenue and West 57th Street, with 10 truck movements through that intersection, coinciding with 13 worker vehicle movements. These increments would not exceed the applicable CEQR screening levels (140 auto trips and 23 truck trips at peak hour). Therefore, construction of the proposed project would not affect significant changes in air quality related to vehicular traffic, and further mobile-source analysis is not required.

ON-SITE SOURCES

Duration. In terms of air pollutant emissions, the most intense construction activities are excavation and foundations work and superstructure construction, expected to take 25 months. Of those 25 months, the excavation and foundations work, lasting 12 months, would be identical to the work that would be required for the permitted building; the superstructure construction would last 15 months (overlapping somewhat with foundation work—see **Figure 16-1**). Although the superstructure work would be longer than would be required for the permitted building, this is largely due to the complexity of the design, and emissions intensity would not be as high throughout the duration of superstructure work. Although exterior façade work, interiors, finishing, and commissioning would continue after superstructure work is complete, those efforts will result in very little emissions since the heavy duty diesel equipment associated with excavation and concrete work will no longer be needed on-site. The equipment that would be operating in these later phases would be mostly small, and would be dispersed vertically throughout the building, resulting in very low concentration increments in adjacent areas. Overall, although the complexity of the proposed project requires a somewhat longer duration of construction overall, the emissions intensity over the duration of construction would be lower (see below).

Intensity. During the excavation, foundation, and superstructure work, a handful of large non-road diesel engines will operate throughout the site. The only engine expected to be located in a single location for a long period of time is the tower crane, located on West 58th Street, approximately 165 feet west of The Helena building's property line and approximately 190 feet from The Helena building (see **Figure 16-2**); the nearest sensitive residential location is further than 190 feet because the portion of The Helena at the nearest location is only several stories high, while The Helena's tower is set back an additional 40 feet. Given the elevation of the tower crane engine, its location relative to nearby sensitive locations, and the emissions controls the tower crane would not result in substantial concentration increments. Other engines would move throughout the site, although a concrete pump would be located in one location during concrete pours for the superstructure, inside the building core (northeast corner of projected development site 1), and concrete trucks would operate next to the core on 58th Street (at a distance of approximately 140 feet from The Helena, and behind the superstructure—see **Figure 16-2**). Given the size of the site and the nature of the work, this work would not be considered out of the ordinary in terms of its intensity, although emissions would be far lower than most construction projects due to the emission control measures (more detail in the section below). Since the proposed project anticipates having an early electrical connection, temporary electrical power would be used and no large diesel generators would operate on site (more on emission controls below). Furthermore, since the duration of the work would be somewhat extended as a result of the mixed-use building's complex design, the long-term intensity of the emissions would be lower. The proposed project includes the construction of a single building, and renovations to an existing building, and is therefore not as intense as some large-scale multi-building construction projects.

Context. The only residential building in the area is The Helena building located in the southeast corner of the project block. Given the size of the project site and the space available, most of the deliveries and intense activities such as concrete pumping would take place within the site, in the mid-block or western portions of the site and away from The Helena building to the extent practicable.

Emission Control Measures. To ensure that the construction of the proposed project results in the lowest practicable diesel particulate matter (DPM) emissions, the project would implement an emissions reduction program for all construction activities, consisting of the following components (commitments relating to the items set forth below will be included in a Restrictive Declaration):

- *Diesel Equipment Reduction.* Construction of the proposed project would minimize the use of diesel engines and use electric engines, to the extent practicable. The applicant will apply for a grid power connection early on so as to ensure the availability of grid power, reducing the need for on-site generators, and require the use of electric engines in lieu of diesel where practicable.
- *Clean Fuel*. Ultra-low sulfur diesel (ULSD) would be used exclusively for all diesel engines throughout the construction sites.
- *Best Available Tailpipe Reduction Technologies*. Nonroad diesel engines with a power rating of 50 horsepower (hp) or greater and controlled truck fleets (i.e., truck fleets under long-term contract with the project) including but not limited to concrete mixing and pumping trucks, would utilize the best available tailpipe (BAT) technology for reducing DPM emissions. Diesel particle filters (DPFs) have been identified as being the tailpipe technology currently proven to have the highest reduction capability. Construction contracts

would specify that all diesel nonroad engines rated at 50 hp or greater would utilize DPFs, either installed on the engine by the original equipment manufacturer (OEM) or a retrofit DPF verified by the EPA or the California Air Resources Board, and may include active DPFs,[1] if necessary; or other technology proven to reduce DPM by at least 90 percent. This measure is expected to reduce site-wide tailpipe PM emissions by at least 90 percent.

