Chapter 20: Construction Impacts

A. INTRODUCTION

This chapter summarizes the preliminary construction program for the Proposed Project and assesses the potential for construction-period impacts. The stages of construction and their associated activities are first described, followed by the types of impacts likely to occur. The assessment also describes methods that may be employed to minimize construction-period impacts.

Although there would be localized, temporary disruptions, the analysis concludes that there would not be any significant adverse impacts due to the construction period except for impacts on historic resources. The proposed demolition of the project site structures identified as historic resources would constitute a significant adverse impact. However, measures to mitigate this impact are being developed in consultation with the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) and are detailed in Chapter 23, "Mitigation."

B. CONSTRUCTION STAGES

It is anticipated that the Proposed Project would be constructed in two phases. The first phase of construction is expected to begin in 2006 and last approximately 48 months. It includes the development of Retail Buildings A, B/F, C, D, and E.1 and E.2 and the parking garage. The second phase would include development of the hotel and is expected to begin in 2012 and continue for approximately 24 months. The analysis focuses on the first phase of construction, which includes the bulk of the Proposed Project and would last longer. The second phase is much smaller with one element and therefore would likely have fewer impacts, none materially different than the first phase. Construction would proceed in several stages, some of which would overlap: installation of erosion and sediment control devices; environmental remediation, demolition and grading; infrastructure improvement; site preparation, foundations and pile driving; superstructure construction; building finishes; parking; and final site finishes and improvements (e.g., sidewalks, landscaping, lighting). It is anticipated that construction activities and material temporary storage would be on-site and on adjacent streets. The majority of truck access would be from the Major Deegan Expressway.

Building A, which was formerly located on the northeast portion of the project site, was in very poor condition. The New York City Economic Development Corporation, acting on the behalf of the Office of the Deputy Mayor for Economic Development and Rebuilding through prior arrangement with the applicant, required the demolition of this building because of its condition. Demolition of this building was completed in February 2005.

ENVIRONMENTAL REMEDIATION AND BUILDING DEMOLITION

Construction of the Proposed Project would begin with environmental remediation to address hazardous materials currently existing on the site and demolition of the existing structures. The environmental remediation would be conducted under a Remedial Work Plan (RWP) and Health

and Safety Plan (HASP) to be approved by the New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH). As described in Chapter 11, "Hazardous Materials," measures would be taken to avoid potential adverse impacts during construction activities due to the presence of subsurface soil and groundwater contamination resulting from on- and potentially off-site sources, asbestos-containing materials (ACM), and lead-based paint. Demolition, excavation, and construction activities could disturb hazardous materials and increase pathways for human exposure. However, impacts would be avoided by performing construction activities in accordance with the following protocols:

- Prior to, or as part of initial construction activities for the project, all remaining petroleum storage tanks (and any associated contaminated soil) would be removed in accordance with applicable federal, state, and local requirements (other than petroleum-contaminated soil to be left in place under the foundations of former Building A and existing Building D pursuant to the NYSDEC-approved Remedial Work Plan) (see Chapter 11, "Hazardous Materials").

- All material that needs to be disposed of (e.g., excess fill or fill unsuitable for reuse due to contamination) would be disposed of off-site in accordance with applicable federal, state, and local requirements. In the event that soil containing petroleum is discovered during excavation activities (e.g., through staining, discoloration, or odor), such soil would be segregated, stockpiled, sampled for characterization purposes sufficient to meet the requirements of the applicable disposal facility, transported off-site by a licensed transporter, and disposed of in an approved treatment or disposal facility in accordance with all applicable federal, state, and local regulations and guidelines. If soil containing other potentially contaminated (non-petroleum) material (e.g., stained soils, odors, etc.) is discovered during excavation, such soil would also be segregated, stockpiled, and sampled to determine whether the material requires off-site disposal or can be reused on site under impervious surfaces or the acceptable imported soil cap. If the material requires off-site disposal, the sampling would meet the applicable regulations and guidelines. Soil with no indication of petroleum or other contamination could be reused on-site under impervious surfaces or the acceptable imported soil cap. The volume of soil to be removed is estimated to be 24,000 cubic yards.

