Chapter 18: Mitigation

A. INTRODUCTION

As described in Chapter 1, "Project Description," based on projections issued by the national Centers for Disease Control, Memorial Sloan Kettering Cancer Center (MSKCC) expects that new cancer cases in New York City will increase from the current rate of 40,000 annually to 60,000 annually by 2050. While this increase is a projection among all age groups, this rise is being driven by two populations: older patients, whose cases are more acute and require more complex treatment, and younger patients who are being diagnosed with prostate, colon, and breast cancer at alarming rates. To meet this increase in patient volume and the new interventions that are needed to treat the growing number of acute cases, MSKCC will need to supplement its existing capacity with a purpose-built structure with 28 operating rooms (with four dedicated to interventional radiology procedures) and up to 206 patient beds including intensive care unit (ICU) and single rooms for immunocompromised patients, as well as medical support areas.

To fulfill this need, MSKCC is requesting a series of zoning actions to establish a building envelope to facilitate the development of a new 31-story (up to 598.3 feet including mechanical bulkhead), approximately 903,065 gross square foot (gsf) inpatient hospital building (the Proposed Project), also referred to as the "MSK Pavilion." It would be located on York Avenue between East 66th and East 67th Streets and would consist of 28 operating rooms, including recovery and intensive care facilities, up to 206 single-bedded patient rooms, clinical support, a double-height lobby, and 5 mechanical floors to house intensive technologies and air exchange systems. A two-story patient bridge across East 67th Street (Patient Bridge) connecting floors 5 and 6 of the Proposed Project with floors 8 and 9 of the Memorial Hospital building would serve as the primary connector for patients in either building to access medical services in the other building.

This chapter considers mitigation measures to address significant adverse impacts resulting from the Proposed Project. The Proposed Project has the potential to result in significant adverse impacts in the areas of shadows, transportation, and construction (traffic and noise). Potential mitigation measures for each these technical areas are discussed below.

B. PRINCIPAL CONCLUSIONS

SHADOWS

As described in Chapter 5, "Shadows," the Proposed Project would cause a significant adverse shadow impact to the stained-glass windows of St. John of Nepomucene Church (State/National Registers of Historic Places [S/NR]-eligible, New York City Landmarks [NYCL]-eligible), located at 1224 First Avenue at the northeast corner of East 66th Street. The 2021 *City Environmental Quality Review (CEQR) Technical Manual* identifies potential mitigation strategies to reduce or eliminate, to the greatest extent practicable, adverse shadow impacts to sunlight-sensitive historic architectural features, including changes to the bulk or configuration of projected or potential development sites that cause or contribute to the adverse impact. For adverse

impacts to stained-glass windows, potential mitigation measures could also include the provision of artificial lighting to simulate the effect of direct sunlight.

The provision of artificial lighting simulating sunlight will be explored in consultation with the New York City Landmarks Preservation Commission (LPC) and the church between publication of the Draft Environmental Impact Statement (DEIS) and Final EIS (FEIS). If feasible, such a mitigation measure would partially or fully mitigate the shadow impact. In the absence of full mitigation, the significant adverse shadow impact would be considered unavoidable.

CONSTRUCTION

TRANSPORTATION

Construction associated with the Proposed Project would result in temporary disruptions in the surrounding area. As described in Chapter 16, "Construction," the Proposed Project's construction activities could result in significant adverse traffic impacts at two intersections during the AM construction peak hour and seven intersections during the PM construction peak hour.

