ACME FISH EXPANSION
Chapter 16: Construction

A. INTRODUCTION

This chapter describes the preliminary construction plans for the Proposed Development and assesses the potential for the Proposed Actions to result in significant adverse construction impacts in accordance with the 2014 *City Environmental Quality Review (CEQR) Technical Manual*. Construction impacts, although temporary, can include noticeable and disruptive effects from an action that is associated with construction or could induce construction. Determination of the significance of construction impacts and the need for mitigation are generally based on the duration and magnitude of the impacts. Construction impacts are usually important when construction activity could affect traffic conditions, hazardous materials, archaeological resources, the integrity of historic resources, community noise patterns, and/or air quality conditions.

As described in Chapter 1, "Project Description," the Proposed Actions would facilitate a new development with approximately 654,300 gsf, comprised of (i) a new and improved approximately 109,300 gsf (95,299 zsf) Acme Smoked Fish processing facility (including accessory administrative space), and (ii) approximately 545,000 gsf (488,479 zsf) of commercial office and retail space (including parking/loading/bike storage spaces). Although no parking spaces are required under the proposed zoning, up to approximately 150 off-street accessory parking spaces would be provided on the ground level, with curb-cut access via Gem Street. The Proposed Development is also anticipated to include partially covered open space areas at the southern portion of the Development Site, totaling approximately 21,403 sf. Construction of the Proposed Development is anticipated to occur over a period of approximately 48 months, with expected completion and full occupancy by 2024.

In addition to describing the construction plans for the Proposed Development, this chapter provides a discussion of the governmental coordination and oversight related to construction, a conceptual construction schedule, activities likely to occur during construction, the types of equipment that are expected to be used, construction logistics (e.g., site access points and potential staging area locations), and construction workers and truck delivery estimates. Based on this information, potential impacts from construction activities are assessed with respect to transportation, air quality, noise and vibration, land use and neighborhood character, socioeconomic conditions, community facilities, open space, historic and cultural resources, and hazardous materials.

For each of the various technical areas presented below, appropriate construction analysis years were selected to represent reasonable worst-case conditions relevant to that technical area, which can occur at different times for different analyses. For example, the noisiest part of the construction may not be at the same time as the heaviest construction traffic. Therefore, the analysis periods differ for different technical analyses. Where appropriate, the analysis accounted for the effects of those components of the project that would be completed and operational during the selected construction analysis years.

B. PRINCIPAL CONCLUSIONS

Transportation

Peak construction conditions during the first through third quarters (Q1-Q3) of 2024 were considered for the analysis of potential transportation (traffic, transit, pedestrian, and parking) impacts during construction. Based on the anticipated numbers of vehicle trips from construction trucks and construction workers and operational trips from the new Acme Smoked Fish facility (which is expected to be in operation by 2022), incremental vehicle trips during the 2024 Q1-Q3 peak construction period are expected to be substantially less than the incremental peak hour trips that would be generated with full build-out of the Proposed Development. In addition, there is less overall traffic on the study area street network during the 6:00 AM to 7:00 AM and 3:00 PM to 4:00 PM construction peak hours than during the analyzed 7:30 AM to 8:30 AM and 5:00 PM to 6:00 PM operational peak hours. As both incremental demand and background traffic levels would be lower in the construction peak hours during the peak construction period than in the operational peak hours with full build-out of the Proposed Development, significant adverse traffic impacts over and above those identified for full build-out of the Proposed Development are not anticipated during the peak construction period. Early implementation of the mitigation measures recommended for operational traffic impacts would be expected to be equally effective at addressing potential impacts due to construction traffic, as discussed in Chapter 17, "Mitigation".

During the 2024 Q1-Q3 peak construction period, transit demand from construction workers on the Development Site would not meet the 200 trips/hour *CEQR Technical Manual* analysis threshold for a detailed subway analysis, nor the 50 trips/hour/direction analysis threshold for a detailed bus analysis during the AM and PM construction peak hours, and few if any operational transit trips from Acme Smoked Fish workers would occur during these periods. Therefore, significant adverse impacts to subway and bus services are not expected to occur during the 2024 Q1-Q3 peak construction period.

Similarly, during the 2024 Q1-Q3 peak construction period, pedestrian demand from construction workers on the Development Site (both walk-only trips and trips to/from area transit services) would not meet the 200 trips/hour *CEQR Technical Manual* analysis threshold for a detailed pedestrian analysis in either the weekday AM or PM construction peak hours, and few if any operational pedestrian trips from Acme Smoked Fish workers would occur during these periods. Significant adverse pedestrian impacts are therefore not expected to occur during the 2024 Q1-Q3 peak construction period. During construction, where sidewalk closures are required, adequate protection or temporary sidewalks would be provided in accordance with NYCDOT-OCMC requirements.

Incremental parking demand from both Acme Smoked Fish workers and construction workers during the 2024 Q1-Q3 peak construction period would total approximately 159 spaces. As it is assumed that there would be no on-site parking until full build-out of the Proposed Development, it is anticipated that during this period both Acme Smoked Fish workers and construction workers would park on-street or in the two nearby off-street public parking facilities located in proximity to the Development Site. This demand would contribute to an overall deficit of approximately 139 parking spaces within ¼-mile of the Development Site in the weekday midday during the 2024 Q1-Q3 peak construction period. While some drivers destined for the proximity of the Development Site would potentially have to travel a greater distance (e.g., between ¼ and ½ mile) to find available parking, this shortfall would not be considered a significant adverse impact based on *CEQR Technical Manual* criteria due to the magnitude of available alternative

modes of transportation. Therefore, the Proposed Actions are not expected to result in significant adverse parking impacts in the weekday midday peak period during the 2024 Q1-Q3 peak construction period.

Air Quality

The approach and procedures for the construction of the Proposed Development would be typical of the methods utilized in other building construction projects throughout New York City and therefore would not be considered out of the ordinary in terms of intensity. Measures would be taken to minimize pollutant emissions during construction in accordance with all applicable laws, regulations, and building codes. These measures would include dust suppression measures, idling restrictions, and the use of ultra-low sulfur diesel (ULSD) fuel. In addition, to minimize air pollutant emissions during construction, emissions reduction measures such as the use of best available technologies and the use of newer and cleaner equipment during construction of the Proposed Development would be implemented to the extent practicable. With these measures in place and based on the duration and intensity of construction activities, the location of nearby sensitive receptors, and an examination of construction on-road sources, the Proposed Development would not result in any significant adverse construction air quality impacts.

Noise

Construction of the Proposed Development would be expected to have the potential to result in elevated noise levels at nearby receptors, and noise due to construction would at times be noticeable. However, noise from construction would be intermittent and of limited duration. Noise associated with the construction of the Proposed Development would not have the potential to rise to the level of a significant adverse noise impact.

Other Technical Areas

Land Use and Neighborhood Character

Construction activities would affect land use within the Development Site but would not alter surrounding land uses. As is typical with construction projects, during periods of peak construction activity there would be some disruption, predominantly noise, to the nearby area. These disruptions would be temporary in nature and would have limited effects on land uses within the surrounding area, particularly as most construction activities would take place within the Development Site or within portions of sidewalks, curbs, and travel lanes of public streets immediately adjacent to the site. Overall, while the construction at the Development Site would be evident to the local community, the temporary nature of construction would not result in significant or long-term adverse impacts on local land use patterns or the character of the nearby area.

Socioeconomic Conditions

Construction activities could temporarily affect pedestrian and vehicular access. However, lane and/or sidewalk closures would not obstruct entrances to any existing businesses, and businesses are not expected to be significantly affected by any temporary reductions in the amount of pedestrian foot traffic or vehicular delays that could occur as a result of construction activities. Overall, construction activities associated with the Proposed Actions would not 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 direct activity. Construction also would contribute to increased tax revenues for the City and State, including those from personal income taxes.

Community Facilities

No community facilities would be directly affected by construction activities for an extended duration. The Development Site will be surrounded by construction fencing and barriers that would limit the effects of construction on nearby facilities. Construction workers would not place any burden on public schools and would have minimal, if any, demands on libraries, child care facilities, and health care. Construction of the Proposed Development would not block or restrict access to any facilities in the area, and would not materially affect emergency response times significantly. The NYPD and FDNY emergency services and response times would not be materially affected due to the geographic distribution of the police and fire facilities and their respective coverage areas.

Open Space

There are no publicly accessible open spaces within the Development Site and no open space resources would be used for staging or other construction activities. Although construction of the Proposed Development would be expected to have the potential to result in elevated noise levels at nearby receptors, and noise due to construction would at times be noticeable, the site is located more than 600 feet from the nearest existing open space resource (McCarren Park), and noise from construction would be intermittent and of limited duration. Therefore, no significant construction impacts to open space are expected.

Historic and Cultural Resources

The Development Site does not possess archaeological significance, and therefore, the Proposed Development does not have the potential to result in construction period archaeological impacts. The Proposed Actions would not result in any significant adverse impacts to architectural resources on the Development Site as no historic architectural resources are located on the site. Moreover, no architectural resources are located within 90 feet of the Development Site. Therefore, the Proposed Actions would not result in any significant adverse impacts to historic architectural resources.

Hazardous Materials

A detailed assessment of potential impacts on hazardous materials is described in Chapter 8, “Hazardous Materials.” The hazardous materials assessments identified various potential sources of subsurface contamination on, or in close proximity to, the Development Site. To avoid the potential for adverse impacts associated with new construction resulting from the Proposed Actions, a hazardous materials (E) designation would be placed on the tax lots comprising the Development Site. The (E) designation requires approval by the New York City Office of Environmental Remediation (OER) prior to obtaining NYC Buildings Department (DOB) permits for any new development entailing soil disturbance. The environmental requirements for the (E) designation also include a mandatory Construction Health and Safety Plan (CHASP), which must be approved by OER.

Adherence to these existing regulations would prevent impacts from construction activities at the Development Site.

C. GOVERNMENTAL COORDINATION AND OVERSIGHT

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 each agency's areas of responsibility. The primary responsibilities lie with New York City agencies. The New York City Department of Buildings (DOB) has the primary responsibility for ensuring that the construction meets the requirements of the New York City Building Code and that buildings are structurally, electrically, and mechanically safe. In addition, DOB enforces safety regulations to protect both construction workers and the public. The areas of responsibility include the enforcement of regulations pertaining to the installation and operation of construction equipment, such as cranes and lifts, sidewalk sheds, and safety netting and scaffolding. The New York City Department of Parks and Recreation (NYC Parks) has oversight on tree protection and tree removal during construction. The New York City Department of Environmental Protection (DEP) enforces the New York City Noise Control Code (also known as Chapter 24 of the Administrative Code of the City of New York, or Local Law 113) and the DEP Notice of Adoption Rules for Citywide Construction Noise Mitigation (also known as Chapter 28), approves Remedial Action Plans (RAPs) and Construction Health and Safety Plans (CHASPs), regulates water disposal into the sewer system, and oversees dust control for construction activities. The New York City Fire Department (FDNY) has primary oversight for compliance with the New York City Fire Code and for the installation of tanks containing flammable materials. The New York City Department of Transportation (NYCDOT) reviews and approves any traffic lane and sidewalk closures. The New York City Landmarks Preservation Commission (LPC) approves studies and testing to prevent loss of archaeological materials and to prevent damage to fragile historic structures.