- If dewatering is required for construction, there would be a potential for contact with contaminated groundwater, though levels of contamination appear too low to be a significant health concern. Although testing to date indicates that the groundwater would meet New York City Department of Environmental Protection (NYCDEP) sewer discharge requirements, additional testing would be performed, as conditions may vary around the site and, if necessary, pretreatment would be conducted prior to the water discharge to the City's sewer system, as required by NYCDEP permit/approval requirements.

- Since much of the soil sampled does not meet the most stringent guidelines for unrestricted use, any areas that would not be covered by impervious surfaces would be capped with at least two feet of clean soil.

- All activities involving disturbance of existing soils would be conducted in accordance with a HASP that would detail measures to reduce the potential for exposure (e.g., dust control) and a soil management plan (SMP) would include measures to identify and manage known contamination (e.g., petroleum storage tanks) and unexpectedly encountered contamination (as described above).

- Prior to any demolition activities, a comprehensive asbestos survey of all structures would be conducted that would include the sampling of all suspect materials to confirm the presence or absence of asbestos. Based on the findings of the survey, the identified ACM would be removed and disposed of in accordance with all federal, state and local regulations.
- Any demolition activities with the potential to disturb lead-based paint would be performed in accordance with the applicable Occupational Safety and Health Administration regulation (OSHA 29 CFR 1926.62 - Lead Exposure in Construction).

With the implementation of these measures, no significant adverse impacts related to hazardous materials would result from demolition and/or construction activities on the project site.

The remediation and demolition stage is expected to last approximately nine months and employ between 20 and 45 workers. On a typical day, approximately 2 to 25 truck trips would be generated.

EXCAVATION AND GRADING

The site would be excavated for utilities and below grade uses. As mentioned above, all material that needs to be disposed of (e.g., excess/unsuitable fill) would be disposed of off-site in accordance with applicable federal, state, and local requirements. In addition, any petroleum-contaminated soil or other contaminated soil encountered during excavation would be properly managed consistent with the SMP.

The site would be graded so that the foundations could be excavated and final elevations established. Existing foundations and roadways would be cleared. The Proposed Project's building footprints would be established above the 100-year floodplain. Fill used for grading would be suitable for supporting roadways, parking areas, and as a base for the proposed structures. The Proposed Project would utilize as much of the demolition-related fill as possible.

In total, the Proposed Project would require the removal of approximately 30,000 cubic yards of fill. This phase would last two to three months and employ between 20 and 40 workers. On a typical day, approximately 40 truck trips would be generated. Backfilling construction debris on site may also require New York City Department of Sanitation (NYCDOS) approval, and 6 NYCRR Part 360 approval for the disposal of solid waste from NYSDEC.

INFRASTRUCTURE IMPROVEMENTS

Infrastructure improvements at the site would include utility connections such as water, sewer, electric, gas, and telecommunications. As described in Chapter 13, "Infrastructure," new water lines would be installed both within the City's right of way and the project site for the Proposed Project. Water mains located within City streets proposed to be demapped would be capped and removed/abandoned in accordance with NYCDEP requirements. Sanitary sewers would be constructed within Exterior Street. These sewers would connect directly to the City's interceptor located within Exterior Street. The Proposed Project also would include construction of a NYCDEP storm sewer within Exterior Street in accordance with the City's amended drainage plan for the area. The drainage plan would be amended as part of the mapping action associated with the Proposed Project. The plan would be developed to include a single new outfall into the Harlem River to replace the four existing outfalls. The construction of the new water, sanitary sewer, and storm sewer lines would involve trenching on the site, and limited off-site trenching in City streets. This stage and the site preparation stage would overlap. Discharge of stormwater to the NYCDEP storm sewer would require implementation of a Stormwater Pollution

Prevention Plan (SWPPP) in compliance with NYSDEC General Permit GP-02-01 for stormwater discharges from construction activity.

SITE PREPARATION, FOUNDATIONS AND PILE DRIVING

Following demolition and grading, construction of the Proposed Project's foundation and below-grade elements would begin. For structures of this type, the foundations would typically be structural slab on-grade with supporting piles. Blasting is not anticipated to occur during construction. This phase of work would require approximately 9 to 12 months and employ between 50 and 100 workers. On a typical day, 20 truck trips would be generated.