- *Utilization of Newer Equipment.* In addition to the tailpipe controls commitments, the project's construction program would mandate the use of construction equipment rated Tier 3 or higher for all nonroad diesel engines with a power output of 50 hp or greater. Tier 3 NOx emissions range from 40 to 60 percent lower than Tier 1 emissions and considerably lower than uncontrolled engines.
- *Source Location.* In order to reduce the resulting concentration increments at residential and open space locations, large emissions sources and activities such as concrete trucks and pumps would be located away from residential buildings, schools, and publicly accessible open spaces to the extent practicable. Specific consideration would be given to the adjacent Helena building. The concrete pump would be located inside the building core (northeast corner of projected development site 1), and concrete trucks would operate next to the core on West 58th Street. The tower crane will be located on West 58th Street, approximately 165 feet west of The Helena's property line.
- *Dust Control.* Strict fugitive dust control plans will be required as part of contract specifications. For example, stabilized truck exit areas would be established for washing off the wheels of all trucks that exit the construction sites. Truck routes within the sites would be either watered as needed or, in cases where such routes would remain in the same place for an extended duration, the routes would be stabilized, covered with gravel, or temporarily paved to avoid the re-suspension of dust. All trucks hauling loose material will be equipped with tight fitting tailgates and their loads securely covered prior to leaving the sites. In addition to regular cleaning by the City, streets adjacent to the sites would be cleaned as frequently as needed. Chutes would be used for material drops during demolition. An on-site vehicular speed limit of 5 mph would be imposed. Water sprays will be used for all excavation, demolition, and transfer of spoils to ensure that materials are dampened as necessary to avoid the suspension of dust into the air. Loose materials will be watered, stabilized with a biodegradable suppressing agent, or covered.
- *Idle Restriction.* In addition to adhering to the local law restricting unnecessary idling on roadways, on-site vehicle idle time will also be restricted to three minutes for all equipment and vehicles that are not using their engines to operate a loading, unloading, or processing device (e.g., concrete mixing trucks) or otherwise required for the proper operation of the engine.

Based on analysis of all of the above factors affecting construction emissions (and their inclusion in the Restrictive Declaration), the construction of the proposed project would not result in any significant adverse impact on air quality.

[1] There are two types of DPFs currently in use: passive and active. Most DPFs currently in use are the "passive" type, which means that the heat from the exhaust is used to regenerate (burn off) the PM to eliminate the buildup of PM in the filter. Some engines do not maintain temperatures high enough for passive regeneration. In such cases, "active" DPFs can be used (i.e., DPFs that are heated either by an electrical connection from the engine, by plugging in during periods of inactivity, or by removal of the filter for external regeneration).

NOISE AND VIBRATION

NOISE

Introduction

Impacts on community noise levels during construction of the proposed project can result from noise from construction equipment operation and from construction and delivery vehicles traveling to and from the site. Noise and vibration levels at a given location are dependent on the kind and number of pieces of construction equipment being operated, the acoustical utilization factor of the equipment (i.e., the percentage of time a piece of equipment is operating at full power), the distance from the construction site, and any shielding effects (from structures such as buildings, walls, or barriers). Noise levels caused by construction activities would vary widely, depending on the phase of construction and the location of the construction relative to receptor locations. The most significant construction noise sources are expected to be impact equipment such as jackhammers, excavators with ram hoes, drill rigs, rock drills, impact wrenches, tower cranes, and paving breakers, as well as the movements of trucks.