TABLE 16-1
Construction Oversight in New York City

Agency	Area(s) of Responsibility
New York City	
Department of Buildings (DOB)	Primary oversight for Building Code and site safety
Department of Parks & Recreation	Tree protection and removal
Department of Environmental Protection (DEP)	Noise, hazardous materials, dewatering, dust
Fire Department (FDNY)	Compliance with Fire Code, tank operation
Department of Transportation (NYCDOT)	Traffic lane and sidewalk closures
Landmarks Preservation Commission (LPC)	Archaeological and historic architectural protection
New York State	
Department of Labor (DOL)	Asbestos workers
New York City Transit (NYCT)	Bus stop relocation; any subsurface construction within 200 feet of a subway
Department of Environmental Conservation (NYSDEC)	Dewatering, hazardous materials, tanks, Stormwater Pollution Prevention Plan, Industrial SPDES, if any discharge into the Hudson River
United States	
Environmental Protection Agency (EPA)	Air emissions, noise, hazardous materials, toxic substances
Occupational Safety and Health Administration (OSHA)	Worker safety

At the state level, the New York State Department of Environmental Conservation (NYSDEC) 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 (NYSDOL) licenses asbestos workers. New York City Transit (NYCT) is in charge of bus stop relocations, and any subsurface construction within 200 feet of a subway. On the federal level, the U.S. Environmental Protection Agency (EPA) has wide ranging authority over environmental matters, including air emissions,

noise emission standards, hazardous materials, and the use of poisons. Much of the responsibility is delegated to the state level. The U.S. Occupational Safety and Health Administration (OSHA) sets standards for work site safety and construction equipment.

D. CONSTRUCTION SCHEDULE

The anticipated construction schedule is shown in Figure 16-1 and described below. The construction schedule reflects the preliminary sequencing of construction events as currently contemplated by the Applicant. As shown in Figure 16-1, Construction of the Proposed Development would occur over a total of approximately 48-months (16-quarters), beginning with the start of demolition of the existing building on the site of the future Acme Smoked Fish facility by the end of 2020, which can occur on an as-of-right basis. It is anticipated that the new Acme Smoked Fish facility would be constructed first, on Lot 6, adjacent to the existing facility in order to allow for continuous operation. As shown in Figure 16-1, construction of the new Acme Smoked Fish facility would occur over approximately 21 months, including three months for demolition of the existing structure on Lot 6, nine months for excavation/foundation and superstructure, and nine months for façade completion and interior fit-out. The construction schedule accounts for an approximate three-month moveout/transition period during which the new Acme Smoked Fish facility is anticipated to be partially operational at the beginning, with all operations transitioned from the existing facility to the new facility at the end of the three-month period. Once the new facility is fully occupied by Acme Smoked Fish, the existing facility would be demolished and construction of the office component of the Proposed Development on the remainder of the site would commence. As shown in Figure 16-1, construction of the office component would occur over approximately 24 months, including three months for demolition of the existing structures on the remainder of the Development Site, twelve months for excavation/foundation and superstructure, and nine months for façade completion and interior fit-out.

FIGURE 16-1
Anticipated Construction Schedule

	Year	2020				2021				2022				2023				2024			
	Quarter	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Acme Facility	Demolition																				
	Excavation/Foundation/Superstructure																				
	Façade / Interior Fit-Out																				
Acme Moveout																					
Office Building	Demolition																				
	Excavation/Foundation/Superstructure																				
	Façade / Interior Fit-Out																				

E. DESCRIPTION OF CONSTRUCTION ACTIVITIES

General Construction Practices

Hours of Work

Construction of the Proposed Development would be carried out in accordance with New York City laws and regulations, which allow construction activities between 7:00 AM and 6:00 PM on weekdays, with most workers arriving between 6:00 AM and 7:00 AM. Normally work would end at 3:30 PM, but it can be expected that in order to complete certain critical tasks (e.g., finishing a concrete pour for a floor deck), the workday may occasionally be extended beyond normal work hours. Any extended workdays would generally last until approximately 6:00 PM and would not include all construction workers onsite, but only those involved in the specific task requiring additional work time.

Weekend or night work may also be occasionally required for certain construction activities, such as the erection of the tower crane. Appropriate work permits from DOB would be obtained for any necessary work outside of normal construction and no work outside of normal construction hours would be performed until such permits are obtained. The numbers of workers and pieces of equipment in operation for night or weekend work would typically be limited to those needed to complete the particular authorized task. Therefore, the level of activity for any weekend or night work would be less than that of a normal workday.

Deliveries, Access, and Staging Areas

Access to the Development Site during construction would be fully controlled. The work areas would be fenced off and limited access points for workers and construction-related trucks would be provided. Construction workers are generally prohibited from parking their vehicles onsite during the construction period. Truck movements would be spread throughout the day and would generally occur between the hours of 6 AM and 3 PM, depending on the stage of construction. Material deliveries to the site would be controlled and scheduled. To aid in adhering to the delivery schedules, as is normal for building construction in New York City, flaggers would be employed at each construction gate. The flaggers could be supplied by the subcontractor on-site at the 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.

Based on preliminary construction logistics plan, the east side of Gem Street would be closed to pedestrians during the construction of the proposed office building. The NYCDOT OCMC reviews and approves all maintenance and protection of traffic (MPT) plans which specify any planned sidewalk or lane closures and staging for all construction sites. MPT plans would be developed for any required temporary sidewalk, lane, and/or street closures to ensure the safety of the construction workers and the public passing through the area. Approval of these plans and implementation of the closures would be coordinated with DOT's OCMC. Measures specified in the MPT plans that are anticipated to be implemented would include parking lane closures, safety signs, safety barriers, and construction fencing.

Description of Construction Activities

Construction of large-scale buildings in New York City typically follows a general pattern. The first task is construction startup, which involves the siting of work trailers, installation of temporary power and communication lines, and the erection of site perimeter fencing. If a site has existing structures, the

structures are demolished with some of the materials (such as concrete, block, and brick) either recycled or crushed on-site to be reused as fill and the debris taken to a licensed disposal facility. Hazardous materials remediation typically occurs at this point. Excavation of the soils is next along with the construction of the foundations. When the below-grade construction is completed, construction of the superstructure of the new building begins. As the core and floor decks of the building are being erected, installation of the mechanical and electrical internal networks would start. As the building progresses upward, the exterior cladding is placed, and the interior fit out begins. During what is typically considered the busiest time of building construction, the upper core and structure is being built while mechanical/electrical connections, exterior cladding, and interior finishing are progressing on lower floors.

The following provides a description of each of the anticipated construction tasks for both the proposed Acme smoked Fish facility, which would be constructed first, and the office building.

Construction Startup Tasks

Construction startup work prepares a site for the construction work and would involve the installation of public safety measures, such as fencing, sidewalk sheds, and Jersey barriers. For each proposed building, the construction site would be 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 would be installed, and sidewalk sheds and Jersey barriers would be erected. Trailers for the construction engineers and managers would be hauled to the site and installed within the Development Site. On-site power generation capabilities would also be placed at this time where necessary

Demolition

The Development Site currently occupied by open storage areas and a number of 1- to 2-story buildings, all of which would be demolished, in two phases, to facilitate construction of the Proposed Development. While Acme Smoked Fish would continue to occupy and manufacture out of its current facility, the remaining buildings on the Development Site would be demolished in the initial construction stage. Once Acme Smoked Fish's new facility is completed, the buildings comprising the old facility would be demolished. Before the commencement of demolition of any structures, the portion of the buildings to be demolished would first be abated of any hazardous materials. A New York City-certified asbestos investigator would inspect the building for asbestos-containing materials (ACM), and if present, those materials would be removed by a DOL-licensed asbestos abatement contractor prior to interior demolition. Asbestos abatement is strictly regulated by DEP, DOL, EPA, and OSHA to protect the health and safety of construction workers and nearby residents, workers, and visitors. Depending on the extent and type of ACMs (if any), these agencies would be notified of the asbestos removal and may inspect the abatement area to ensure that work is being performed in accordance with applicable New York State and New York City regulations. Any activities with the potential to disturb lead-based paint (LBP) would be performed in accordance with the applicable OSHA regulation (including federal OSHA regulation 29 CFR 1926.62—Lead Exposure in Construction). In addition, any suspected polychlorinated biphenyls (PCB)-containing equipment (such as fluorescent light ballasts) would be evaluated prior to disturbance. Unless labeling or test data indicate the contrary, such equipment would be assumed to contain PCBs, and would be removed and disposed of at properly licensed facilities in accordance with all applicable regulatory requirements.

Prior to demolition, any economically salvageable materials that could be reused would typically be removed. Then the building would be demolished and demolition debris removed from the Development Site. Hand tools, excavators with hoe ram attachments, loaders, and generators, would be used during

this stage of construction. Demolition debris would typically be sorted prior to being disposed at landfills to maximize recycling opportunities.

Excavation and Foundation

The Proposed Development would require excavation for each of the proposed buildings' foundation. As the Proposed Development does not include a cellar/basement level, limited excavation (approximately 3 feet) is anticipated, along with backfilling with clean soil in order to support the foundation. Excavators would be used to excavate soil and the excavated materials would be loaded onto dump trucks for transport to a licensed disposal facility or for reuse on any portion of the project sites that need fill. No blasting is anticipated for the construction of the Proposed Development. This stage of construction would include the construction of the foundation and below-grade elements of the proposed buildings. Piles would be installed with the use of drill rigs. If boulders are encountered during pile installation activities, the obstructions would be removed by a rock hammer. Concrete trucks would be used to pour the foundation and the below-grade structures. Excavation and foundation activities may also involve the use of rebar benders, generators, air compressors, cherry pickers, rock hammers, and saws.

Superstructure and Exterior Façade – Core and Shell Construction

The core is the central part of the building and is the main part of the structural system. It contains the building's beams and columns, as well as elevator shafts, vertical risers for mechanical, electrical, and plumbing systems, electrical and mechanical equipment rooms, and core stairs. The shell is the exterior of the building. Cranes would be brought onto the construction area as needed and would be used to lift structural components, façade elements, and other large materials, and load and place materials into and on the building. Core and shell construction activities would also require the use of generators, concrete trowels, welders, saws, rebar benders, and a variety of small handheld tools. In addition, temporary construction elevators (hoists) would be used for the vertical movement of workers and materials during this stage of construction.

Interior Fit-Out

Interior fit-out activities would typically include the construction of interior partitions, installation of lighting fixtures, and interior finishes (e.g., flooring, painting, etc.), and mechanical and electrical work, such as the installation of elevators and lobby finishes. Final cleanup and touchup of the buildings and final building system (e.g., electrical system, fire alarm, plumbing, etc.) testing and inspections would be part of this stage of construction. Equipment used during this stage of construction would include hoists, delivery trucks, and a variety of small handheld tools. In addition, grid power is expected to be available during this stage of construction although generators may be needed for welding operations. Interior fit-out activities would typically be the quietest period of construction in terms of its effect on the public, because most of the construction activities would occur inside the building with the façades substantially complete and the proposed buildings enclosed (for the Acme Smoked Fish facility which has an overall construction duration of approximately 21 months, full enclosure is anticipated during Months 17 to 18; for the office building which has an overall construction duration of approximately 24 months, partial enclosure on the eastern half of the building is expected during Months 17 to 19 with full enclosure during Months 20 to 22). It should be noted that fit-out of the office building would be limited to the core and shell, including common areas like building lobby.

Moveout/Transition Period

The construction schedule accounts for an approximate three-month moveout/transition period during which the new Acme Smoked Fish facility is anticipated to be partially operational at the beginning, with

all operations transitioned from the existing facility to the new facility at the end of the three-month period. Coordination would be made between the developer and Acme Smoked Fish to ensure that the transition period is as efficient as possible. The moveout/transition period would include various components: testing equipment (e.g., ovens); optimizing process and workflow given the new footprint; and training of staff as needed with respect to the new plant. In addition, various food and health inspections would also need to be obtained during this period. Once Acme Smoked Fish can rely solely on the proposed Acme Smoked Fish facility for its operational output, the transition period is complete and the demolition of the existing facility would begin.