SUPERSTRUCTURE

Following installation of foundations, the construction of the buildings' superstructures would commence. Construction of the buildings' superstructures is anticipated to last approximately 6 to 10 months. As the frame is installed, work would commence on interior infrastructure—mechanical, electrical, and plumbing systems—and enclosures. Interior construction would take approximately 8 to 12 months. It would be phased to overlap with the completion of the core and shell so that a significant amount of interior work is performed before the core and shell are completed.

BUILDING FINISHES AND SIDEWALKS

This phase of building construction is the exterior and interior finishes. The work would involve final roofing and finishing details on the exterior walls. While this construction is taking place, the sidewalks would be built. This phase is anticipated to take about six to nine months. Thus, between the superstructure and building finishes, these two phases of construction should take about 22 months.

C. CONSTRUCTION EQUIPMENT AND ACTIVITIES

Typical equipment used for demolition, excavation, and foundation work would include excavators, bulldozers, backhoes, pile driving and compaction equipment, tractors, jackhammers, and concrete pumping trucks. Other types of equipment that would be used include hoist complexes, dump trucks and loaders, concrete trucks, and back hoes. Trucks would deliver concrete and other building materials, and remove excavated material as well as demolition and construction debris. The construction equipment likely to be used during erection of the superstructure would include compressors, cranes, derricks, hoists, bending jigs, and welding machines. During facade and roof construction, hoists may continue to be used. Trucks would remain in use for material supply and construction waste removal. Interior and finishing work would employ a large number of construction workers, and a wide variety of fixtures and supplies would have to be delivered to the site.

The majority of construction activities would take place Monday through Friday, although the delivery or installation of certain equipment could occur on weekend days. Hours of construction are regulated by the New York City Department of Buildings and apply in all areas of the City. These requirements are reflected in the collective bargaining agreements with major construction trade unions. In accordance with those regulations, almost all work could occur between 7 AM and 6 PM on weekdays, although some workers would arrive and begin to prepare work areas before 7 AM. Occasionally, Saturday or overtime hours would be required to complete some time-sensitive tasks. Movement of certain oversized materials, to comply with

the requirements of the New York City Department of Transportation (NYCDOT), would occur at night. Construction would require temporary sidewalk and parking lane closures and vehicular travel lane narrowing on Exterior Street and River Avenue.

D. PROBABLE IMPACTS OF THE PROPOSED ACTIONS

2009

As with the development of any large site, construction of the Proposed Project may be disruptive to the surrounding area. The following analysis describes the economic benefits associated with the construction and the temporary effects on land use, neighborhood character, open space, historic resources, water quality, natural resources, hazardous materials, traffic, air quality, noise, and public health.

ECONOMIC IMPACTS

Construction of the Proposed Project would have direct, positive impacts resulting from expenditures on labor, materials, and services, and indirect benefits created by expenditures by material suppliers, construction workers, and others involved in the project. Construction of the Proposed Project would also contribute to increased tax revenues for the city and state, including those from personal income taxes. According to the applicant, direct wages and salaries to be generated by construction of the Proposed Project would total approximately $85.72 million in New York City and New York State; indirect and generated construction related wages and salaries would total another $42.28 million in New York City and $69.82 million in New York City and New York State combined.

LAND USE AND NEIGHBORHOOD CHARACTER

As is typical with large construction projects, during periods of peak construction activity there would be some disruption, predominantly noise, to the nearby area; however, as an industrial site located near the waterfront, the area of the proposed construction is largely separated from the community. There would be construction trucks and construction workers coming to the site. There would also be noise, sometimes intrusive, from building construction as well as trucks and other vehicles backing, loading, and unloading. Because the site is a block from the shoreline and the neighboring uses are primarily transportation (i.e., the Major Deegan Expressway) and low-density industrial, the construction would affect only a small number of adjacent uses. The disruptions would be temporary in nature, with the noisiest period of construction anticipated to last only 18 months (the grading, pile driving, and superstructure phases). Overall, while the construction at the site would be evident to the local community, the limited duration of construction, in particular the limited intrusive periods of construction, should not result in significant or long-term adverse impacts on the local land use patterns or character of the nearby area.