Noise from construction activities and some construction equipment is regulated by the New York City Noise Control Code and by the EPA. The New York City Noise Control Code, as amended December 2005 and effective July 1, 2007, requires the adoption and implementation of a noise mitigation plan for each construction site, limits construction (absent special circumstances as described below) to weekdays between the hours of 7:00 AM and 6:00 PM, and sets noise limits for certain specific pieces of construction equipment. Construction activities occurring after hours (weekdays between 6:00 PM and 7:00 AM, and on weekends) may be authorized in the following circumstances: (1) emergency conditions; (2) public safety; (3) construction projects by or on behalf of City agencies; (4) construction activities with minimal noise impacts; and (5) where there is a claim of undue hardship resulting from unique site characteristics, unforeseen conditions, scheduling conflicts, and/or financial considerations. EPA requirements mandate that certain classifications of construction equipment meet specified noise emissions standards.

Construction Noise Impact Criteria

The 2012 *CEQR Technical Manual* states that significant noise impacts due to construction would occur “only at sensitive receptors that would be subjected to high construction noise levels for an extensive period of time.” This has been interpreted to mean that such impacts would occur only at sensitive receptors where the activity with the potential to create high noise levels would occur for approximately two years or longer. Impacts are determined by comparing noise levels caused by construction activities with noise levels in the future without the proposed project. In addition, the 2012 *CEQR Technical Manual* states that impact criteria used for assessing vehicular impacts should be used for assessing construction impacts. See Chapter 13, “Noise,” for an explanation of noise measurement and sound levels. The criteria are as follows:

If the baseline noise levels are less than 60 decibels, A-weighted equivalent sound level for one hour (dBA $L_{eq(1)}$) and the analysis period is not a nighttime period, the threshold for a significant impact would be an increase of at least 5 dBA $L_{eq(1)}$. For the 5 dBA threshold to be valid, the resulting noise level in the future with the proposed project would have to be equal to or less than 65 dBA. If the baseline noise level is equal to or greater than 62 dBA $L_{eq(1)}$, or if the analysis period is a nighttime period (defined in the CEQR criteria as being between 10:00 PM and 7:00 AM), the incremental significant impact threshold would be 3 dBA $L_{eq(1)}$. (If the baseline noise level is 61 dBA $L_{eq(1)}$, the maximum incremental increase would be 4 dBA, since an increase higher than this would result in a noise level higher than the 65 dBA $L_{eq(1)}$ threshold.)

The impact criteria contained in the 2012 *CEQR Technical Manual* were used for assessing impacts from mobile and on-site construction activities.

Noise Analysis Fundamentals

Construction activities for the proposed project would be expected to result in increased noise levels as a result of: (1) the operation of construction equipment on-site; and (2) the movement of construction-related vehicles (i.e., worker trips, and material and equipment trips) on the surrounding roadways. The effect of each of these noise sources was evaluated.

Noise from the operation of construction equipment on-site at a specific receptor location near a construction site is calculated by computing the sum of the noise produced by all pieces of equipment operating at the construction site. For each piece of equipment, the noise level at a receptor site is a function of:

- The noise emission level of the equipment;
- A usage factor, which accounts for the percentage of time the equipment is operating at full power;
- The distance between the piece of equipment and the receptor;
- Topography and ground effects; and
- Shielding.

Similarly, noise levels due to construction-related traffic are a function of:

- The noise emission levels of the type of vehicle (e.g., auto, light-duty truck, heavy-duty truck, bus, etc.);
- Vehicular speed;
- The distance between the roadway and the receptor;
- Topography and ground effects; and
- Shielding.

Sensitive Receptor Sites

The Helena, a residential building located east of the project site, is the only sensitive receptor site immediately adjacent to the project site. This building has double glazed windows and central air conditioning, and was designed to provide at least 35 dBA of attenuation of exterior noise.