Number of Construction Workers and Material Deliveries

The number of workers and the number of truck trips associated with material deliveries vary with the scale of the project and the general construction task. Table 16-2, below, shows the estimated number of workers and deliveries to the Development Site by calendar quarter for all construction activities, based on the construction schedule provided in Figure 16-1. As shown below in Table 16-2, the average number of workers would be approximately 125 per day throughout the construction period and the average number of trucks would be approximately 22 per day. The number of daily workers would peak in the first to third quarters of 2024 during the façade and fit-out stages of construction for the proposed office building, while the number of daily trucks would peak in the first quarter of 2021 and first quarter of 2023 during the foundation stage of the proposed Acme Smoked Fish facility and office building, respectively. In the first to third quarters of 2024, the number of daily workers would peak at 220 per day; in the first quarter of 2021 and first quarter of 2023, the number of daily trucks would peak at 39 per day.

TABLE 16-2
Average Number of Daily Workers and Trucks by Quarter

Year	2020				2021				2022				2023			
Quarter	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
Workers	-	-	-	22	44	77	85	121	121	121	-	28	83	120	193	193
Trucks	-	-	-	9	39	19	24	17	17	17	-	9	39	34	24	24

Year	2024				Average	Peak
Quarter	1st	2nd	3rd	4th		
Workers	220	220	220	-	125	220
Trucks	17	17	17	-	22	39

F. PROBABLE IMPACTS OF THE PROPOSED ACTIONS

Similar to many development projects in NYC, construction can cause temporary disruption to the surrounding area throughout the construction period. The following analyses describe potential construction impacts on transportation, air quality, noise and vibration, as well as other technical areas including land use and neighborhood character, socioeconomic conditions, community facilities, open space, historic and cultural resources, and hazardous materials.

Transportation

Traffic

Construction activities would generate construction worker auto trips and truck trips. Similar to other construction projects in New York City, most of the construction activity at the Development Site is expected to take place during the typical construction shift of 7:00 AM to 3:30 PM. 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. While construction truck trips would be made throughout the day (with more trips typically made during the early morning), construction workers would typically commute during the hours before and after the work shift. For analysis purposes, each truck delivery was assumed to result in two truck trips during the same hour (one "in" and one "out"), and each truck trip was assumed to have a passenger car equivalent (PCE) of 2.0, consistent with *CEQR Technical Manual* guidance. For construction workers, the majority (80 percent) of arrival and departure trips are expected to take place during the hour before and after each shift. For construction trucks, deliveries would typically peak during the early morning, with an estimated 25 percent overlapping with construction worker arrival traffic. Based on 2000 Census reverse journey-to-work data for construction workers employed in census tracts in proximity to the Development Site,[1] it is anticipated that construction workers' travel to the Development Site in Greenpoint, Brooklyn would be primarily by the auto mode (approximately 60 percent by private autos and 2.7 percent by taxis/rideshare services), with smaller numbers using public transportation (19.2 percent subway, 6.6 percent bus and 2.0 percent ferry) and walking (9.5 percent). It is also estimated that auto occupancy would average approximately 1.16 persons per vehicle. These trip generation assumptions were used as the basis for assessing the potential transportation-related impacts during construction.

Table 16-3 presents the hourly construction vehicle trip estimates in PCEs for the approximately 64-month (16-quarter) construction period, based on the assumptions described above. As shown in the Table 16-3, it is estimated that peak construction activities would result in 119 PCEs between 6:00 AM and 7:00 AM during the first through third quarters (Q1-Q3) of 2024. For the 3:00 PM to 4:00 PM period, there would be a maximum of 101 PCEs associated with construction activities during this same period. As such, this peak construction period would represent the reasonable worst-case scenario for the construction transportation assessment.

[1] AASHTO CTPP 2000 reverse journey-to-work data for the area encompassed by 2010 Brooklyn Census Tracts 557, 561, 565, 569, 571, 573 and 575.

TABLE 16-3
Construction Vehicle Trip Generation (Autos, Taxis and Trucks, in PCEs)

	2020	2021				2022				2023				2024		
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
6 AM – 7 AM	**20**	**60**	**52**	**63**	**72**	**74**	**74**	**0**	**22**	**78**	**88**	**110**	**108**	**119**	**119**	**119**
7 AM – 8AM	6	21	16	19	23	21	21	0	7	25	28	34	36	31	31	31
8 AM – 9 AM	4	16	8	10	6	6	6	0	4	16	14	10	10	6	6	6
9 AM – 10 AM	4	16	8	10	6	6	6	0	4	16	14	10	10	6	6	6
10 AM – 11 AM	4	16	8	10	6	6	6	0	4	16	14	10	10	6	6	6
11 AM – 12 PM	4	16	8	10	6	6	6	0	4	16	14	10	10	6	6	6
12 PM – 1 PM	4	16	8	10	6	6	6	0	4	16	14	10	10	6	6	6
1 PM – 2 PM	2	6	4	4	4	4	4	0	2	6	6	4	4	4	4	4
2 PM – 3 PM	2	7	6	6	7	7	7	0	3	8	7	9	9	10	10	10
3 PM – 4 PM	**10**	**24**	**37**	**40**	**56**	**56**	**56**	**0**	**14**	**42**	**58**	**88**	**88**	**101**	**101**	**101**
4 PM – 5 PM	2	8	9	10	14	14	14	0	2	11	15	19	19	21	21	21
5 PM – 6 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Daily Total	62	206	164	192	206	206	206	0	70	250	272	314	314	316	316	316

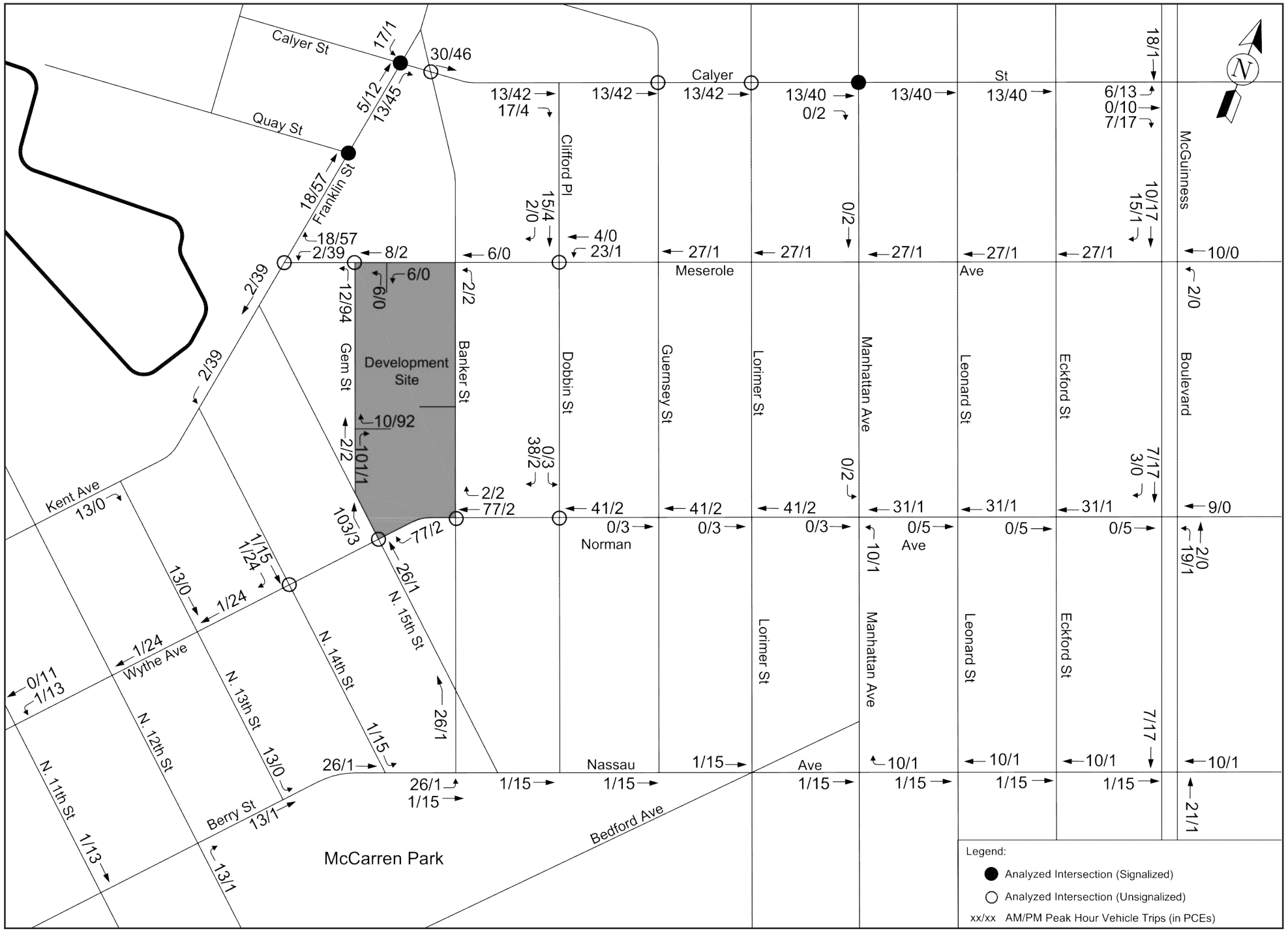
Note: Hourly construction worker and truck trips were derived from an estimated quarterly average number of construction worker and truck deliveries per day, with each truck delivery resulting in two daily trips (arrival and departure).

As it is anticipated that the new Acme Smoked Fish facility would be fully operational by the fourth quarter of 2022, there would likely be some overlap between operational traffic (primarily truck trips) and construction traffic during the 2024 Q1-Q3 peak construction period. Table 16-4 shows an estimate of the combined hourly operational and construction traffic (in PCEs) during this period. As shown in Table 16-4, the combination of peak construction traffic and operational traffic from the new Acme Smoked Fish facility would total approximately 131 PCEs and 101 PCEs during the 6:00 AM to 7:00 AM and 3:00 PM to 4:00 PM construction peak hours, respectively. Figure 16-2 shows the assignment of these construction peak hour vehicle trips to the study area street network. Although construction workers would likely park on-street in the surrounding area, to be conservative, all construction worker autos were assigned directly to and from the site, thereby concentrating these trips at analyzed intersections.

TABLE 16-4
2024 Q1-Q3 Hourly Construction + Operational Vehicle Trips
(Autos, Taxis and Trucks in PCEs)

	2024 Q1-Q3 Construction Trips			2024 Q1-Q3 Acme Smoked Fish Operational Trips			2024 Q1-Q3 Total Construction + Operational Trips
	Auto	Taxi	Truck	Auto	Taxi	Truck	
5 AM – 6 AM	0	0	0	18	0	12	30
6 AM – 7 AM	**91**	**8**	**20**	**0**	**0**	**12**	**131**
7 AM – 8AM	23	2	6	0	0	0	31
8 AM – 9 AM	0	0	6	27	4	12	49
9 AM – 10 AM	0	0	6	2	0	0	8
10 AM – 11 AM	0	0	6	0	0	0	6
11 AM – 12 PM	0	0	6	0	0	0	6
12 PM – 1 PM	0	0	6	2	2	12	22
1 PM – 2 PM	0	0	4	0	0	0	4
2 PM – 3 PM	6	0	4	18	0	0	28
3 PM – 4 PM	**91**	**8**	**2**	**0**	**0**	**0**	**101**
4 PM – 5 PM	17	2	2	0	0	0	21
5 PM – 6 PM	0	0	0	27	4	0	31
Daily Total	228	20	68	94	10	48	468

As shown in Table 10-6 in Chapter 10, "Transportation," the Proposed Actions are expected to generate a net total of approximately 215 vehicle trips (223 PCEs) in the weekday 7:30 AM to 8:30 AM operational peak hour and 180 vehicle trips (180 PCEs) in the weekday 5:00 PM to 6:00 PM operational peak hour.



