Chapter 14: Public Health

This chapter assesses the potential for the proposed Lenox Hill Hospital (LHH) Redevelopment project (the Proposed Project) to affect public health.

As described in Chapter 1, "Project Description," Lenox Hill Hospital (the Applicant) is requesting a series of discretionary actions from the City Planning Commission (CPC) to facilitate the enlargement and modernization of the existing LHH on Block 1411, Lots 1 and 113 (Projected Development Site 1), bounded by Park and Lexington Avenues and East 76th and East 77th Streets in Manhattan. The Proposed Project would include a new building fronting on Lexington Avenue, as well as additions and modifications to portions of the existing hospital complex on Projected Development Site 1 and connections between the new hospital building and the renovated buildings. Two building envelopes are proposed, each of which would accommodate the Proposed Project's program. Envelope 1 would include a new approximately 771,000-gross-square-foot (gsf) building on Lexington Avenue and 56,000 gsf of additions to the existing hospital. Envelope 2 would include a new approximately 867,000-gsf building and 8,000 gsf of additions to the existing hospital. With the existing buildings to remain, the overall gross floor area of the Proposed Project on Projected Development Site 1 would be approximately 1.4 million gsf with either envelope. The program, project population (staff, patients, visitors), site access, zoning actions, and construction duration would be the same for both Envelope 1 and Envelope 2.

This Environmental Impact Statement (EIS) also considers the as-of-right development of a building with hospital support functions at 111-115 East 77th Street between Lexington and Park Avenues (Block 1412, Lots 9, 10, and 11) (Projected Development Site 1a) as part of the Proposed Project. It would be connected to Projected Development Site 1 by a utility tunnel under East 77th Street. In addition, the Applicant proposes to provide improvements to the 77th Street subway station of the Lexington Avenue (No. 6) line, providing Americans with Disabilities Act (ADA) access to the downtown platform and improving sidewalk conditions in the immediate area.

As defined by the 2021 *City Environmental Quality Review (CEQR) Technical Manual*, public health is the organized effort of society to protect and improve the health and well-being of the population through monitoring; assessment and surveillance; health promotion; prevention of disease, injury, disorder, disability, and premature death; and reducing inequalities in health status. The goal of CEQR with respect to public health is to determine whether adverse impacts on human health may occur as a result of a Proposed Project and, if so, to identify measures to mitigate such effects. The potential effects of the Proposed Project on the surrounding community were considered.

The *CEQR Technical Manual* states that a public health assessment is warranted for a specific technical area if there is a significant adverse impact found in other CEQR analysis areas, such as air quality, water quality, hazardous materials, or noise. The assessment process involves evaluating whether and how exposure to environmental contaminants may occur and the extent of that exposure; characterizing the relationship between exposures and health risks; and applying that relationship to the population exposed. As described in the relevant analyses of this EIS, upon completion of construction, the Proposed Project with either Envelope 1 or Envelope 2 would not

result in significant unmitigated adverse impacts in any of the technical areas related to public health. However, as identified in Chapter 16, "Construction," construction of the Proposed Project with either Envelope 1 or Envelope 2 has the potential to result in temporary significant adverse noise impacts. Therefore, this chapter provides a public health assessment of construction-period effects on public health.

A. PRINCIPAL CONCLUSIONS

The analyses presented in this EIS concluded that the Proposed Project with either Envelope 1 or Envelope 2 would not result in unmitigated significant adverse impacts in the areas of air quality, water quality, hazardous materials, or operational noise. While the analysis presented in Chapter 16, "Construction," determined that construction activities would result in unmitigated temporary significant adverse noise impacts on the facades of multiple residential buildings either adjacent to or with a direct line of sight to the construction work areas and various portions of LHH as defined by *CEQR Technical Manual* thresholds, the public health assessment determined that the construction noise impacts would not generate significant adverse public health impacts.

B. PUBLIC HEALTH ASSESSMENT

CONSTRUCTION NOISE

As described in Chapter 16, "Construction," the *CEQR Technical Manual* specifies that the construction noise analysis consider 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.