To the north of the project site, the nearest sensitive receptors are residential buildings along West 61st Street between West End Avenue and Riverside Boulevard, at a distance of approximately 800 feet. To the east of the project site, the nearest sensitive receptor would be the school at Eleventh Avenue and West 58th Street at a distance of approximately 100 feet from projected development site 2 and approximately 250 feet from projected development site 1. Both of these uses are relatively new buildings that have double glazed windows and central air conditioning that would be expected to provide at least 35 dBA of attenuation of exterior noise. In addition, the Consolidated Edison Power House would partially shield construction activities at the lower floors of the project sites from these building. To the west of the project site at a distance of approximately 200 feet is Hudson River Park, which is separated by Route 9A from the project site.

Noise Reduction Measures

The applicant has committed to taking a proactive approach during construction, which employs a wide variety of measures that exceed standard construction practices, but the implementation of which is deemed logistically feasible and practicable, to minimize construction noise and reduce potential noise impacts. These measures will be described in the noise mitigation plan required as part of the New York City Noise Control Code. These measures include a variety of source and path controls.

In terms of source controls (i.e., reducing noise levels at the source or during the most sensitive time periods), the following measures for construction, which go beyond typical construction techniques, would be implemented (commitments relating to the items set forth below will be included in a Restrictive Declaration):

- Equipment that meets the sound level standards specified in Subchapter 5 of the New York City Noise Control Code would be utilized from the start of construction activities, along with a wide range of equipment, including construction trucks, which produce lower noise levels than typical construction equipment. **Table 16-6** shows the noise levels for typical construction equipment and the mandated noise levels for the equipment that would be used for construction of the proposed project.
- Where feasible and practicable, construction procedures that reduce noise levels and equipment (such as concrete trucks, delivery trucks, and trailers) that are quieter than that required by the New York City Noise Control Code would be used.
- As early in the construction period as logistics will allow, diesel- or gas-powered equipment would be replaced with electrical-powered equipment such as welders, water pumps, bench saws, and table saws (i.e., early electrification).
- Where practicable and feasible, construction sites would be configured to minimize back-up alarm noise. In addition, all trucks would not be allowed to idle more than three minutes at the construction site based upon New York City Local Law.
- Where practicable and feasible, automatic or community sensitive back-up alarms would be used on equipment.
- Limit equipment on-site (only necessary equipment on-site).
- Contractors and subcontractors would be required to properly maintain their equipment and have quality mufflers installed.
- The quietest possible pile driving methods would be employed including hydraulic pile pushing system, vibratory pile driving, hydraulic impact pile driving, drop-hammer method, or diesel impact pile driving.
- Impact cushions would be used on top of piles when driven by an impact hammer.
- Noise bellow systems, such as IHC Hydrohammer, would be used when possible while pile driving.
- Where practicable and feasible, the quietest means of rock excavation would be used, including hydraulic jacks and chemical splitting.
- All equipment operators would be properly trained to ensure the most efficient methods are used.

Table 16-6
Typical Construction Equipment Noise Emission Levels (dBA)

Equipment List	DEP & FTA Typical Noise Level at 50 feet[1]	Mandated Noise Level at 50 feet[2]	Noise Level with Path Controls at 50 feet[3]
Asphalt Paver	85	85	75
Asphalt Roller	85	74	
Backhoe/Loader	80	77	
Compressors	80	67	
Concrete Pump	82	79	
Concrete Trucks	85	79	
Cranes	85	77	
Cranes (Tower Cranes)	85	85	75
Delivery Trucks	84	79	
Drill Rigs	84	84	74
Dump Trucks	84	79	
Excavator	85	77	
Excavator with Ram Hoe	90	90	80
Fuel Truck	84	79	
Generators	82	68	
Hoist (diesel)	85	80	70
Hoist (electric)	75	75	65
Impact Wrenches	85	85	75
Jackhammer	85	82	72
Mortar Mixer	80	63	
Pile Driver	101	95	73[4]
Power Trowel	85	85	75
Powder Actuated Device	85	85	75
Pump (Spray On Fire Proof)	82	76	
Pump (Water)	77	76	
Rebar Bender	80	80	
Rivet Buster	85	85	75
Rock Drill	85	85	75
Saw (Chain Saw)	85	75	
Saw (Concrete Saw)	90	85	75
Saw (Masonry Bench)	85	76	
Saw (Circular & Cut off)	76	76	
Saw (Table Saw)	76	76	
Sledge Hammers	85	85	75
Street Cleaner	80	80	
Tractor Trailer	84	79	
Vibratory Plate Compactor	80	80	
Welding Machines	73	73	