Acme Fish Expansion **Figure 16-2**

Combined Operational and Construction Peak Hour Vehicle Trips During the 2024 Q1-Q3 Peak Construction Period

Total weekday AM and PM peak hour incremental vehicle trips with full build-out of the Proposed Development in 2024 would therefore be substantially greater than the combined operational and construction demand generated during the 6:00 AM to 7:00 AM and 3:00 PM to 4:00 PM construction peak hours in the 2024 Q1-Q3 peak construction period (131 PCEs and 101 PCEs, respectively). Furthermore, as shown in Figure 16-2, combined operational and construction peak hour vehicle trips at study area intersections during the 2024 Q1-Q3 peak construction period would also be less than the number of incremental trips at each intersection during the operational AM and PM peak hours with full build-out of the Proposed Actions (refer to Figure 10-1 in Chapter 10, "Transportation"). In addition, it should be noted that automatic traffic recorder (ATR) count data indicate that overall study area traffic is approximately 45 percent greater during the 7:30 AM to 8:30 AM operational peak hour than during the 6:00 AM to 7:00 AM construction peak hour, and approximately five percent greater during the 5:00 PM to 6:00 PM operational peak hour than during the 3:00 PM to 4:00 PM construction peak hour. Therefore, both incremental demand and background traffic levels would be higher in the operational peak hours with full build-out of the Proposed Development than in the construction peak hours during the peak construction period. Significant adverse traffic impacts over and above those identified for full build-out of the Proposed Development are therefore not anticipated during the peak construction period. Early implementation of the mitigation measures recommended for operational traffic impacts would be expected to be equally effective at addressing potential impacts due to construction traffic, as fully discussed in Chapter 17, "Mitigation".

Curb Lane Closures and Staging

Construction staging would most likely occur on the Development Site and may extend within portions of sidewalks, curbs and travel lanes of public streets adjacent to the Development Site. Similar to many other construction projects in New York City, temporary curb lane and sidewalk closures are expected to be required adjacent to the Development Site, which would have dedicated gates, driveways, or ramps for delivery vehicle access. It is anticipated that construction activity would mostly take place within the Development Site itself, and perhaps within portions of Gem Street and/or Banker Street. Any sidewalk or street closures would require the approval of the NYCDOT-OCMC, the entity that ensures critical travel arteries are not interrupted, especially in peak travel periods.

Flag persons are expected to be present at active project site driveways, where needed, to manage the access and movement of trucks to ensure no on-street queuing. Some of the site deliveries may also occur along the perimeter of the construction site within delineated closed-off areas for concrete pour or steel delivery.

Transit

As discussed above and shown in Table 16-2, in the 2024 Q1-Q3 peak construction period, approximately 220 construction workers would travel to and from the Development Site each day. As also discussed above, a total of approximately 27.8 percent of construction workers are expected to travel to and from the project site by public transit (subway, bus or ferry) and 9.5 percent by walking. In addition, it is estimated that approximately 80 percent of all construction workers would arrive and depart in the peak hour before and after each shift. Therefore, it is estimated that approximately 61 construction workers would travel to and from the Development Site via public transit each day, and that approximately 49 of these trips would occur in each of the 6:00 AM to 7:00 AM and 3:00 PM to 4:00 PM construction peak hours. These construction worker trips, which would occur outside of the peak periods for overall transit ridership, would be distributed among nearby subway stations (34 trips), bus routes (12 trips) and ferry landings (three trips).

It is anticipated that the new Acme Smoked Fish facility would be fully operational by the fourth quarter of 2022, and that the work shift for production staff would be from 6:00 AM to 2:30 PM and that administrative/sales staff would work typical office hours (i.e., 9:00 AM to 5:00 PM). As most production workers would be on-site by 6:00 AM and will have left by 3:00 PM, and as most administrative/sales staff wouldn't arrive until after 8:00 AM and wouldn't depart until after 5:00 PM, there is expected to be little overlap between operational transit trips and peak construction transit trips during the 2024 Q1-Q3 peak construction period.

As peak transit demand from construction workers on the Development Site would not meet the 200 trips/hour *CEQR Technical Manual* analysis threshold for a detailed subway analysis, nor the 50 trips/hour/direction analysis threshold for a detailed bus analysis, significant adverse impacts to subway and bus services are not expected to occur in the construction peak hour during the 2024 Q1-Q3 peak construction period.

Pedestrians

As discussed previously, it is anticipated that approximately 220 construction workers would travel to and from the Development Site in the 2024 Q1-Q3 peak construction period. An estimated 176 of these workers (80 percent) would arrive and depart in the peak hour before and after each shift. In addition, there is expected to be little overlap between operational trips generated by workers at the new Acme Smoked Fish facility and construction worker trips during this same period. Therefore, peak pedestrian demand from construction workers on the Development Site would not meet the 200 trips/hour *CEQR Technical Manual* analysis threshold for a detailed pedestrian analysis, and significant adverse pedestrian impacts are not expected to occur during the 2024 Q1-Q3 peak construction period. During construction, where sidewalk closures are required, adequate protection or temporary sidewalks would be provided in accordance with NYCDOT-OCMC requirements.

Parking

Of the estimated 220 construction workers who would travel to the Development site during the 2024 Q1-Q3 peak construction period, approximately 60 percent are expected to travel to the rezoning area by private auto. Based on an average auto occupancy of 1.16 persons per auto, the maximum daily parking demand from project site construction workers would total approximately 114 spaces in the weekday midday. In addition, as shown in Table 10-42 in Chapter 10, "Transportation," workers at the new Acme Smoked Fish facility (which would be operational beginning in the fourth quarter of 2022) would generate a demand for approximately 45 parking spaces in the midday. Therefore, site-generated parking demand during the 2024 Q1-Q3 peak construction period would total approximately 159 spaces. As it is assumed that there would be no on-site parking until completion of the Proposed Development, it is anticipated that both Acme Smoked Fish workers and construction workers would park on-street or in the two nearby off-street public parking facilities located in proximity to the Development Site during this period.

Based on the data presented in Tables 10-40 and Tables 10-41 in Chapter 14, "Transportation," it is estimated that approximately 20 on-street parking spaces would be available in the weekday midday within ¼-mile of the Development Site during the 2024 Q1-Q3 peak construction period. Consequently, the 159 spaces of parking demand from the Proposed Development during this construction period would result in a deficit of approximately 139 parking spaces in the weekday midday. While some drivers destined for the proximity of the Development Site would potentially have to travel a greater distance (e.g., between ¼ and ½ mile) to find available parking, this shortfall would not be considered a significant adverse impact based on *CEQR Technical Manual* criteria due to the magnitude of available alternative

modes of transportation. Therefore, the Proposed Actions are not expected to result in significant adverse parking impacts in the weekday midday peak period during the 2024 Q1-Q3 peak construction period.

Air Quality

As is typical with construction projects in New York City, construction of the Proposed Development would require use of both non-road construction equipment and on-road vehicles. Non-road construction equipment includes equipment operating on-site such as excavators, cranes and loaders. On-road vehicles include construction delivery trucks, dump trucks, concrete trucks, and construction worker vehicles arriving at and departing from the construction site as well as operating on-site. Emissions from non-road construction equipment and on-road vehicles have the potential to affect air quality. In addition, emissions from dust-generating construction activities (i.e., truck loading and unloading operations) also have the potential to affect air quality. The *CEQR Technical Manual* lists several factors for consideration in determining whether a quantified on-site and/or off-site construction impact assessment for air quality is appropriate. These factors include the use of emission control measures, the duration and intensity of construction activities, the location of nearby sensitive receptors, and project-generated, construction-related vehicle trips.

The construction air quality assessment presented in this chapter includes a comparison of the magnitude of air emissions from the Proposed Development's construction activity based on the preliminary construction schedule for the Proposed Development and air emission level estimates for individual construction stages taken from detailed modeling analyses that have previously undergone the City environmental review and approval process. The assessment also took into consideration emissions reduction measures and locations of nearby sensitive receptors. Two recently approved projects, the Two Bridges Large Scale Residential Development (LSRD) Final Environmental Impact Statement (FEIS) (CEQR No. 17DCP148M) and the Block 675 East FEIS (CEQR No. 17DCP159M), were identified with similar construction characteristics as the construction of Proposed Development, including building construction activities on sites of similar size, construction of multiple buildings with staggered schedules, potential sensitive receptor locations near the construction site, and similar emissions reduction programs. Therefore, these two approved projects were selected for the comparative assessment.

Duration and Intensity of Construction Activities

As is usually the case in New York City, construction of the Proposed Development would result in temporary disruption to the surrounding area. The overall construction duration for the proposed Acme Smoked Fish facility and office building are anticipated to be approximately 21 months and 24 months, respectively with three months to transition Acme Smoked Fish operations from its existing facility into the new facility in between with no overlap. However, the most intense construction activities in terms of air pollutant emissions (demolition, excavation, and foundation activities when the largest number of large non-road diesel engines such as drill rigs and excavators would be employed) is anticipated to occur over a shorter period of approximately 7 to 8 months per building. The demolition, excavation, and foundation activities of the office building are anticipated to occur 17 months after these activities are completed for the proposed Acme Smoked Fish facility; therefore, the maximum short-term and annual peak period emissions for the two proposed buildings would not overlap.

As shown in Table 16-5, the duration of similar construction activities for the proposed buildings included in the Block 675 East and Two Bridges LSRD projects would be comparable to the durations anticipated for those under the Proposed Development. Overall, the construction durations for those proposed buildings range from 23 to 42 months, which are comparable to the overall construction durations for the

Acme Smoked Fish facility and office building. However, unlike the Proposed Development, both the Block 675 East and Two Bridges LSRD projects would include substantial construction overlaps between the proposed buildings. Subsequently, although the Proposed Development would result in a longer overall duration, the maximum construction intensity would be less as discussed in the section below.