A detailed construction traffic analysis was prepared to identify specific temporary impacts that may occur during construction. Temporary significant adverse traffic impacts are expected to occur at the First Avenue and East 61st Street and at the York Avenue and East 63rd Street intersections during the AM construction peak hour. With the implementation of standard traffic mitigation measures (signal timing changes), which are subject to review and approval by DOT, these significant adverse traffic impacts could be fully mitigated. During the PM construction peak hour, temporary significant adverse traffic impacts are expected to occur at seven intersections (Second Avenue and East 65th Street; Second Avenue and East 64th Street; First Avenue and East 65th Street; York Avenue and East 65th Street; York Avenue and East 64th Street; York Avenue and East 63rd Street; and FDR Drive Service Road and East 62nd Street). With the implementation of standard traffic mitigation measures (signal timing changes and removal of on-street curbside parking), which are subject to review and approval by DOT, the significant adverse traffic impacts at all intersections except York Avenue and East 63rd Street and FDR Drive Service Road and East 62nd Street could be fully mitigated. The York Avenue and East 63rd Street and FDR Drive Service Road and East 62nd Street intersections would remain unmitigated due to the lack of feasible mitigation measures available. Additional mitigation measures will be explored between the Draft and Final EIS in consultation with DOT.

NOISE

As discussed in Chapter 16, "Construction," the Proposed Project's construction activities would result in significant adverse impacts related to noise at 10 receptors surrounding the proposed construction work area (i.e., northern and northwestern façade of the 1213 York Avenue residential building, northern façade of 434 East 66th Street residential building, northern façades of 436 and 438 East 66th Street residential buildings, and the eastern and southeastern façades of 425 East 66th Street RRL building). Construction of the Proposed Project would follow the construction noise control requirements of the New York City Noise Control Code as well as abiding by a Project Component Related to the Environment (PCRE) to not utilize impact pile driving; however, the most noise-intensive construction activity nearest the receptors experiencing significant adverse impacts would only be partially mitigated. At building façades that are predicted to experience noise impacts, potential mitigation measures may include the offer of storm windows for façades that do not already have insulated glass windows and/or window air

conditioning units on impacted façades of residences that do not already have alternative means of ventilation. Additional mitigation measures to control noise at these sensitive receptor locations will be further explored between the DEIS and FEIS. Significant adverse impacts that cannot be fully mitigated through reasonably practicable measures would be considered unavoidable.

SHADOWS

As described in Chapter 5, "Shadows," the Proposed Project would cause a significant adverse shadow impact to St. John of Nepomucene Church (S/NR-eligible, NYCL-eligible), located at 1224 First Avenue at the northeast corner of East 66th Street, i.e., the western end of the project block.

The church has three small stained-glass windows on its eastern façade (the rear façade above the altar) that directly face the Development Site. The church's southern façade, fronting on East 66th Street, and its northern façade contain five sets of paired stained-glass windows set in round arch openings at the first floor and five sets of paired stained glass arched windows at the upper level. The north and south façades are oriented roughly at 90-degree angles to the Development Site. At the time of this writing, the church typically holds Sunday services at 9:00 AM, 10:30 AM, 12:00 PM, and 6:00 PM, and on other days of the week at 12:15 PM.

The stained-glass windows in the northern and eastern (rear) façades of the St John Nepomucene Church would receive between 45 minutes (in early spring and fall) up to an hour and a half (in the late spring and the summer) of incremental shadow during the mornings in spring, summer, and fall, diminishing and, at times, eliminating the direct sunlight from the windows. While ambient daylight would continue to illuminate the windows, given the duration and reduction or elimination of direct sunlight, and the time of day that they would occur (during services), these incremental shadows would cause a significant adverse impact to this resource.

The *CEQR Technical Manual* identifies potential mitigation strategies to reduce or eliminate, to the greatest extent practicable, adverse shadow impacts to sunlight-sensitive historic architectural features, including changes to the bulk or configuration of projected or potential development sites that cause or contribute to the adverse impact. For adverse impacts to stained-glass windows, potential mitigation measures could also include the provision of artificial lighting to simulate the effect of direct sunlight.