Notes:
[1] Sources: Citywide Construction Noise Mitigation, Chapter 28, Department of Environmental Protection of New York City, 2007. Transit Noise and Vibration Impact Assessment, FTA, May 2006.
[2] Mandated noise levels are achieved by using quieter equipment, better engine mufflers, and refinements in fan design and improved hydraulic systems.
[3] Path controls include portable noise barriers, enclosures, acoustical panels, and curtains, whichever feasible and practical.
[4] Based on information from noise bellow system manufacturer.

- Where practicable and feasible, dump trucks with bed liners would be used to minimize the noise due to loading.
- Where practicable and feasible, asphalt cold patch would be applied around the edges of any road plates to minimize tire impact on the plate and keep the plate in place.

In terms of path controls (e.g., placement of equipment, implementation of barriers or enclosures between equipment and sensitive receptors), the following measures for construction, which go beyond typical construction techniques, will be implemented to the extent feasible:

- Where logistics allow, noisy equipment, such as cranes, concrete pumps, concrete trucks, and delivery trucks, would be located away from and shielded from sensitive receptor locations;
- Noise barriers would be utilized to provide shielding (e.g., the construction sites would have a minimum 8-foot barrier and, where logistics allow, truck deliveries would take place behind these barriers once building foundations are completed); and
- Path noise control measures (i.e., portable noise barriers, panels, enclosures, and acoustical tents, where feasible) would be used for certain dominant noise equipment, i.e., asphalt pavers, drill rigs, excavators with ram hoe, hoists, impact wrenches, jackhammers, power trowels, powder actuated devices, rivet busters, rock drills, concrete saws, and sledge hammers. The details to construct portable noise barriers, enclosures, tents, etc. are based upon the instructions of DEP Citywide Construction Noise Mitigation.

Noise shrouds would be placed around equipment heads whenever possible, e.g., Hoe Rams.

Previous construction noise analyses have shown that construction with measures such as these usually results in noise levels in the mid 70s of dBA at a distance of approximately 100 feet from the construction site.

The Future Without the Proposed Project

In the future without the proposed project scenario, a permitted building would be constructed on projected development site 1. This construction would last 25 total months, including a month of site setup, 12 months of excavation and foundation work, five months of superstructure construction, four months of exterior façade construction, and ten months of interior work and finishing, with some of the discrete tasks/phases overlapping.

Probable Impacts of the Proposed Project

The construction of the proposed project, including the mixed use building on projected development site 1 and the renovation and conversion of the building on projected development site 2, would last a total of 42 months. This would include identical site setup and excavation and foundation work to that of the future without the proposed project condition on projected development site 1, with extended durations for the superstructure construction, exterior façade construction, and interior work and finishing, with some of the discrete tasks/phases overlapping and the renovation work at projected development site 2 occurring concurrently.

With the proposed project, the excavation and foundation work, which are the activities that would be expected to generate the most noise, would be identical to the excavation and foundation work that would be expected in the future without the proposed project condition. Consequently, the proposed project would result in no increase in construction noise compared to the future without the proposed project condition during this work. The construction schedule for the proposed project would be different from the construction schedule in the future without the proposed project condition only during the final 30 months of the construction period. This period includes superstructure construction, exterior façade construction, interior work and finishing, as well as renovation work on projected development site 2. The final nine months of construction of the proposed project, which would include only interior work, finishing and commissioning of the mixed use building, would be unlikely to create an exceedence of the 2012

CEQR Technical Manual impact criteria. Consequently, only 21 months during the construction of the proposed project would have the potential to result in increases in noise levels compared to the future without the proposed project condition that would be significant according to CEQR criteria. While increases exceeding the 2012 *CEQR Technical Manual* impact criteria for less than two consecutive years may be noisy and intrusive, they are not considered to be significant adverse noise impacts.