HISTORIC RESOURCES

As described in Chapter 7, "Historic Resources," the Bronx Terminal Market (Buildings B, D, F, G, H, and J) and the Bronx House of Detention have been determined eligible for listing on the State and National Registers of Historic Places (S/NR-eligible) by OPRHP. Therefore, the demolition of Building B and the Bronx House of Detention pursuant to construction of the Proposed Project would be a significant adverse impact on historic resources. Measures to mitigate this impact are being developed with OPRHP and detailed in Chapter 23, "Mitigation."

The construction of the off-site open space to be developed by the City with contributions from the project sponsor, which would occur by the Proposed Project's 2009 Build year, would presumably require the demolition of Bronx Terminal Market Buildings F and G.

NATURAL RESOURCES

The project site is comprised of upland areas which are not regulated by NYSDEC or the USACOE under their respective regulatory programs. However, the new stormwater outfall would be constructed along the shoreline of the Harlem River, which is a regulated water of the U.S. and a mapped Tidal Wetland. The shoreline where the stormwater outfall is proposed is engineered with rip-rap slopes. USACOE has determined that the extent of federal jurisdiction on this off-site parcel is the high tide line along the shoreline, including the area where the outfall would be constructed. There are intertidal waters/mudflats (waters of the U.S.), which have developed in the interpier areas west of the project site. NYSDEC has indicated through a Jurisdictional Determination and based on a physical inspection of the site that state-regulated Tidal Wetlands (Littoral Zone) boundaries extend up to the mean high water line. NYSDEC also regulates an adjacent area, or upland buffer, under the Tidal Wetland Regulations. The outfall would not be constructed in any of the interpier areas or in NYSDEC-regulated adjacent area; thus, the only potential short-term impacts would be to the waters of the U.S. and NYSDEC-tidal wetlands in the very limited area associated with outfall construction. Tidal wetland adjacent area disturbance would occur during construction of the off-site public open space to be developed by the City. The disturbance would result in replacement of existing-disturbed sparsely vegetated adjacent area with a landscaped public open space. This activity is expected to have no significant impacts and may have a beneficial ecological effect on the adjacent area.

Currently, the project site provides minimal wildlife habitat other than the small woodlot in the eastern portion of the site, and vacant buildings that may be used by urban wildlife typical of highly developed portions of cities such as pigeons, starlings, house sparrows, rodents, and small mammals. The potential loss of some individuals of these wildlife species common to urban areas would not result in a significant adverse impact on the bird and wildlife community of the New York City region. Therefore, no adverse impacts to terrestrial resources are anticipated as a result of construction activities.

Activities which could result in potential water quality impacts include the construction of a new outfall and upland construction activities. Water quality changes associated with increases in suspended sediment and re-suspension of contaminated sediments from construction would be minimal and are expected to dissipate shortly after the outfall is installed. Potential impacts to fish and benthic macroinvertebrates due to temporary water quality impacts and noise associated with in-water construction activities would be localized and would not be expected to significantly impact aquatic biota.

The proposed construction of a new outfall at the shoreline would disturb a very small area of benthic habitat. Benthic organisms would be expected to recolonize these areas. Disturbance to benthic communities during construction would be minimal and would not significantly impact the food supply for fish foraging in the area. However, the creation of the off-site public open space by the City could involve substantial improvements to the water's edge, such as improved habitats created through the replacement of portions of the bulkhead with rip-rapped edge.

During construction, there also would be increased potential for on-site erosion and sedimentation at construction sites where soils would be disturbed. A SWPPP would be prepared for the Proposed Project in accordance with established engineering practices as part of the

NYSDEC State Pollutant Discharge Elimination System (SPDES) permitting process. To minimize potential water quality effects associated with the discharge of stormwater during construction activities, best management practices for erosion and sediment control and other measures of the SWPPP would be implemented. With these measures in place, erosion and stormwater pollution would be minimized during construction, thereby avoiding adverse impacts to surface water and aquatic organisms in Harlem River near the construction site.

HAZARDOUS MATERIALS

The construction-period hazardous materials impacts of the Proposed Project are described above in "Environmental Remediation and Building Demolition."