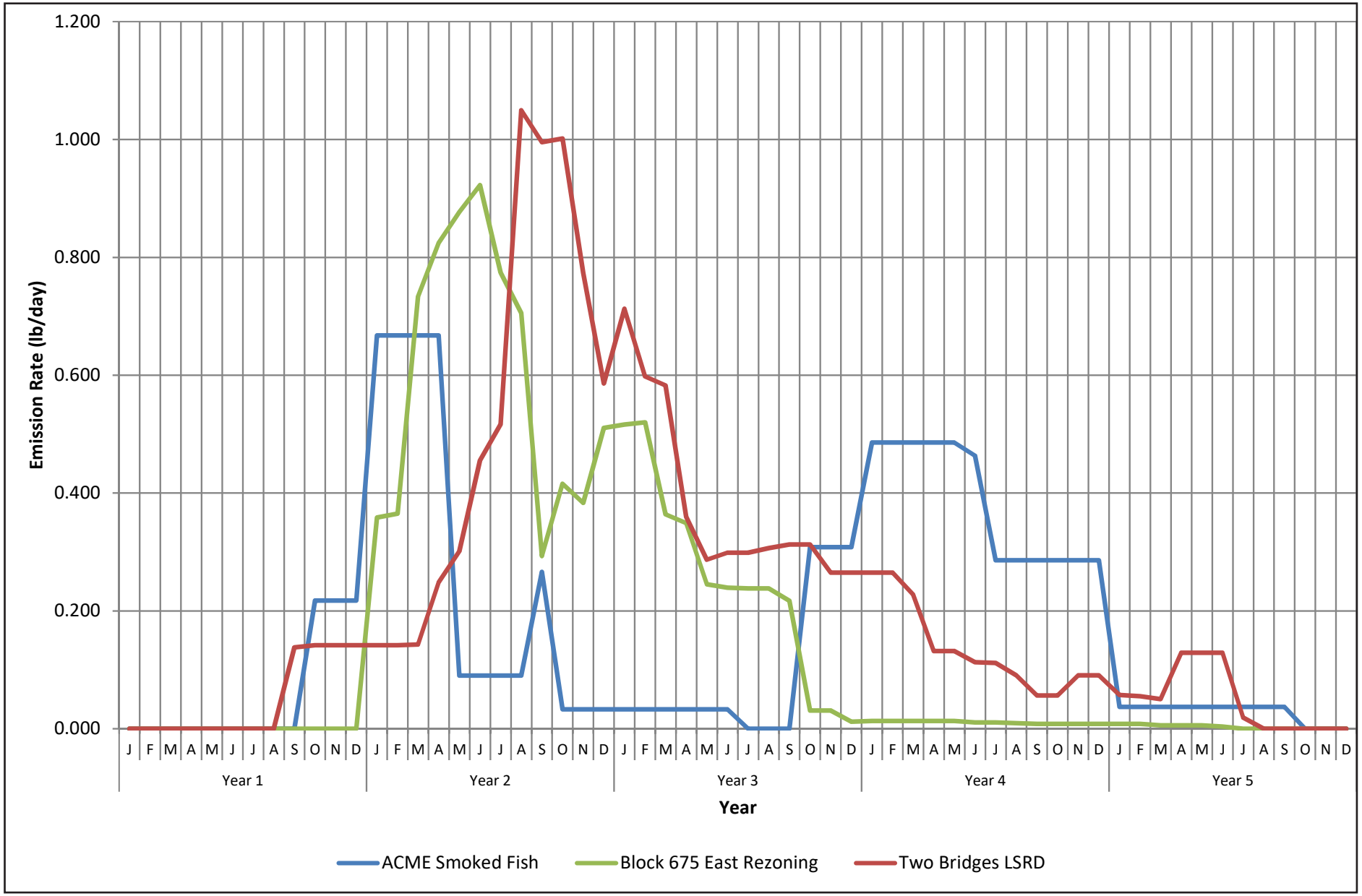
TABLE 16-5
Conceptual Construction Duration (Months)

	Proposed Development		Block 675 East		Two Bridges LSRD		
Construction Stage	**Acme Smoked Fish Facility**	**Office Building**	**Project Site A**	**Project Site B**	**Site 4 (4A/4B)**	**Site 5**	**Site 6A**
Demolition	3	3	1	2	1	N/A	N/A
Excavation and Foundation	9	12	9	6	13	9	10
Superstructure			11	6	8	10	14
Exteriors	9	9	20	6	11	11	17
Interiors and Finishing			29	9	14	18	20
Site Work	N/A	N/A	N/A	N/A	7	3	3
Construction Duration by Building	**21**	**24**	**42**	**23**	**36**	**35**	**34**
Overall Construction Duration	**48**		**42**		**36**		
Sources: Block 675 East FEIS (CEQR No. 17DCP159M) Two Bridges LSRD FEIS (CEQR No. 17DCP148M)							

Intensity of Construction Activities

Construction-related emissions were calculated for each calendar year throughout the duration of construction on a peak day and an annual rolling basis for $PM_{2.5}$. $PM_{2.5}$ is selected for determining the worst-case periods for all pollutants analyzed, because the ratio of predicted $PM_{2.5}$ incremental concentrations to impact criteria is anticipated to be higher than for other pollutants.

As shown in Table 16-6 and Figures 16-3 and 16-4, the proposed Acme Smoked Fish facility would result in a maximum short-term emission rate of 0.668 lbs per day and a maximum annual average emission rate of 0.169 lbs per day for the month of January 2021 and the annual period from October 2020 to September 2021, respectively. Similarly, the proposed office building would result in a maximum short-term emission rate of 0.486 lbs per day and a maximum annual average emission rate of 0.207 lbs per day for the month of January 2023 and the annual period from January 2023 to December 2023, respectively. These maximum $PM_{2.5}$ emission rates predicted for the proposed Acme Smoked Fish facility and the office building are comparable to those for the Block 675 East and Two Bridges LSRD projects, where the maximum short-term emission rates range from 0.208 lbs per day to 0.684 lbs per day, while annual average emission rates range from 0.096 lbs per day to 0.264 lbs per day. However, unlike the Proposed Development, both the Block 675 East and Two Bridges LSRD projects would include substantial construction overlaps between the proposed buildings. Therefore, as presented in Table 16-6, the overall peak short-term and annual emissions for the Proposed Development would be less than those analyzed for the Block 675 East and Two Bridges LSRD projects where the air quality analyses performed for these projects concluded that there would be no significant air quality impacts.


1.200
1.000
0.800
0.600
0.400
0.200
0.000
Emission Rate (lb/day)
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
Year 1
Year 2
Year 3
Year 4
Year 5
Year
ACME Smoked Fish
Block 675 East Rezoning
Two Bridges LSRD

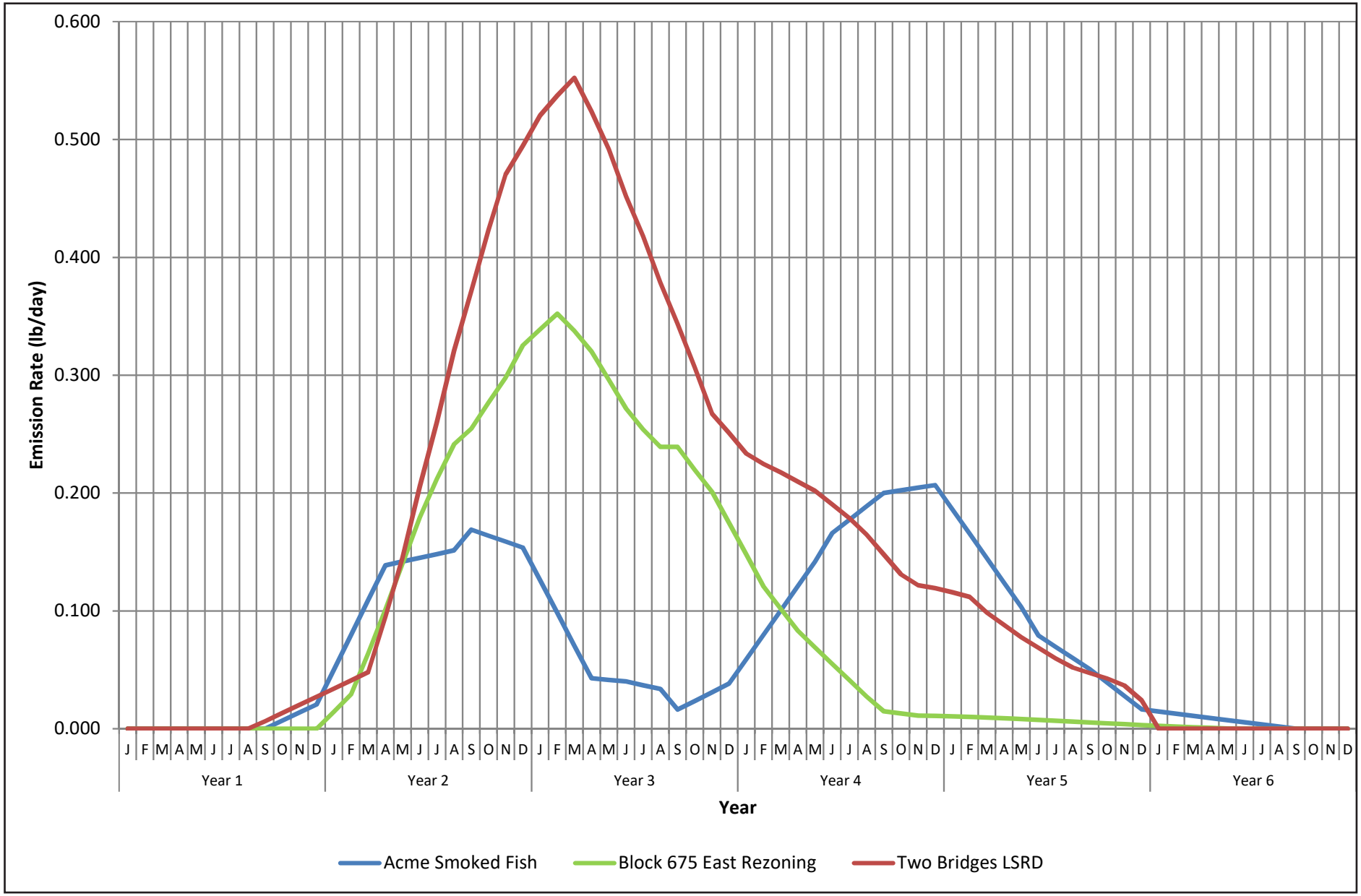

0.600
0.500
0.400
0.300
0.200
0.100
0.000
Emission Rate (lb/day)
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
Year 1
Year 2
Year 3
Year 4
Year 5
Year 6
Year
Acme Smoked Fish
Block 675 East Rezoning
Two Bridges LSRD

TABLE 16-6
Construction Activity $PM_{2.5}$ Emissions (lb per day)

Construction Stage	Proposed Development		Block 675 East		Two Bridges LSRD		
	Acme Smoked Fish Facility	Office Building	Project Site A	Project Site B	Site 4 (4A/4B)	Site 5	Site 6A
Short-Term Emissions							
Demolition	0.218	0.308	0.144	0.214	0.138	N/A	N/A
Excavation and Foundation	0.668	0.486	0.684	0.239	0.143	N/A	0.426
Superstructure	0.266	0.286	0.339	0.192	0.040	N/A	0.149
Exteriors	0.033	0.037	0.000	0.000	0.048	N/A	0.040
Interiors and Finishing			0.000	0.000	0.000	N/A	0.000
Peak Short-Term Emissions by Building	**0.668**	**0.486**	**0.684**	**0.239**	**0.208**	**0.416**	**0.426**
Overall Peak Short- - Term Emissions	**0.668**		**0.923**		**1.050**		
Annual Emissions							
Peak Annual Emissions by Building	**0.169**	**0.207**	**0.216**	**0.136**	**0.096**	**0.264**	**0.193**
Overall Peak Annual Emissions	**0.207**		**0.352**		**0.546**		
Sources: Block 675 East FEIS (CEQR No. 17DCP159M) Two Bridges LSRD FEIS (CEQR No. 17DCP148M)							

Construction sources would move around the Development Site over the construction period such that the air pollutant concentration increments would not persist in any single location. The other stages of construction, including superstructure, façade installation, and interior fit-out would result in lower air emissions since they would require fewer pieces of heavy-duty diesel equipment and would not involve soil disturbance that generates dust emissions. In addition, interior fit-out would generally occur within an enclosed building, thereby shielding nearby sensitive receptors from construction activities.

The approach and procedures for the construction of the Proposed Development would be typical of the methods utilized in other building construction projects throughout New York City and therefore would not be considered out of the ordinary in terms of intensity. Furthermore, the construction analyses for these projects included adjacent sidewalk receptors as well as nearby sensitive receptor building locations. The analyzed sensitive locations were identified to be within 100 feet of each of the project sites—with adjacent building locations at some project sites. As described below, these distances are consistent with the locations of nearby sensitive receptors for the Proposed Development.