The only sensitive receptor adjacent to the project site is The Helena residential building on the project block. This building has double glazed windows and central air conditioning, and since it was subject to a Noise (E) designation, has been designed to provide at least 35 dBA of attenuation of exterior noise. As discussed above, during the early stages of construction (i.e., excavation and foundation work) there would be no increase in noise level with the proposed project compared to the future without the proposed project condition. During the later stages of construction there would be some increases in noise levels due to construction activity, lasting up to 21 months, after which only interior work and finishing activities would remain.

A screening analysis was performed to estimate the maximum noise levels expected at the nearest façade of The Helena during construction of the proposed project based on the nearest construction equipment to that façade, which would be expected to produce the greatest amount of construction noise there. The results of this screening analysis are shown in **Table 16-7**.

Table 16-7
Construction Equipment Noise Screening Results (in dBA)

Equipment	L_{max} at 50 feet	Acoustical Usage Factor	Distance to Receptor (feet)	Resultant $L_{eq(1)}$ at Receptor
Tower Crane	75	0.16	200	55.0
Electric Material Hoist[1]	65	0.5	50	62.0
Electric Personnel Hoist 1	75	0.2	117	60.7
Electric Personnel Hoist 2	75	0.2	108	61.3
Electric Personnel Hoist 3[1]	65	0.2	67	55.5
Electric Personnel Hoist 4[1]	65	0.2	75	54.5
Concrete Truck 1	79	0.2	125	64.1
Concrete Truck 2	79	0.2	167	61.6
Concrete Truck 3	79	0.2	183	60.7
			Total:	**70.1**

Notes: [1]Including path controls offering 10 dBA of attenuation.

Based upon noise studies prepared for similar projects which employed similar noise reduction measures and the screening analysis prepared for this project, maximum $L_{eq(1)}$ noise levels due to construction activities at this location would be expected to be in the mid-70 dBA range. The Helena has been designed to provide at least 35 dBA of attenuation. With these measures interior noise levels would be expected to be below 45 dBA L_{10}, the interior level that is considered acceptable for residential use according to the 2012 *CEQR Technical Manual*. Consequently, no significant adverse noise impacts would be expected at this location.

At the residential uses along West 61st Street between West End Avenue and Route 9A, approximately 800 feet north of the project site, the noise attenuation due to distance as well as the shielding from intervening buildings would be expected to result in maximum $L_{eq(1)}$ noise levels due to construction in the low- to mid- 60 dBA. This would not be expected result in an exceedence of CEQR impact criteria given the relatively high noise levels at this location in future conditions without the proposed project. In addition, the buildings at this receptor are new and have double glazed windows and central air conditioning that would be expected to provide at least 30 dBA of attenuation of exterior noise. Consequently, no significant adverse noise impacts would be expected at this location.

At the school at Eleventh Avenue and West 58th Street, approximately 100 feet east of projected development site 2 and approximately 250 feet east of projected development site 1, the noise attenuation due to distance as well as the shielding from intervening buildings would be expected to result in maximum $L_{eq(1)}$ noise levels due to construction in the high 60 to low 70 dBA. This would not be expected result in an exceedence of CEQR impact criteria given the relatively high baseline noise levels at this location in future conditions without the proposed project. In addition, the school building at this location is new and has double glazed windows and central air conditioning that would be expected to provide at least 30 dBA of attenuation of exterior noise. Consequently, no significant adverse noise impacts would be expected at this location.

At Hudson River Park, approximately 200 feet west of the project site, the noise attenuation due to distance as well as the shielding from intervening elevated highway structure would be expected to result in maximum $L_{eq(1)}$ noise levels due to construction in the high 60 to mid 70 dBA. Noise levels resulting from Route 9A at this location are currently in the high 60 to mid 70 dBA and would be expected to remain as such in the future conditions without the proposed project. Consequently, only minimal exceedences of 2012 *CEQR Technical Manual* impact criteria would be expected to occur and no significant adverse noise impacts would be expected at this location.