TRAFFIC AND PARKING

Construction of the Proposed Project is not expected to have extensive or long-term impacts on traffic or parking conditions in the surrounding area.

During the construction period, a portion of Exterior Street and River Avenue would experience sidewalk and parking lane closures for construction vehicle use and other construction-related activities. It is also possible that one half of Exterior Street's cross-section would be closed, with two-way traffic maintained within the other half, but with no on-street parking permitted. This will be determined as maintenance and protection of traffic plans are developed, and reviewed with the New York City Department of Transportation (NYCDOT). It is possible that vehicular travel lanes would be narrowed to one 10 to 12 foot lane in each direction on these streets.

As described in Chapter 1, "Project Description," several existing streets would be closed as a result of the proposed actions (150th Street between River Avenue and Exterior Street; 151st Street between River and Cromwell Avenues; and Cromwell Avenue between Exterior Street and the Metro North Rail Road tracks). These are currently not through streets and are used almost exclusively by workers and patrons of the Bronx Terminal Market and the workers maintaining the Bronx House of Detention, and would be used by workers at the Bronx House of Detention if it were to be reactivated, and therefore would receive minimal traffic. Therefore, the elimination of these streets would have no major impact on area visitors or residents during the construction period.

The Proposed Project would generate trips from workers traveling to and from the site, as well as from the movement of goods and equipment. The estimated average number of construction workers on site at any one time would vary, depending on the stage of construction, as follows:

- Demolition would require about 20 to 45 individuals on-site;
- Grading and filling, infrastructure improvements, and foundation work would require the labor of an average of 50 to 75 persons, depending on the exact tasks being performed;
- Workers required for the construction of the core and shell of the proposed buildings would grow to approximately 75 to 125 people; and
- Workers for the interior construction would include approximately 100 to 150 people.

These activities would not necessarily occur simultaneously; it is estimated that at the peak activity of construction approximately 200 to 300 workers would be at the site during the period when superstructure construction and interior infrastructure installation are taking place simultaneously.

Given typical construction hours, worker trips would be concentrated in off-peak hours and would not represent a notable increment during peak travel periods. Construction work shifts typically begin by 7:00 AM and finish around 3:00 or 3:30 PM. Most construction workers arrivals would be occurring before the typical traffic peak in the area, and construction worker departures would generally occur just before the evening commuter peak period. Moreover, it is expected that the majority of construction workers would use mass transit in the area to get to and from work on a daily basis, with the D and 4 subway lines stopping at the nearby 161st Street subway station and with several bus routes serving the area. Therefore, vehicle trips associated with construction workers commuting to or from work would not be likely to have significant adverse impacts on surrounding streets.

Truck movements would be spread throughout the day on weekdays, and would generally occur between the hours of 7:30 AM and 3:30 PM, depending on the period of construction. Some materials deliveries, such as for pre-cast concrete and structural steel, may occur during off-peak hours. The following numbers of trucks (for materials delivery and removal of debris/scrap from construction operations) are anticipated during the various construction stages:

- Demolition: two trucks per day (25 trucks on heaviest days);
- Below-grade work: 10 trucks per day (40 trucks on heaviest days); and
- Superstructure construction: 25 trucks per day (45 trucks on heaviest days).

It is assumed that most construction would typically be performed during one daily shift. However, if it becomes necessary to expedite an area of construction, a second shift or Saturday work could be added at times, subject to City approval. In addition, oversized pieces of material would be delivered at night.

The peak construction year is expected to be 2008. The 2004 existing traffic volume network for the weekday midday peak hour was grown at a 0.5 percent per year growth rate, similar to the Build year traffic analyses, to 2008. Also, traffic volume adjustments to account for street closures were applied to the construction year traffic volumes.

As previously stated, Exterior Street and River Avenue would be narrowed to 10 to 12 foot lanes in each direction during construction. But since those roads today operate with only one effective travel lane in each direction, the lane widths during the construction period should be sufficient to accommodate traffic volumes on these streets.