Overall, emissions associated with the construction of the Proposed Development would likely be lower than a typical project due to the emission control measures to be implemented during construction (see "Emission Control Measures") and comparable to other projects that were committed to implement similar emission control measures.

Location of Nearby Sensitive Receptors

The area surrounding the Development Site is a mix of predominantly industrial and commercial uses with residential uses to the northeast, which are separated by Meserole Avenue. The nearest residence is the building at the corner of Banker Street and Meserole Avenue, approximately 80 feet northeast of the

Development Site. In addition, there is a planned commercial development at 12 Franklin Street approximately 60 feet west of the Development Site. Such distances between the construction sources and the receptors would result in increased dispersion of pollutants. As discussed below, measures would be taken to reduce pollutant emissions during construction. For example, a watering program would be implemented to minimize dust emissions from construction activities and all measures required by the portion of DEP's Construction Dust Rules regulating construction-related dust emissions would be strictly followed. In addition, to further minimize air pollutant emissions during construction, emissions reduction measures including the use of BAT and the use of newer and cleaner equipment would be implemented. Furthermore, the construction areas would be fenced off, which would serve as a buffer between the emission sources and nearby sensitive receptor locations.

The construction analyses for the Block 675 East and Two Bridges LSRD projects included nearby sensitive receptor building locations. The analyzed sensitive locations were identified to be within 100 feet of each of the project sites—with adjacent building locations at some project sites. These distances are consistent with the locations of nearby sensitive receptors for the Proposed Development; therefore construction-related emissions are anticipated to similarly impact nearby receptor locations as in the Block 675 East and Two Bridges LSRD projects.

On-Road Sources

Construction worker commuting trips and construction truck deliveries would generally occur during off-peak hours. In addition, when distributed over the transportation network, the construction trip increments would not concentrate at any single location. Construction-generated traffic increments from the Proposed Development would also not exceed the *CEQR Technical Manual* CO screening threshold of 170 peak-hour trips at intersections in the area, or the fine particulate matter (PM2.5) emissions screening thresholds discussed in Chapter 17, Sections 210 and 311 of the *CEQR Technical Manual*. Therefore, further mobile source analysis is not required

Emission Control Measures

Measures would be taken to reduce pollutant emissions during construction in accordance with all applicable laws, regulations, and building codes. These include the use of clean fuel, diesel equipment reduction, dust suppression measures, and idling restrictions:

Clean Fuel. Ultra-low-sulfur diesel (ULSD) fuel would be used exclusively for all diesel engines throughout the Development site.

Diesel Equipment Reduction. As early in the construction period as logistics would allow, diesel- or gas-powered equipment would be replaced with electrical-powered equipment such as welders, water pumps, and table saws (i.e., early electrification) to the extent feasible and practicable.

Dust Control Measures. To minimize dust emissions from construction activities, a dust control plan, including a watering program, would be required as part of contract specifications. For example, all trucks hauling loose material would be equipped with tight-fitting tailgates and their loads securely covered prior to leaving the Development Site; and water sprays would be used for all demolition, excavation, and transfer of soils to ensure that materials would be dampened as necessary to avoid the suspension of dust into the air All measures required by the portion of DEP's Construction Dust Rules regulating construction-related dust emissions would be implemented.

Idling Restriction. As required by local law, all stationary vehicles on roadways adjacent to the Development Site would be prohibited from idling for more than three minutes. In addition, all trucks would be required to shut off their engines when in the loading dock. The idling restriction excludes vehicles that are 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.

In addition, the following measures would be implemented to further reduce air pollutant emissions during construction:

Best Available Tailpipe Reduction Technologies. Non-road diesel engines with a power rating of 50 horsepower (hp) or greater and controlled truck fleets (i.e., truck fleets under long-term contract for the Proposed Development), including but not limited to, concrete mixing and pumping trucks would utilize the best available technology (BAT) (currently diesel particulate filters) for reducing diesel particulate matter emissions.

Utilization of Newer Equipment. EPA's Tier 1 through 4 standards for non-road engines regulate the emission of criteria pollutants from new engines, including PM, CO, NOx, and hydrocarbons (HC). To the extent practicable, all diesel-powered non-road construction equipment with a power rating of 50 hp or greater would meet at least the Tier 3 emissions standard. All diesel-powered engines in the project rated less than 50 hp would meet at least the Tier 2 emissions standard.

Similar emission reduction measures were committed to in the Block 675 East and Two Bridges LSRD projects and the air quality analyses performed for these projects concluded that there would be no significant air quality impacts. Overall, the emissions control program for the Proposed Development is expected to substantially reduce air pollutant emissions during construction, similar to the emission control programs for the Block 675 East and Two Bridges LSRD projects.

Conclusion

As shown in Table 16-7, the construction of the Proposed Development would result in comparable construction durations, emission intensities, and distances to nearby sensitive receptors. Furthermore, the Proposed Development would include similar emission control measures as the Block 675 East and Two Bridges LSRD projects and beyond those required in accordance with all applicable laws, regulations, and building codes. Based on the analyses provided and implementation of the emissions reduction program, similar to the construction under the Block 675 and Two Bridges LSRD projects, construction of the Proposed Development would not result in any significant adverse construction air quality impacts, and no further analysis is required.

TABLE 16-7
Construction Program Comparison

	Proposed Development	Block 675 East	Two Bridges LSRD
Emissions Intensity	Short-Term Peak: 0.668 lb/day Annual Peak: 0.207 lb/day	Short-Term Peak: 0.923 lb/day Annual Peak: 0.352 lb/day	Short-Term Peak: 1.050 lb/day Annual Peak: 0.546 lb/day
Sensitive Receptor Locations	Nearest receptors 60 to 80 feet from the project site	Nearest receptors 80 to 90 feet from the project site	Nearest receptors immediately adjacent to the project site
Emissions Controls	Clean Fuel (ULSD) Diesel Equipment Reduction Dust Control Measures Idling Restrictions Best Available Tailpipe Reduction Technologies. Utilization of Newer Equipment.		
Sources: Block 675 East FEIS (CEQR No. 17DCP159M) Two Bridges LSRD FEIS (CEQR No. 17DCP148M)			

Noise

Potential impacts on community noise levels during construction of the Proposed Development could result from construction equipment operation and construction trucks and worker vehicles traveling to and from the Development Site. Noise levels at a given location are dependent on the type and number of pieces of construction equipment 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 from construction activities would vary widely, depending on the stage of construction and the location of the construction relative to receptor locations as described below. The most noise-intensive construction activities would not occur every day or every hour on those days that they would occur. During hours when the loudest pieces of construction equipment are not in use, receptors would experience lower construction noise levels. Construction noise levels would fluctuate during the construction period at each receptor, with the greatest levels of construction noise occurring for limited periods. The most substantial construction noise sources are expected to be impact equipment such as excavators with hydraulic break rams and paving breakers, as well as the movements of trucks.

Construction noise is regulated by the requirements of the *New York City Noise Control Code* (also known as Chapter 24 of the *Administrative Code of the City of New York*, or Local Law 113) and the DEP Notice of Adoption of Rules for Citywide Construction Noise Mitigation (also known as Chapter 28). These requirements mandate that specific construction equipment and motor vehicles meet specified noise emission standards; that construction activities be limited to weekdays between the hours of 7:00 AM and 6:00 PM; and that construction materials be handled and transported in such a manner as not to create unnecessary noise. For weekend and after hour work, permits would be required, as specified in the *New York City Noise Control Code*. As required under the *New York City Noise Control Code*, a site-specific noise mitigation plan for the Proposed Development would be developed and implemented that may include source and path controls.

Construction Noise Analysis Fundamentals

Construction activities 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 automobiles, and material and equipment deliveries) on the roadways to and from the construction site. The effect of each of these noise sources was evaluated.

Noise from the on-site operation of construction equipment at a specific receptor location near a construction site is generally 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 location is a function of the following:

- The noise emission level of the equipment (see Table 16-7 for the noise levels of typical construction 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.

Noise levels due to construction-related traffic are a function of the following:

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

Construction Noise Impact Criteria

Chapter 22 of the *CEQR Technical Manual* breaks construction duration into "short-term" and "long-term" and states that construction noise is not likely to require analysis unless it "affects a sensitive receptor over a long period of time." Consequently, the construction noise analysis considers the potential for construction of a project to create high noise levels (the "intensity"), whether construction noise would occur for an extended period of time (the "duration"), and the locations where construction has the potential to produce noise ("receptors") in evaluating potential construction noise effects.

The noise impact criteria described in Chapter 19, Section 410 of the *CEQR Technical Manual* serve as a screening-level threshold for potential construction noise impacts. If construction of the Proposed Development would not result in any exceedances of these criteria at a given receptor, then that receptor would not have the potential to experience a construction noise impact. The screening level noise impact criteria for mobile and on-site construction activities are as follows:

- If the No-Action noise level is less than 60 dBA $L_{eq(1)}$, a 5 dBA $L_{eq(1)}$ or greater increase would require further consideration.

- If the No-Action noise level is between 60 dBA $L_{eq(1)}$ and 62 dBA $L_{eq(1)}$, a resultant $L_{eq(1)}$ of 65 dBA or greater would require further consideration.
- If the No-Action 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 10PM and 7AM), the threshold requiring further consideration would be a 3 dBA $L_{eq(1)}$ or greater increase.

If construction of the Proposed Development would result in exceedances of these noise impact criteria at a receptor, then further consideration of the intensity and duration of construction noise is warranted at that receptor. Generally, exceedances of these criteria for more than 24 consecutive months are considered to be significant impacts. Noise level increases that would be considered objectionable (i.e., equal to or greater than 15 dBA) lasting 12 consecutive months or more and noise level increases considered very objectionable (i.e., equal to or greater than 20 dBA)[2] lasting 3 consecutive months or more would also be considered significant impacts.

Construction Noise Analysis Methodology

The construction noise analysis consists of the following:

- Identification of sensitive noise receptor locations[3] near and on the Development Site.
- Identification of noise reduction measures that would be employed during construction of the Proposed Development.
- Consideration of potential noise impacts from mobile sources.
- Analysis of potential noise impacts from operation of construction equipment at the Development Site over the course of the construction of the Proposed Development. Consistent with the noise impact criteria discussed above, the analysis looks first at the intensity of noise levels during construction, then assesses the potential duration of those noise levels, and finally makes a determination of the potential for impact.
  - Intensity of construction noise is estimated based on the projected number and type of equipment to operate on the Development Site during the various stages of construction. The estimated construction noise levels are based on the equipment noise level and usage factor references included in the *CEQR Technical Manual*, as well as on conservative estimates of equipment locations consistent with the logistics information provided by the Proposed Development's construction manager.
  - The projected construction noise levels are compared to No-Action noise levels at the receptors. For each receptor included in the construction noise analysis, the minimum measured existing noise level as shown in Chapter 13, "Noise" at the nearest noise measurement location from either the AM or mid-day peak hour (i.e., the analysis hours that fall within the hours of a typical construction work day), was used to represent noise in the No-Action condition.
  - Based on projected intensity of construction noise for each construction stage, and the No-Action noise level at each receptor, the distance from each receptor within which all construction

[2] Definition of "objectionable" and "very objectionable" noise level increases based on Table B from DEC's "Assessing and Mitigating Noise Impacts" policy memorandum, revised February 2001.