Based on these results, no significant adverse noise impacts would be expected at any sensitive receptor locations due to construction of the proposed project.

VIBRATION

Introduction

Construction activities have the potential to result in vibration levels that may in turn result in structural or architectural damage, and/or annoyance or interference with vibration-sensitive activities. In general, vibratory levels at a receiver are a function of the source strength (which in turn is dependent upon the construction equipment and methods utilized), the distance between the equipment and the receiver, the characteristics of the transmitting medium, and the receiver building construction. Construction equipment operation causes ground vibrations which spread through the ground and decrease in strength with distance. Vehicular traffic, even in locations close to major roadways, typically does not result in perceptible vibration levels unless there are discontinuities in the roadway surface. With the exception of the case of fragile and possibly historically significant structures or buildings, generally construction activities do not reach the levels that can cause architectural or structural damage, but can achieve levels that may be perceptible and annoying in buildings very close to a construction site. An assessment has been prepared to quantify potential vibration impacts of construction activities on structures and residences near the project site.

Construction Vibration Criteria

For purposes of assessing potential structural or architectural damage, the determination of a significant impact was based on the vibration impact criterion used by LPC of a peak particle velocity (PPV) of 0.50 inches/second. For non-fragile buildings, vibration levels below 0.60 inches/second would not be expected to result in any structural or architectural damage.

For purposes of evaluating potential annoyance or interference with vibration-sensitive activities, vibration levels greater than 65 vibration decibels (VdB) would have the potential to result in significant adverse impacts if they were to occur for a prolonged period of time.

Analysis Methodology

For purposes of assessing potential structural or architectural damage, the following formula was used:

$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

where: PPV_{equip} is the peak particle velocity in in/sec of the equipment at the receiver location;

PPV_{ref} is the reference vibration level in in/sec at 25 feet; and

D is the distance from the equipment to the received location in feet.

For purposes of assessing potential annoyance or interference with vibration sensitive activities, the following formula was used:

$$L_v(D) = L_v(ref) - 30\log(D/25)$$

where: $L_v(D)$ is the vibration level in VdB of the equipment at the receiver location;

$L_v(ref)$ is the reference vibration level in VdB at 25 feet; and

D is the distance from the equipment to the receiver location in feet.

Table 16-8 shows vibration source levels for typical construction equipment.

Table 16-8
Vibration Source Levels for Construction Equipment

Equipment	PPV_{ref} (in/sec)	Approximate L_v (ref) (VdB)
Pile Driver (sonic)*	0.170	93
Vibratory Roller	0.210	94
Hoe Ram	0.089	87
Large bulldozer	0.089	87
Caisson drilling	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58

Note: * Sonic rather than impact pile drivers will be utilized.
Source: *Transit Noise and Vibration Impact Assessment*, FTA-VA-90-1003-06, May 2006.

Construction Vibration Analysis Results

The buildings and structures of most concern with regard to the potential for structural or architectural damage due to vibration are The Helena residential building located east of the project site, and the Consolidated Edison Power House. The Consolidated Edison Power House is a known architectural resource, and would thus require the application of the more stringent vibration criteria described above for such structures (also see the “Historic and Cultural Resource” section below). However, as a result of both nearby sensitive structures’ distances from the construction site, vibration levels at these buildings and structures would not be expected to exceed the 0.50 inches/second PPV limit.

In terms of potential vibration levels that would be perceptible and annoying, the three pieces of equipment that would have the most potential for producing levels which exceed the 65 VdB limit are pile drivers, the clam shovel drop, and vibratory roller. They would produce perceptible vibration levels (i.e., vibration levels exceeding 65 VdB) at receptor locations within a distance of approximately 230 feet. However, the operation would only occur for limited periods of time at a particular location and therefore would not result in any significant adverse impacts. Any blasting that may occur would be expected to produce vibrations less perceptible than those from the operation of the three pieces of equipment cited above. In no case are significant adverse impacts from vibrations expected to occur.