Construction truck trips to the site would generally be distributed uniformly throughout the day, with slightly larger numbers arriving in the morning. The majority would arrive at and depart the site using the Major Deegan Expressway through the following major routes: exit at the northbound Exit 4-149th Street off-ramp and take either Exterior Street or River Avenue to the site, or exit at the southbound Exit 6-Bronx Terminal Market ramp to Exterior Street or Exit 6 flyover ramp to 153rd Street and take River Avenue to the site. Departure trips would follow the same routes in the reverse direction.

In order to determine potential construction year impacts, the 2008 traffic volumes were analyzed and compared with and without construction occurring. Since up to 45 construction trucks distributed throughout an eight hour shift would not exceed six in or out trips during the weekday midday peak hour, no significant traffic impacts are expected from these trucks except, possibly, at the intersection of 149th Street, the Major Deegan Expressway northbound off-ramp, Exterior Street, and River Avenue where minor increases in volumes coupled with some construction worker auto trips could occur. Potential traffic impacts at this intersection would be mainly attributable to the narrowed width on Exterior Street and River Avenue for construction

activities plus the addition of about six construction truck trips in the weekday midday peak hour would also have slight adverse impacts on the near-capacity intersection. Traffic conditions at this one critical intersection in the area would be monitored during construction for delays, and a traffic control agent could be deployed there during peak construction traffic periods if recurring delays occur during construction.

Cumulative Construction Impacts

It is possible that the construction of a new Yankee Stadium and three roadway improvement projects would overlap with the construction of the Proposed Project. The retail phase of the Bronx Terminal Market would be completed by 2009. That same year, the new Yankee Stadium is projected to be built, and roadway construction projects on the Major Deegan Expressway, 161st Street, and 149th Street would begin or be completed. The cumulative effects of these simultaneous construction projects are discussed below.

The Proposed Project's construction schedule is not known, but would most likely begin construction in 2006 or 2007, peak in 2008, and be completed by 2009. The Proposed Project would require the closure of all of Cromwell Avenue and 150th Street between River Avenue and Exterior Street. During construction, River Avenue and Exterior Street would be narrowed to one lane per direction bordering the site.

The New York Yankees recently announced plans to relocate Yankee Stadium one block north of its current location by 2009. According to the Yankee Stadium Project Draft Environmental Impact Statement (September 2005), the new stadium construction is expected to begin in 2006 and be completed in 2010, with the peak construction activity occurring from mid-2007 through late 2008. The relocation of the existing stadium to its proposed site on the north side of 161st Street would necessitate the closure of 162nd Street between Jerome Avenue and River Avenue.

The New York State Department of Transportation (NYSDOT) is currently planning to reconstruct the deck of the elevated portion of the Major Deegan Expressway corridor between 138th Street and the Macombs Dam Bridge, including temporary widening of the elevated deck and several ramps so that the current six lanes of traffic can be maintained throughout reconstruction. This is a major construction project expected to begin in 2009 and last approximately three years. It would not add capacity or alter traffic patterns in the area.

The New York City Department of Transportation (NYCDOT) is currently planning to reconstruct the 161st Street tunnel below the Grand Concourse as part of the Grand Concourse streetscaping and rehabilitation project between 161st and 166th Streets. NYCDOT's proposed streetscaping plan for the Grand Concourse in this area, and for reconstruction of Lou Gehrig Plaza just west of the Grand Concourse, would alter the distribution of traffic flows between the southbound Grand Concourse's main road and service road as well as through the Grand Concourse/161st Street intersection. The proposed streetscape design would require all southbound service road traffic to make right turns onto westbound 161st Street (under existing conditions, southbound service road traffic can proceed straight through the intersection or make right turns). NYCDOT will also be implementing a traffic calming treatment along the Grand Concourse between 161st and 165th Streets, realigning traffic lanes along the Grand Concourse within this area.

The New York City Department of Design and Construction (NYCDDC) will be rehabilitating 149th Street between Exterior Street/River Avenue and Anthony J. Griffin Place beginning in 2007 and ending in 2009 to widen sidewalks, reconstruct the street, relocate utilities, and possibly create a striped median. NYCDDC has stated that this would not change the operation

or capacity of the Exterior Street/River Avenue or the Grand Concourse intersections on 149th Street within the study area, and all lanes will be maintained during construction. NYCDOT is also planning to reconstruct the 145th Street Bridge, but is not planning on increasing capacity or significantly modifying traffic operations on the bridge, so it would not affect the analysis of No Build or Build conditions. This reconstruction is expected to begin in early 2006 and be completed in 2007.