[3] A sensitive receptor location is an area where human activity may be adversely affected by elevated noise levels, including residences, parks, churches, etc.

equipment would need to be operating simultaneously to result in exceedances of each impact threshold was determined.

- Duration of construction noise is assessed based on the planned construction schedule (see Figure 16-1) and the expected movement of equipment around the site during each construction stage.
- Attenuation from the construction barriers was conservatively not considered in the construction noise analysis to further solidify analytical assurance.

Noise Receptor Locations

The Development Site is located in Brooklyn, bounded by Banker Street to the east, Wythe Avenue to the south, Gem and North 15th streets to the west, and Meserole Avenue to the north. The area surrounding the Development Site is a mix of predominantly industrial and commercial uses with residential uses to the northeast.

The noise receptors closest to the proposed construction activities are listed in Table 16-8. The receptor areas and their distances from the Development Site are shown in Appendix E.

TABLE 16-8
Construction Noise Receptor Areas

Receptor(s)	Land Use(s)	Approximate Distance and Direction from the Proposed Construction Work Area	
Guernsey Street Residences (Block 2617)	Residential	415 feet east of ACME Development Site	415 feet east of Offices Development Site
Dobbin Street Residences (Block 2643)	Residential	730 feet southeast of ACME Development Site	475 feet southeast of Offices Development Site
North 13th at Kent Avenue	Residential	725 feet southwest of ACME Development Site	535 feet southwest of Offices Development Site
Quay Street west of Franklin Street	Residential	415 feet northwest of ACME Development Site	370 feet northwest of Offices Development Site
Calyer Street between Banker and Dobbin Streets	Residential	330 feet north of ACME Development Site	360 feet north of Offices Development Site
Banker Street at Meserole Avenue	Residential	80 feet northeast of ACME Development Site	170 feet northeast of Offices Development Site
Meserole Avenue West of Dobbin Street	Residential	160 feet east of ACME Development Site	250 feet east of Offices Development Site

Baseline Noise Levels

As described above, at each receptor included in the construction noise analysis, the minimum measured existing noise level as shown in Chapter 13, "Noise" at the nearest noise measurement location from either the AM or mid-day peak hour was used to represent noise in the No-Action condition. The baseline noise levels are shown in Table 16-9 below.

TABLE 16-9
Baseline Noise Levels in dBA

Site	Measurement Location[1]	L_{eq}
1	Banker Street between Meserole Ave and North 15 Street	62.0
2	Meserole Avenue between Gem and Banker Streets	61.5
3	Gem Street between Meserole Ave and North 15 Street	58.1
4	North 15 Street between Wythe Ave and Gem Street	62.2
Source: See Chapter 13, "Noise."		

Noise Reduction Measures

Construction of the Proposed Development would be required to follow the requirements of the *NYC Noise Control Code* for construction noise control measures. Specific noise control measures would be incorporated in noise mitigation plan(s) required under the *NYC Noise Code*. These measures could 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 would be implemented in accordance with the *NYC Noise Code*:

- Equipment that meets the sound level standards specified in Subchapter 5 of the *NYC Noise Control Code* would be utilized from the start of construction. Table 16-10 shows the noise levels for typical construction equipment and the mandated noise levels for the equipment that would be used for construction under the Proposed Actions.
- As early in the construction period as logistics would 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) to the extent feasible and practicable.
- Where feasible and practicable, 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 Title 24, Chapter 1, Subchapter 7, Section 24-163 of the *NYC Administrative Code*.
- Contractors and subcontractors would be required to properly maintain their equipment and mufflers.

TABLE 16-10
Typical Construction Equipment Noise Emission Levels (dBA)

Equipment List	NYCDEP Typical Noise Level at 50 feet[1]
All Other Equipment > 5 HP	85
Auger Drill Rig	85
Bar Bender	80
Compressor	80
Concrete Mixer Truck	85
Concrete Pump	82
Concrete Trowel	67[2]
Crane	85
Dozer	85
Dump Truck	84
Excavator	85
Forklift	64[3]
Front End Loader	80
Generator	82
Hoist	75[4]
Hydraulic Break Ram	90
Jackhammer / Chipping Gun	73
Rock Hammer / Impact Pile Driver	95
Scissor Lift	63
Welder	73

Sources:
[1] "Rules for Citywide Construction Noise Mitigation," Chapter 28, DEP, 2007, except where noted.
[2] Columbia Manhattanville Noise Certification.
[3] *East New York Rezoning FEIS*, 2016.
[4] "Noise Control for Construction Equipment…" Report for Hydro Quebec, 1985.

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 would be implemented:

- 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 constructed from plywood or other materials would be erected to provide shielding; and
- Path noise control measures (i.e., portable noise barriers, panels, enclosures, and acoustical tents, where feasible) for certain dominant noise equipment would be employed to the extent feasible and practical based on the results of the construction noise calculations. The details to construct portable noise barriers, enclosures, tents, etc. are shown in DEP's "Rules for Citywide Construction Noise Mitigation."[4]

Mobile Source Construction Noise Analysis

Throughout the construction period, vehicles (construction-related trucks and worker vehicles) would travel near the Development Site. Most of these vehicles are expected to use Kent Avenue, Franklin Avenue, and

[4] As found at: http://www.nyc.gov/html/dep/pdf/noise_constr_rule.pdf.

Meserole Avenue which are already heavily trafficked roadways, and along which there are no noise-sensitive locations near the Development Site. As described above, the amount of traffic generated by the construction of the Proposed Development would be low compared with existing traffic volumes on major feeder streets in the neighborhood. Additionally, the construction-related vehicles would be distributed amongst the different routes to and from the Development Site. Accordingly, construction-generated traffic on roadways to and from the Development Site would not have the potential to result in significant adverse construction noise impacts at locations away from the construction work area (i.e., at locations other than the areas specified above as receptors).

On-Site Construction Noise Analysis Results

As discussed above, the on-site construction noise analysis looks at the intensity of noise levels during construction, assesses the potential duration of those noise levels, and then makes a determination of the potential for impact. Projected construction noise levels at the receptors listed in Table 16-5 are discussed below. Receptors further from the construction work area would experience construction noise levels no higher than the mid-60s dBA. Though the predicted noise level increases have the potential to be noticeable and possibly intrusive, the total noise levels would be in the "marginally acceptable" range according to *CEQR Technical Manual* noise evaluation criteria. Consequently, receptors outside of these distances would not have the potential to experience significant adverse construction noise impacts.

The conservative projections of noise levels associated with construction of the Proposed Development are summarized in Appendix E.

BANKER STREET AT MESEROLE AVENUE RESIDENCE

Existing noise levels at the residence at Banker Street and Meserole Avenue would be in the low 60s dBA as represented by measurement Site 1 (see Table 16-6). It is located at least 80 feet away from the Acme Smoked Fish facility construction work area and 170 feet away from the office building construction work area.

A very objectionable (i.e., 20 dBA or more) increase in noise levels at this receptor during construction associated with the Acme Smoked Fish facility would only occur if all equipment were operating simultaneously within 199 feet of the receptor during rock drilling or impact pile driving, 172 feet of the receptor during foundation construction, or 117 feet of the receptor during superstructure construction. Consequently, even the most conservative projections of construction noise (assuming all equipment operating together in a worst-case location on the project site) would show the potential for a very objectionable (i.e., 20 dBA or more) increase in noise levels only during limited construction activities on no more than approximately 40 percent of the Development Site, which would have a combined duration of approximately 2 months according to the construction schedule discussed above.

A very objectionable (i.e., 20 dBA or more) increase in noise levels at this receptor during construction associated with the office building would only occur if all equipment were operating simultaneously within 210 feet of the receptor during rock drilling or impact pile driving. Consequently, even the most conservative projections of construction noise (assuming all equipment operating together in a worst-case location on the project site) would show the potential for a very objectionable (i.e., 20 dBA or more) increase in noise levels during limited construction activities on below 10 percent of the Development Site, which would have a duration of less than one month based on the construction schedule discussed above.

An objectionable (i.e., 15 dBA or more) increase in noise levels at this receptor during construction associated with the Acme Smoked Fish facility would only occur if all equipment were operating simultaneously within 160 feet of the receptor during demolition, 358 feet of the receptor during rock drilling or impact pile driving, 309 feet of the receptor during foundation construction, 210 feet of the receptor during superstructure construction, or 128 feet of the receptor during concrete operations. Consequently, even the most conservative projections of construction noise (assuming all equipment operating together in a worst-case location on the project site) would show the potential for an objectionable (i.e., 15 dBA or more) increase in noise levels only during limited construction activities, which would have a combined duration of no more than approximately seven months according to the construction schedule discussed above.

An objectionable (i.e., 15 dBA or more) increase in noise levels at this receptor during construction associated with the Office building would only occur if all equipment were operating simultaneously within 216 feet of the receptor during demolition, 377 feet of the receptor during rock drilling or impact pile driving, 331 feet of the receptor during foundation construction, or 265 feet of the receptor during superstructure construction. Consequently, even the most conservative projections of construction noise (assuming all equipment operating together in a worst-case location on the project site) would show the potential for an objectionable (i.e., 15 dBA or more) increase in noise levels only during limited construction activities on no more than approximately 30 percent of the Development Site, which would have a combined duration of no more than three months according to the construction schedule discussed above.

Since interior fit-out construction would primarily consist of work done inside the proposed buildings during and after completion of the exterior façade (i.e, without line of sight to the surrounding receptors) and equipment (i.e., hoist) that would occur outside the proposed building would be distributed across the construction site and/or shielded by building structure, it would not be expected to result in exceedances of the CEQR construction noise screening thresholds (i.e., 3 to 5 dBA increases) for 24 months or more at this receptor. Consequently, construction associated with the Acme Smoked Fish facility would not have the potential to result in screening level exceedances for a period longer than 15 months, and construction associated with the office building would not have the potential to result in screening level exceedances for a period longer than 21 months.

In summary this receptor would not experience very objectionable increases in noise for more than approximately 2 total months, objectionable noise level increases for more than approximately 7 consecutive months (up to approximately 9 total months), or exceedances of the CEQR construction noise screening thresholds for more than 21 consecutive months (up to 36 total months, separated by a full year during interior fit-out of the Acme Smoked Fish building and move in of Acme). In light of the maximum potential duration and intensity of construction noise that it would experience, the Proposed Development would not have the potential to experience a significant adverse noise impact associated with construction of the Proposed Development.

MESEROLE AVENUE WEST OF DOBBIN STREET RESIDENCES

Existing noise levels at the residences along Meserole Avenue west of Dobbin Street are in the low 60s dBA as represented by measurement site 1 (see Table 16-6). This receptor is located at least 160 feet away from the Acme Smoked Fish facility construction work area and 250 feet away from the office building construction work area.

A very objectionable (i.e., 20 dBA or more) increase in noise levels at this receptor during construction associated with the Acme Smoked Fish facility would only occur if all equipment were operating

simultaneously within 199 feet of the receptor during rock drilling or impact pile driving, or within 172 feet of the receptor during foundation construction. Consequently, even the most conservative projections of construction noise (assuming all equipment operating together in a worst-case location on the project site) would show the potential for a very objectionable (i.e., 20 dBA or more) increase in noise levels only during limited construction activities for less than one month according to the construction schedule discussed above.

A very objectionable (i.e., 20 dBA or more) increase in noise levels at this receptor during construction associated with the office building would only occur if all equipment were operating simultaneously within 210 feet of the receptor during any individual construction phase. Consequently, even the most conservative projections of construction noise (assuming all equipment operating together in a worst-case location on the project site) would show no potential for a very objectionable (i.e., 20 dBA or more) increase in noise levels according to the construction schedule discussed above.