In order to avoid the significant adverse shadow impact on the stained-glass windows of St. John of Nepomucene Church the Proposed Project would have to be reduced by approximately 210 feet. This reduction would mean the loss of up to 14 floors of patient rooms or the loss of up to 12 floors of operating rooms or the loss of a combination of patient room floors or operating room floors. In either event, the Proposed Project could no longer be used as an inpatient hospital with 28 operating rooms, up to 206 beds and related services, thereby failing to meet the Applicant's sole purpose for pursuing the Proposed Project, *i.e.,* to increase its surgical capacity by 2030 for the treatment of the anticipated increase in cancer patients requiring complex surgeries in the future.

The provision of artificial lighting simulating sunlight will be explored in consultation with LPC and the church between publication of the DEIS and FEIS. If feasible, such a mitigation measure would partially or fully mitigate the significant adverse impact. In the absence of full mitigation, the significant adverse shadow impact would be considered unavoidable.

C. CONSTRUCTION

TRAFFIC

As detailed in Chapter 16, "Construction," traffic conditions were evaluated at 14 intersections. In the 2028 construction With Action condition, there would be the potential for a significant adverse traffic impacts at the Second Avenue and East 65th Street, Second Avenue and East 64th Street, First Avenue and East 65th Street, First Avenue and East 61st Street, York Avenue and East 65th Street, York Avenue and East 64th Street, York Avenue and East 63rd Street, and FDR Drive Service Road and East 62nd Street intersections as summarized in **Table 18-1**. As shown in **Table 18-2**, the impact at the First Avenue and East 61st Street and York Avenue and East 63rd Street intersections during the AM construction peak hour could be fully mitigated with the implementation of standard traffic mitigation measures (signal timing changes), which are subject to review and approval by DOT prior to implementation. As shown in **Table 18-3**, the impacts at all intersections besides York Avenue and East 63rd Street and FDR Drive Service Road and East 62nd Street could be fully mitigated during the PM construction peak hour. The York Avenue and East 63rd Street and FDR Drive Service Road and East 62nd Street intersections during the PM construction peak hour would likely remain unmitigated.

Table 18-1
2028 Construction With Action Condition
Summary of Significant Adverse Traffic Impacts

Intersection		Weekday AM Construction Peak Hour	Weekday PM Construction Peak Hour
EB/WB Street	NB/SB Street		
East 65th Street	Second Avenue	No Significant Impact	EB-TR
East 64th Street	Second Avenue	No Significant Impact	EB-TR
East 65th Street	First Avenue	No Significant Impact	EB-LT
East 61st Street	First Avenue	WB-TR	No Significant Impact
East 65th Street	York Avenue	No Significant Impact	EB-LR
East 64th Street	York Avenue	No Significant Impact	EB-LTR
East 63rd Street	York Avenue	WB-LTR	No Significant Impact
		No Significant Impact	SB-L
East 62nd Street	FDR Drive Service Road	No Significant Impact	SB-L
Total Impacted Intersections/Lane Groups		2/2	7/7

Notes:
EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound; L = Left Turn; T = Through; R = Right Turn

Table 18-2
Recommended Mitigation Measures
Weekday AM Construction Peak Hour

Intersection	No Action Signal Timing	Recommended Mitigation Measures	Recommended Signal Timing
First Avenue and East 61st Street	WB: Green = 31 s NB: Green = 49 s NB L: Green = 20 s	Shift 2 seconds of green time from the NB phase to the WB phase	WB: Green = 33 s NB: Green = 47 s NB L: Green = 20 s
York Avenue and East 63rd Street	NB: Green = 37 s SB: Green = 60 s SB L: Green = 18 s WB/NB R = 35 s LPI: Green = 15 s	Shift 1 second of green time from the SB/SB-L phase to the WB/NB R phase	NB: Green = 37 s SB: Green = 59 s SB L: Green = 17 s WB/NB R = 36 s LPI: Green = 15 s

Notes:
EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound; L = Left; T = Through;
R = Right; LPI = Lead Pedestrian Interval