The cumulative effects of the simultaneous construction projects would include street closures on Cromwell Avenue between Exterior Street and 151st Street, 150th Street between River Avenue and Exterior Street, and 162nd Street between Jerome Avenue and River Avenue. Traffic counts have indicated that traffic on Cromwell Avenue and 150th Street is predominantly related to the existing Bronx Terminal Market, and closing the two streets would only divert a small amount of peak hour traffic to Exterior Street or River Avenue. Traffic on 162nd Street would divert to the nearby 164th or 165th Street intersections between River and Jerome Avenues.

Streets that would be narrowed, but remain open, would include a section of River Avenue, Exterior Street, Jerome Avenue, 149th Street, and 161st Street. During peak hours, a small to moderate amount of traffic may divert during construction on or adjacent to the aforementioned streets, which could add traffic volumes to the Grand Concourse and minor east-west cross streets between 138th Street and 165th Street.

Additional traffic due to the cumulative effects of construction workers and construction site deliveries would mainly occur during off-peak hours. Deliveries would be spread throughout the day on weekdays, and would generally occur between the hours of 7:30 AM and 3:30 PM, depending on the period of construction. Given typical construction hours, worker trips would be concentrated in off-peak hours and would not represent a measurable increment during peak travel periods.

AIR QUALITY

Fugitive Dust Emissions

Fugitive dust emissions from land-clearing operations can occur from excavation, hauling, dumping, spreading, grading, compaction, wind erosion, and traffic over unpaved areas. Demolition typically produces particulates up to a height equal to that of the structure being removed. Actual quantities of emissions depend on the extent and nature of the clearing operations, the type of equipment employed, the physical characteristics of the underlying soil, the speed at which construction vehicles are operated, and the type of fugitive dust control methods employed. The U.S. Environmental Protection Agency (USEPA) has suggested, in general, an overall emission rate of about 1.2 tons of particulate/acre/month for active construction from all phases of land-clearing operations with no fugitive dust control measures. However, this is a national estimate and actual emissions would vary widely depending on many factors, including the intensity and type of land-clearing operations. Much of the fugitive dust generated by construction activities consists of relatively large-size particles, which are expected to settle within a short distance from the construction site and not significantly affect the buildings or people nearby. In addition, demolition would involve low-rise buildings, with the exception of the Bronx House of Detention. Dust emissions from demolition tend to travel, on average, a distance equivalent to the height of the building. Thus, dust emissions from demolition would not be expected to travel a distance far from the site, and most dust particulates from demolition would be expected to remain on-site.

For this project, demolition, below-grade work, and construction would be conducted with the care mandated by the site's proximity to active uses. All appropriate fugitive dust control measures—including watering of exposed areas and dust covers for trucks—would be employed. All necessary measures would be implemented to ensure that the New York City Air Pollution Control Code regulating construction-related dust emissions is followed. In addition, under the Brownfield Cleanup Program (BCP), a Community Air Monitoring Plan (CAMP) for particulates and volatile organic compounds (VOCs) would be prepared for the project and approved by NYSDOH. As a result, no significant air quality impacts from fugitive dust emissions would be anticipated.

Mobile Source Emissions

Mobile source emissions are emissions of air pollutants from motor vehicles, referred to as mobile sources. During construction, such emissions may result from: (1) trucks delivering construction materials and removing debris; (2) workers' private vehicles; and (3) construction equipment. Localized increases in mobile source emissions would be minimized by incorporating traffic maintenance requirements into the construction contract documents to ensure that idling of delivery trucks or other equipment would not be permitted during periods when they are being unloaded or are not in active use.

While it would be expected that there would be a localized increase in mobile source emissions, these emissions are not expected to significantly impact air quality. Moreover, any such impacts, while minimal, would also be temporary. Therefore, no significant air quality construction impacts from mobile sources are anticipated.