An objectionable (i.e., 15 dBA or more) increase in noise levels at this receptor during construction associated with the Acme Smoked Fish Facility would only occur if all equipment were operating simultaneously within 358 feet of the receptor during rock drilling or impact pile driving, 309 feet of the receptor during foundation construction, or 210 feet of the receptor during superstructure construction. Consequently, even the most conservative projections of construction noise (assuming all equipment operating together in a worst-case location on the project site) would show the potential for an objectionable (i.e., 15 dBA or more) increase in noise levels only during limited construction activities, which would have a combined duration of approximately five months according to the construction schedule discussed above.

An objectionable (i.e., 15 dBA or more) increase in noise levels at this receptor during construction associated with the office building would only occur if all equipment were operating simultaneously within 377 feet of the receptor during rock drilling or impact pile driving or 331 feet of the receptor during foundation construction. Consequently, even the most conservative projections of construction noise (assuming all equipment operating together in a worst-case location on the project site) would show the potential for an objectionable (i.e., 15 dBA or more) increase in noise levels only during limited construction activities on no more than approximately 45 percent of the Development Site, which would occur only intermittently over a duration of approximately two months according to the construction schedule discussed above.

Since interior fit-out construction would primarily consist of work done inside the proposed buildings during and after completion of the exterior façade (i.e, without line of sight to the surrounding receptors) and equipment (i.e., hoist) that would occur outside the proposed building would be distributed across the construction site and/or shielded by building structure, it would not be expected to result in exceedances of the CEQR construction noise screening thresholds (i.e., 3 to 5 dBA increases) for 24 months or more at this receptor. Consequently, construction associated with the Acme Smoked Fish Facility would not have the potential to result in screening level exceedances for a period longer than 15 months, and construction associated with the office building would not have the potential to result in screening level exceedances for a period longer than 21 months.

In summary this receptor would not experience very objectionable increases in noise for more than 1 total month, objectionable noise level increases for more than approximately 5 consecutive months (up to approximately 7 total months), or exceedances of the CEQR construction noise screening thresholds for more than 21 consecutive months (up to 36 total months, separated by a full year during interior fit-out of the Acme Smoked Fish building and move in of Acme). In light of the maximum potential duration and

intensity of construction noise that it would experience, the Proposed Development would not have the potential to experience a significant adverse noise impact associated with construction of the Proposed Development.

ALL OTHER RECEPTORS

At the remaining receptors, i.e., the residences along Guernsey Street on Block 2617, the residences along Dobbin Street on Block 2643, and the residence at North 13th Street and Kent Avenue, existing noise levels would be in the high 50s to low 60s dBA. These receptors are all at least 330 feet away from the Proposed Development Site.

An objectionable (i.e., 15 dBA or more) increase in noise levels at these receptors during construction associated with the Proposed Development would only occur if all equipment were operating simultaneously within 399 feet of the receptor during rock drilling or impact pile driving, or 350 feet of the receptor during foundation construction. Consequently, even the most conservative projections of construction noise (assuming all equipment operating together in a worst-case location on the project site) would show the potential for an objectionable (i.e., 15 dBA or more) increase in noise levels only during rock drilling, impact pile driving, or foundation construction, which would occur only intermittently over a combined duration of no more than five months according to the construction schedule discussed above.

Since interior fit-out construction would primarily consist of work done inside the proposed buildings during and after completion of the exterior façade (i.e, without line of sight to the surrounding receptors) and equipment (i.e., hoist) that would occur outside the proposed building would be distributed across the construction site and/or shielded by building structure, it would not be expected to result in exceedances of the CEQR construction noise screening thresholds (i.e., 3 to 5 dBA increases) at these receptors. Consequently, construction associated with the Acme Smoked Fish Facility would not have the potential to result in screening level exceedances for a period longer than 15 months, and construction associated with the office building would not have the potential to result in screening level exceedances for a period longer than 21 months.

Since these receptors would not experience very objectionable increases in noise, objectionable noise level increases for more than 5 months, or exceedances of the CEQR construction noise screening thresholds for more than 21 consecutive months (36 total months, separated by a full year during interior fit-out of the Acme Smoked Fish building and move in of Acme), they would not have the potential to experience a significant adverse noise impact associated with construction of the Proposed Development.

Vibration

Construction activities have the potential to result in vibration levels that may result in structural or architectural damage, and/or annoyance or interference with vibration-sensitive activities. Vibratory levels at a receiver are a function of the source strength (which 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, construction activities generally 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 Development 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 as specified in the DOB *Technical Policy and Procedure Notice* (*TPPN) #10/88*. As described in the United States Bureau of Mines (USBM) *Structure Response and Damage Produced by Ground Vibration from Surface Mine Blasting* (RI8507, page 73), at frequencies greater than 40Hz (as is typical of impact vibration sources such as pile driving or rock excavation) vibration levels below 2.0 inches/second would not be expected to result in any structural or architectural damage to non-fragile buildings.

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.

Analysis Methodology

Table 16-11 shows vibration source levels for typical construction equipment. The source vibration levels shown in Table 16-11 were projected to nearby receptors to estimate the potential effects of construction vibration.

TABLE 16-11
Vibration Source Levels for Construction Equipment

Equipment		PPVref (in/sec)	Approximate Lv (ref) (VdB)
Pile Driver (impact)	Upper Range	1.518	112
	Typical	0.644	104
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

Source: Transit Noise and Vibration Impact Assessment, FTA-VA-90-1003-06, May 2006.

Construction Vibration Analysis Results

The structures of most concern with regard to the potential for structural or architectural damage due to vibration are the residence at Banker Street and Meserole Avenue and the residences along Meserole Avenue west of Dobbin Street. As a result of these structures' distances from the Development Site (i.e., at least 80 feet away), vibration levels at these buildings and structures would not be expected to exceed 0.5 in/sec PPV, including during impact pile driving activities, which would be the most vibration intensive activity associated with construction of the Proposed Development. Additional receptors farther away from the Development Site would experience even less vibration than those listed above, which would not be expected to cause structural or architectural damage.

In terms of potential vibration levels that would be perceptible and annoying, the equipment that would have the most potential for producing levels that exceed the 65 VdB limit is the impact pile driver. It would

have the potential to produce perceptible vibration levels (i.e., vibration levels exceeding 65 VdB) at receptor locations within a distance of approximately 550 feet depending on soil conditions. Rock hammering would also have the potential to produce perceptible vibration levels at receptor locations within a distance of approximately 130 feet depending on soil conditions. However, both impact pile driving and rock hammering would only occur on an occasional basis and for limited periods at a particular location.

Since expected construction vibration levels would not have the potential to result in architectural or structural damage at nearby structures, and vibration in the perceptible range would occur only over a limited period, vibration associated with construction would not rise to the level of significant adverse impact.

Conclusions

Vibration levels during construction would not be expected to exceed the 2.0 inches/second threshold considered acceptable for non-historic structures. Vibration-producing equipment would not operate in proximity to the nearest structures such that they could potentially result in damage to these structures. Furthermore, construction would not result in extended periods of perceptible or annoying vibrations at surrounding receptors. Therefore, construction activities would not have the potential to result in significant adverse vibration impacts.

Other Technical Areas

Land Use and Neighborhood Character

Construction activities would affect land use within the Development Site but would not alter surrounding land uses. As is typical with construction projects, during periods of peak construction activity there would be some disruption, predominantly noise, to the nearby area. There would be construction trucks and construction workers coming to the Development Site. These disruptions would be temporary in nature and would have limited effects on land uses within the surrounding area, particularly as most construction activities would take place within the Development Site or within portions of sidewalks, curbs, and travel lanes of public streets immediately adjacent to the site. In addition, measures would be implemented to control noise, vibration, emissions, and dust on the construction site, including the erection of construction fencing. The fencing would reduce potentially undesirable views of the construction site and buffer noise emitted from construction activities. Overall, while the construction at the Development Site would be evident to the local community, the temporary nature of construction would not result in significant or long-term adverse impacts on local land use patterns or the character of the nearby area.

Socioeconomic Conditions

Construction activities could temporarily affect pedestrian and vehicular access. However, lane and/or sidewalk closures would not obstruct entrances to any existing businesses, and businesses are not expected to be significantly affected by any temporary reductions in the amount of pedestrian foot traffic or vehicular delays that could occur as a result of construction activities. Maintenance and Protection of Traffic (MPT) plans would be developed for any temporary curb-lane and sidewalk narrowing/closures as required by DOT. This work would be coordinated with and approved by DOT's OCMC. Overall, construction activities associated with the Proposed Actions would not 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 direct activity. Construction also would contribute to increased tax revenues for the City and State, including those from personal income taxes.

Community Facilities

No community facilities would be directly affected by construction activities for an extended duration. The Development Site will be surrounded by construction fencing and barriers that would limit the effects of construction on nearby facilities. Construction workers would not place any burden on public schools and would have minimal, if any, demands on libraries, child care facilities, and health care. Construction of the Proposed Development would not block or restrict access to any facilities in the area, and would not materially affect emergency response times significantly. The NYPD and FDNY emergency services and response times would not be materially affected due to the geographic distribution of the police and fire facilities and their respective coverage areas.

Open Space

There are no publicly accessible open spaces within the Development Site and no open space resources would be used for staging or other construction activities. The nearest open space resource is McCarren Park, located more than 600 feet to the south of the Development Site.[5] Access to this open space resource or any other nearby open space resources would be maintained throughout the duration of the construction period. Although construction of the Proposed Development would be expected to have the potential to result in elevated noise levels at nearby receptors, and noise due to construction would at times be noticeable, the site is located more than 600 feet from the nearest existing open space resource, and noise from construction would be intermittent and of limited duration. Therefore, no significant construction impacts to open space are expected.

Historic and Cultural Resources

As described in Chapter 6, "Historic and Cultural Resources," the Development Site does not possess archaeological significance and no further assessment is warranted. Therefore, the Proposed Development does not have the potential to result in construction period archaeological impacts. The Proposed Actions would not result in any significant adverse impacts to architectural resources on the Development Site as no historic architectural resources are located on the site. Moreover, no architectural resources are located within 90 feet of the Development Site. Therefore, the Proposed Actions would not result in any significant adverse impacts to historic architectural resources.

Hazardous Materials

A detailed assessment of potential impacts on hazardous materials is described in Chapter 8, "Hazardous Materials." The hazardous materials assessments identified various potential sources of subsurface contamination on, or in close proximity to, the Development Site. To avoid the potential for adverse impacts associated with new construction resulting from the Proposed Actions, further environmental investigations and remediation will be required. To ensure that these investigations are undertaken, a hazardous materials (E) designation would be placed on the tax lots comprising the Development Site. The (E) designation requires approval by the New York City Office of Environmental Remediation (OER)

[5] Although the planned Bushwick Inlet Park expansion would be located one block to the west of the Development Site, as no construction timeline for this planned expansion has been announced, and given the design and development periods required for the park expansion, it is unlikely that the Bushwick Inlet Park expansion would be completed and in use during construction of the Proposed Development.

prior to obtaining NYC Buildings Department (DOB) permits for any new development entailing soil disturbance. The environmental requirements for the (E) designation also include a mandatory Construction Health and Safety Plan (CHASP), which must be approved by OER.

In addition, demolition of interiors, portions of buildings, or entire buildings are regulated by DOB and require abatement of asbestos prior to any intrusive construction activities, including demolition. OSHA regulates construction activities to prevent excessive exposure of workers to contaminants in the building materials, including lead paint. New York State Solid Waste regulations control where demolition debris and contaminated materials associated with construction are handled and disposed of. Adherence to these existing regulations would prevent impacts from construction activities at the Development Site.