Table 18-3
Recommended Mitigation Measures
Weekday PM Construction Peak Hour

Intersection	No Action Signal Timing	Recommended Mitigation Measures	Recommended Signal Timing
Second Avenue and East 65th Street	EB: Green = 30 s LPI: Green = 7 s SB: Green = 36 s LPI: Green = 7 s	Shift 2 seconds of green time from the SB phase to the EB phase	EB: Green = 32 s LPI: Green = 7 s SB: Green = 34 s LPI: Green = 7 s
Second Avenue and East 64th Street	EB: Green = 32 s SB: Green = 41 s LPI: Green = 7 s	Shift 3 seconds of green time from the SB phase to the EB phase	EB: Green = 35 s SB: Green = 38 s LPI: Green = 7 s
First Avenue and East 65th Street	EB: Green = 30 s NB: Green = 43 s LPI: Green = 7 s	Shift 2 seconds of green time from the NB phase to the EB phase	EB: Green = 32 s NB: Green = 41 s LPI: Green = 7 s
York Avenue and East 65th Street	EB: Green = 33 s NB/SB: Green = 70 s LPI: Green = 7 s	Shift 1 seconds of green time from the NB/SB phase to the EB phase	EB: Green = 34 s NB/SB: Green = 69 s LPI: Green = 7 s
York Avenue and East 64th Street	EB/WB: Green = 42 s NB/SB: Green = 61 s LPI: Green = 7 s	Shift 4 seconds of green time from the NB/SB phase to the EB/WB Phase. Install No Standing Anytime signs for 250-feet on the north and south curbs at the Eastbound approach	EB/WB: Green = 46 s NB/SB: Green = 57 s LPI: Green = 7 s
York Avenue and East 63rd Street	NB: Green = 37 s SB: Green = 60 s SB L: Green = 18 s WB/NB R = 35 s LPI: Green = 15 s	Unmitigated	N/A
FDR Drive Service Road and East 62nd Street	Unsignalized	Unmitigated	N/A

Notes:
EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound; L = Left; T = Through;
R = Right; LPI = Lead Pedestrian Interval

A discussion of the recommended mitigation measures is provided below. **Tables 18-4 and 18-5** compares the LOS and lane group delays for the impacted intersection under the 2028 construction No Action, With Action, and Mitigation conditions for the construction AM and PM analysis peak hours. Additional mitigation measures will be explored between the Draft and Final EIS in consultation with DOT.

Table 18-4
Construction No Action, With Action, and Mitigation Conditions LOS Analysis
Weekday 6–7 AM Peak Hour

	Weekday 6–7 AM											
	2028 No Action				2028 With Action				2028 Mitigation			
Intersection	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
First Avenue and East 61st Street												
Westbound	TR	1.09	99.4	F	TR	1.18	130.5	F+	TR	1.10	100.6	F
Northbound	L	0.33	32.7	C	L	0.33	32.7	C	L	0.33	32.7	C
	T	0.54	14.2	B	T	0.56	14.5	B	T	0.58	16.0	B
	Intersection		39.5	D	Intersection		49.3	D	Intersection		41.6	D
York Avenue and East 63rd Street												
Westbound	L	0.81	56.0	E	L	0.85	60.0	E	L	0.83	56.5	E
	LTR	0.80	47.8	D	LTR	0.92	59.1	E+	LTR	0.90	54.8	D
Northbound	T	0.84	55.0	E	T	0.84	55.0	E	T	0.84	55.0	E
	R	0.38	13.8	B	R	0.38	13.8	B	R	0.37	13.2	B
Southbound	LT	0.52	19.9	B	LT	0.52	19.5	B	LT	0.54	20.1	C
	R	0.25	12.7	B	R	0.29	13.0	B	R	0.29	13.4	B
	Intersection		37.7	D	Intersection		41.9	D	Intersection		40.2	D

Notes:
L = Left Turn, T = Through, R = Right Turn, LOS = Level of Service
+ Denotes an increase in delay that exceeds the *CEQR Technical Manual* significant adverse impact threshold