OTHER TECHNICAL AREAS

HISTORIC AND CULTURAL RESOURCES

Similar to the permitted building as well as the development anticipated in the 2001 *FEIS*, the proposed project would result in new construction within 90 feet of the Consolidated Edison Power House, a known architectural resource. Therefore, the proposed project would comply with LPC's *Guidelines for Construction Adjacent to a Historic Landmark* as well as the guidelines set forth in section 523 of the 2012 *CEQR Technical Manual* and the procedures set forth in DOB's TPPN #10/88. This includes preparation of a CPP, to be prepared prior to demolition and construction activities and submitted to LPC for review and approval. The Hudson River bulkhead, which is State and National Register-eligible, is located more than 90 feet away from the project site and would not be expected to be adversely affected by the project's construction-related activities.

HAZARDOUS MATERIALS

Although construction on projected development site 1 (with the exception of the portion that is within Lot 36) would entail extensive subsurface disturbance at a site known to have soil, groundwater and soil vapor contamination (primarily from prior petroleum uses), impacts would be avoided by performing the subsurface work in accordance with New York State Department of Environmental Conservation (DEC) approved Remedial Action Work Plans (RAWPs) which sets out procedures during construction (e.g., for handling and disposing of any contaminated soil and any encountered petroleum tanks) and requirements for the new construction (e.g., a foundation vapor barrier). The RAWP for the eastern portion of projected development site 1 was approved in March 2010 and its implementation is being overseen by DEC as part of New York's Brownfield Cleanup Program (BCP) pursuant to a Brownfield Cleanup Agreement (BCA) entered into by the applicant. The RAWP for the western portion of projected development site 1 (under its petroleum site program) was approved by the DEC on December 20, 2011.

Redevelopment of Lot 36 (projected development site 2 and the parking area west-adjacent to Manhattan Mini-Storage) would require, prior to and during interior or other demolition, addressing asbestos containing materials, lead-based paint, etc. in conformance with established regulatory requirements. An (E) designation would be placed on Lot 36 to ensure that appropriate procedures for subsurface disturbance are followed prior to, during and following construction (see Chapter 9, "Hazardous Materials").

SOCIOECONOMIC CONDITIONS

Construction activities associated with the proposed project would not result in any significant adverse impacts on socioeconomic conditions. Construction would, in some instances, temporarily affect pedestrian and vehicular access on street frontages immediately adjacent to the project site. However, lane and/or sidewalk closures are not expected to occur in front of entrances to any existing or planned retail businesses, and construction activities would not obstruct major thoroughfares used by customers or businesses. Utility service would be maintained to all businesses. Overall, construction of the proposed project is not expected to result in any significant adverse impacts on surrounding businesses.

Construction would create direct benefits resulting from expenditures on labor, materials, and services, and indirect benefits created by expenditures by material suppliers, construction workers, and other employees involved in the construction activity. Construction also would contribute to increased tax revenues for the City and State, including those from personal income taxes.

Land Use and Neighborhood Character

Throughout construction, access to surrounding residences, businesses, and institutions in the area would be maintained. In addition, measures would be implemented to control noise, vibration, emissions, and dust on construction sites, including the erection of construction fencing incorporating sound-reducing measures. Because none of these impacts would be continuous or ultimately permanent, a preliminary analysis found that construction would not create significant adverse impacts on land use patterns or neighborhood character in the area.

Rodent Control

Construction contracts would include provisions for a rodent (mouse and rat) control program. Before the start of construction, the contractor would survey and bait the appropriate areas and provide for proper site sanitation. During the construction phase, as necessary, the contractor would carry out a maintenance program. Coordination would be maintained with appropriate public agencies. Only EPA- and DEC-registered rodenticides would be utilized, and the contractor would be required to perform rodent control programs in a manner that avoids hazards to persons, domestic animals, and non-target wildlife.

F. CONCLUSION

The analysis concludes that the proposed project would not result in substantial construction-related effects with respect to any of the analysis areas of concern. Therefore, consistent with the findings in the 2001 FEIS, no significant adverse impacts that were not previously identified in the 2001 *FEIS* are expected to occur as a result of construction. ✷