NOISE

Impacts on community noise levels during construction of the Proposed Project include noise and vibration from construction equipment operation, and noise from construction and delivery vehicles traveling to and from the site. The level of impact of these noise sources depends on the noise characteristics of the equipment and activities involved, the construction schedule, and the location of potentially sensitive noise receptors.

Noise and vibration levels at a given location also depend on the distance from the construction site. Typical noise levels of construction equipment that may be employed during the construction process are listed in Table 20-1. Noise levels caused by construction activities would vary widely, depending on the phase and location of construction.

Increased noise levels caused by construction activities can be expected to be greatest during the early stages of construction, including six to eight months of pile-driving activities. The most notable noise sources that would be associated with construction would be the short-term use of equipment to demolish existing buildings, and then the longer-term use of delivery trucks and dump trucks throughout the period of new construction.

Table 20-1
Typical Noise Emission Levels for Construction Equipment

Equipment Item	Noise Level at 50 Feet (dBA)
Air Compressor	81
Asphalt Spreader (paver)	89
Asphalt Truck	88
Backhoe	85
Bulldozer	87
Compactor	80
Concrete Plant	83(1)
Concrete Spreader	89
Concrete Mixer	85
Concrete Vibrator	76
Crane (derrick)	76
Delivery Truck	88
Diamond Saw	90(2)
Dredge	88
Dump Truck	88
Front End Loader	84
Gas-driven Vibro-compactor	76
Hoist	76
Jack Hammer (Paving Breaker)	88
Line Drill	98
Motor Crane	93
Pile Driver/Extractor	101
Pump	76
Roller	80
Shovel	82
Truck	88
Vibratory Pile Driver/Extractor	89(3)

Notes: [1] Wood, E.W. and A.R. Thompson, Sound Level Survey, Concrete Batch Plant; Limerick Generating Station, Bolt Beranek and Newman Inc., Report 2825, Cambridge, MA, May 1974.

[2] New York State Department of Environmental Conservation, Construction Noise Survey, Report No. NC-P2, Albany, NY, April 1974.

[3] F.B. Foster Company, Foster Vibro Driver/Extractors, Electric Series Brochure, W-925-10-75-5M.

Sources: Patterson, W.N., R.A. Ely, and S.M. Swanson, Regulation of Construction Activity Noise, Bolt Beranek and Newman, Inc., Report 2887, for the Environmental Protection Agency, Washington, D.C., November 1974, except for notated items.

Construction noise is regulated by the New York City Noise Control Code and by USEPA noise emission standards for construction equipment. These local and federal requirements mandate that certain classifications of construction equipment and motor vehicles meet specified noise emissions standards; that, except under exceptional circumstances, construction activities be limited to weekdays between the hours of 7 AM and 6 PM; and that construction materials be handled and transported in such a manner as not to create unnecessary noise. These regulations would be carefully followed. In addition, appropriate low-noise emission level equipment and operational procedures would be used. Compliance with noise control measures would be ensured by including them in the contract documents as material specification and by directives to the construction contractor.

PUBLIC HEALTH

During construction of the Proposed Project, traffic associated with passenger vehicles, as well as heavy-duty trucks, is expected to increase, potentially contributing to increases in particulate matter (PM) levels in the area. However, these emissions are not expected to significantly affect public health and local asthma incidents. Most of the increase in vehicle trips associated with construction of the Proposed Project would be from gasoline vehicles, which emit relatively little PM. The total peak number of heavy-diesel vehicles generated by the Proposed Project during construction at any intersection is below the threshold (21 trucks per hour at any intersection) currently being used on projects sponsored by the NYCDEP to determine whether an air quality impact analysis of PM smaller than 2.5 microns is necessary.

2014

A widening of the Major Deegan Expressway is planned for completion by 2011-2012. This reconstruction would improve access to the area, including the project site.

The second phase of the Proposed Project would involve the construction of a 250-room hotel at the north end of the site. The hotel would be about 247,500 gross square feet (gsf) in size and would take approximately 24 months to construct. In comparison, the first phase would involve the development of approximately 2 million gsf of retail and parking uses over a 48-month construction period. Any construction impacts associated with the second phase would be less than and of the same type as those described for the first phase. Therefore, no significant adverse impacts are expected from the second phase of construction of the Proposed Project. ✷