Table 18-5
Construction No Action, With Action, and Mitigation Conditions LOS Analysis
Weekday 3–4 PM Peak Hour

Intersection	Weekday 3–4 PM											
	2028 No Action				2028 With Action				2028 Mitigation			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Signalized Intersections												
Second Avenue and East 65th Street												
Eastbound	TR	1.01	77.6	E	TR	1.11	105.8	F+	TR	1.04	80.8	F
Southbound	L	0.48	11.6	B	L	0.51	12.2	B	L	0.56	14.9	B
	T	0.60	9.7	A	T	0.60	9.8	A	T	0.64	11.3	B
	Intersection		28.4	C	Intersection		37.9	D	Intersection		31.8	C
Second Avenue and East 64th Street												
Eastbound	TR	0.80	37.6	D	TR	1.02	75.8	E+	TR	0.93	50.9	D
Southbound	L	0.21	5.8	A	L	0.23	6.0	A	L	0.27	7.1	A
	T	0.62	6.6	A	T	0.61	6.6	A	T	0.66	7.7	A
	Intersection		13.1	B	Intersection		23.6	C	Intersection		18.3	B
First Avenue and East 65th Street												
Eastbound	LT	0.87	46.8	D	LT	1.00	66.9	E+	LT	0.94	50.7	D
Northbound	T	0.81	8.0	A	T	0.81	8.3	A	T	0.85	10.7	B
	R	0.30	4.6	A	R	0.32	5.0	A	R	0.35	6.4	A
	Intersection		15.4	B	Intersection		20.7	C	Intersection		19.1	B
York Avenue and East 65th Street												
Eastbound	LR	0.94	78.5	E	LR	0.99	89.4	F+	LR	0.96	80.8	F
Northbound	T	0.41	2.7	A	T	0.41	2.4	A	T	0.41	2.7	A
Southbound	T	0.43	14.8	B	T	0.45	15.1	B	T	0.46	15.7	B
	Intersection		22.4	C	Intersection		24.9	C	Intersection		23.6	C
York Avenue and East 64th Street												
Eastbound	LTR	0.80	49.1	D	LTR	1.09	108.5	F+	LTR	0.86	50.1	D
Northbound	TR	0.44	5.9	A	TR	0.44	5.9	A	TR	0.47	6.2	A
Southbound	LT	0.62	17.2	B	LT	0.65	17.8	B	LT	0.69	20.5	C
	Intersection		19.4	B	Intersection		35.7	D	Intersection		23.1	C
York Avenue and East 63rd Street*												
Westbound	L	0.73	49.8	D	L	0.73	49.8	D	Unmitigated			
	LTR	0.74	44.5	D	LTR	0.74	44.5	D				
Northbound	T	1.04	95.0	F	T	1.04	95.0	F				
	R	0.39	14.2	B	R	0.39	14.2	B				
Southbound	L**	1.29	179.6	F	L**	1.69	351.1	F+				
	T	0.76	20.4	C	T	0.76	21.4	C				
	R	0.17	8.1	A	R	0.20	9.8	A				
	Intersection		68.1	E	Intersection		110.1	F				
Unsignalized Intersection												
FDR Drive Service Road and East 62nd Street												
Southbound	L	0.24	28.5	D	L	0.92	92.9	F+	Unmitigated			

Notes:
L = Left Turn, T = Through, R = Right Turn, LOS = Level of Service
* denotes an intersection where a traffic enforcement agent was observed
** denotes a defacto left-turn that was recoded as an exclusive left-turn lane in Synchro
+ Denotes an increase in delay that exceeds the CEQR Technical Manual significant adverse impact threshold

SECOND AVENUE AND EAST 65TH STREET

The significant adverse impact at the eastbound approach of this intersection during the construction PM peak hour could be fully mitigated by shifting two seconds of green time from the southbound phase to the eastbound phase.

SECOND AVENUE AND EAST 64TH STREET

The significant adverse impact at the eastbound approach of this intersection during the construction PM peak hour could be fully mitigated by shifting three seconds of green time from the southbound phase to the eastbound phase.

FIRST AVENUE AND EAST 65TH STREET

The significant adverse impact at the eastbound approach of this intersection during the construction PM peak hour could be fully mitigated by shifting two seconds of green time from the northbound phase to the eastbound phase.

FIRST AVENUE AND EAST 61ST STREET

The significant adverse impact at the westbound approach of this intersection during the construction AM peak hour could be fully mitigated by shifting two seconds of green time from the northbound phase to the westbound phase.

YORK AVENUE AND EAST 65TH STREET

The significant adverse impact at the eastbound approach of this intersection during the construction PM peak hour could be fully mitigated by shifting one second of green time from the northbound/southbound phase to the eastbound phase.

YORK AVENUE AND EAST 64TH STREET

The significant adverse impact at the eastbound approach of this intersection during the construction PM peak hour could be fully mitigated by shifting four seconds of green time from the northbound/southbound phase to the eastbound/westbound phase and by installing No Standing Anytime signs for 250-feet on the north and south curbs at the eastbound approach.

YORK AVENUE AND EAST 63RD STREET

The significant adverse impact at the westbound left-turn/through lane and the through/right-turn lane of this intersection during the construction AM peak hour could be fully mitigated by shifting one second of green time from the southbound/southbound-left turn phase to the westbound/northbound right-turn phase.

The significant adverse impact at the southbound left-turn/through lane of this intersection, which was analyzed as an exclusive left-turn lane because that is how it was observed to operate, during the construction PM peak hour could not be mitigated due to a lack of feasible mitigation measures available for temporary implementation during peak construction conditions. There is a Traffic Enforcement Agent (TEA) present at this intersection during the PM peak hour which would assist in keeping traffic moving, but a TEA cannot be demonstrated to mitigate traffic impacts according to *CEQR Technical Manual* guidance.

FDR SERVICE ROAD AND EAST 62ND STREET

The significant adverse impact at the southbound left-turn of this intersection during the construction PM peak hour could not be mitigated due to a lack of feasible mitigation measures available for temporary implementation during peak construction conditions. A TEA is already present at the intersection immediately west, at East 62nd Street and York Avenue, who assists with keeping traffic moving at that intersection and may already assist with providing gaps in traffic flow at the downstream intersection at the FDR Drive Service Road to reduce delays on the southbound approach. However, as previously stated, a TEA cannot be demonstrated to mitigate traffic impacts and the intersection would likely remain unmitigated. The southbound approach of this intersection is under stop control and the eastbound approach is uncontrolled. Bringing the eastbound approach under stop control or both approaches under signalized control were evaluated, but deemed infeasible. Adding stop control to the eastbound approach would cause there to be a new significant adverse traffic impact on that approach. A traffic signal peak hour warrant was explored, but the traffic volumes would fall below acceptable thresholds. The eastbound approach leads to the FDR Drive northbound ramp and is less than 200 feet downstream of the signalized intersection of York Avenue and East 62nd Street. During the construction PM peak hour when traffic demand entering the northbound FDR Drive is high, adding traffic control to the eastbound approach would create traffic queues backing up to York Avenue and add traffic congestion to the neighborhood. Therefore, during the temporary condition of the construction PM peak hour, there would be no feasible mitigation available, and the significant adverse traffic impact on the southbound left-turn of this intersection could not be mitigated. Significant adverse impacts that cannot be fully mitigated through reasonably practicable measures are also identified and discussed in Chapter 19, "Unavoidable Adverse Impacts."

NOISE

As discussed in Chapter 16, "Construction," the Proposed Project's construction activities would result in significant adverse impacts related to noise. At some receptors, construction of the Proposed Project would result in increments that would be considered objectionable (i.e., 15 dBA or greater) or very objectionable (i.e., 20 dBA or greater). The potential for significant adverse impacts at these receptors was determined by evaluating the duration of these increments and whether the CEQR interior noise level threshold would be exceeded or not. Mitigation measures have been identified to address the significant adverse impacts where feasible and practicable. As discussed below in more detail, partial mitigation is proposed for some of the significant adverse impacts of the Proposed Project. Significant adverse impacts that cannot be fully mitigated through reasonably practicable measures are also identified and discussed in Chapter 19, "Unavoidable Adverse Impacts."

Significant adverse noise impacts are predicted to occur at 10 receptor locations. These locations are the northern and northwestern façade of the 1213 York Avenue residential building; the northern façade of the 434 East 66th Street residential building; the northern façades of the 436 and 438 East 66th Street residential buildings; and the eastern and southeastern façades of the 425 East 66th Street RRL building, as discussed in Chapter 16, "Construction."

Construction of the Proposed Project would be required to follow the New York City Noise Control Code for construction noise control measures. Specific noise control measures would be incorporated in noise mitigation plan(s) required under the New York City Noise Code, including 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, included under New York regulations, would be implemented:

- Equipment that meets the sound level standards specified in Subchapter 5 of the *New York City Noise Control Code* would be utilized from the start of construction. Table 16-19 in Chapter 16, "Construction," shows the noise levels for typical construction equipment that would be used for construction of the Proposed Project.
- 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 electrical equipment cannot be used, diesel or gas-powered generators and pumps would be located within buildings to the extent feasible and practicable.
- Where feasible and practicable, the construction site would be configured to minimize back-up alarm noise. In addition, all trucks would not be allowed to idle more than 3 minutes at the construction site based upon Title 24, Chapter 1, Subchapter 7, Section 24-163 of the *New York City Administrative Code*.
- Contractors and subcontractors would be required to properly maintain their equipment and mufflers.

In addition, source controls listed below would be implemented as PCREs beyond New York City regulations for the construction of the Proposed Project:

- Impact pile driving would not be used for construction of the Proposed Project.

In terms of path controls (e.g., placement of equipment, implementation of barriers or enclosures between equipment and sensitive receptors), the following measures, under New York regulations, 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 construction from plywood or other materials would be utilized to provide shielding (e.g., the construction sites would have a minimum 8-foot-tall barrier around the perimeter).
- Path noise control measures (i.e., portable noise barriers, panels, enclosures, and acoustical tents) for certain equipment as necessary to remain consistent with Table 16-19. The details to construct portable noise barriers, enclosures, tents, etc. are shown in DEP's *Rules for Citywide Construction Noise Mitigation.*[1]

Mitigation measures to control noise at the receptors predicted to experience impacts would be considered prior to construction of the Proposed Project and would be further explored between the DEIS and FEIS. While some of the buildings where impacts have been identified feature modern façade construction, including insulated glass windows and an alternative means of ventilation that would allow for the maintenance of a closed-window condition, it is not possible to definitively determine the presence of these features at all receptors that would have the potential to experience construction noise impact. At building façades that are predicted to experience noise impacts, potential mitigation measures may include the offer of storm windows

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

for façades that do not already have insulated glass windows and/or window air conditioning units on impacted façades of residences that do not already have alternative means of ventilation. Further study to refine the specific construction noise mitigation measures will be undertaken between the Draft and Final EIS.

Any mitigation measures identified would be implemented prior to the start of construction. Building façades with insulated glass windows or storm windows and alternative ventilation would provide sound attenuation such that even during warm weather conditions, interior noise levels would be approximately 30 dBA less than exterior noise levels. However, the most noise-intensive construction activity nearest the receptors experiencing significant adverse impacts would result in interior noise levels up to 57 dBA L_{10}, which is 12 dBA greater than the level considered acceptable according to 2021 *CEQR Technical Manual* noise exposure guidelines. Consequently, significant adverse noise impacts predicted to occur at the above-mentioned receptors would be only partially mitigated and thus unavoidable as discussed in Chapter 19, "Unavoidable Adverse Impacts." ✷