Construction of the Proposed Project would be required to follow the New York City (NYC) Noise Control Code, which requires the implementation of construction noise control measures. Additionally, the Proposed Project would include construction noise control measures beyond those required by the Noise Code. Specific noise control measures would be incorporated in noise mitigation plan(s) required under the Noise Code. These measures could include a variety of source controls (i.e., reducing noise levels at the source or during the most sensitive construction time periods) and path controls (e.g., placement of equipment, implementation of barriers, or enclosures between equipment and sensitive receptors).

Even with the implementation of these noise control measures, the analysis presented in Chapter 16, "Construction," concluded that construction of the Proposed Project with either Envelope 1 or Envelope 2 would have the potential to result in temporary construction noise levels that exceed the construction noise impact criteria at receptors near the Projected Development Sites, including the northern façade of 122 East 76th Street, the northern façade of 114-118 East 76th Street, the northern façade of 1068 Lexington Avenue, the southern and western façades of 117 East 77th Street, the southern facades of 114 and 120 East 78th Streets, and the northern, eastern, and southern façades of the LHH buildings on Projected Development Site 1. In addition, construction of the Proposed Project with Envelope 2 would also have the potential to result in temporary construction noise levels that exceed the construction noise impact criteria at the northern façade of 110 East 76th Street.

The construction noise impact thresholds are based on quality-of-life considerations. These differ from public health considerations, which employ distinct criteria that are appropriate in the public

health context. Significance is assessed in terms of the magnitude of noise level and duration of exposure rather than incremental change in noise level. For example, chronic noise exposure may raise blood pressure and has been suggested to contribute to myocardial infarctions and to interfere with language development in children. Additionally, prolonged exposure to levels above 85 dBA will eventually harm hearing. Moreover, episodic and unpredictable exposure to short-term impacts of noise at high decibel levels may also affect health. Accordingly, it is appropriate to evaluate magnitude of noise level and duration of exposure when examining public health.

Although the thresholds for significant adverse construction noise impacts are predicted to be exceeded at certain locations during construction, these exceedances would not constitute a significant adverse public health impact. As discussed above, the thresholds for construction noise are based on quality-of-life considerations and not on public health considerations. An impact found pursuant to a quality-of-life framework does not imply that an impact will exist when the analysis area is evaluated in terms of public health. At LHH patient room windows on floors 5 and above immediately adjacent to and overlooking Stage 3 demolition, foundation, and structural construction activities with a direct line of sight (i.e., receptors 251, 252, and 253 discussed in Chapter 16, "Construction,"), the predicted maximum $L_{eq(1)}$ noise levels during construction under either Envelope 1 or Envelope 2 may reach 89 dBA at patient room windows during Stage 3 use of the excavator with claw and 88 dBA at office windows during Stage 3 crane and concrete operations at the nearest point. However, neither patient rooms nor offices include outdoor terraces or any outdoor space facing areas where Stage 3 excavating or Stage 3 crane and concrete operations would occur. Because the buildings at those receptors with significant adverse construction noise impacts would provide approximately 25 to 32 dBA window/wall attenuation for locations with insulated glass windows and alternate means of ventilation, interior noise levels would be much lower than exterior noise levels. In addition, the potential for noise effects related to construction sources would be temporary and localized and is not expected to rise to area-wide level impacts that would warrant a detailed public health assessment. Accordingly, given the magnitude and the duration of the construction noise at interior receptors, while such noise impact may be a quality-of-life concern, the Proposed Project with either Envelope 1 or Envelope 2 would not result in significant adverse public health impacts due to construction noise.

UNPREDICTABLE EXPOSURE TO SHORT-TERM HIGH NOISE LEVELS

Based on the predicted noise levels described in Chapter 16, "Construction," construction associated with the Proposed Project with either Envelope 1 or Envelope 2 is not expected to result in unpredictable exposure to short-term impacts of noise at high decibel levels, which are indicated as a potential public health concern in the *CEQR Technical Manual*. The maximum short-term noise impact resulting from construction under the Proposed Project would be noise levels in the high 80s to low 90s dBA during peak construction periods. However, at the receptor buildings that could potentially experience significant adverse construction noise impacts, the predicted noise exposure for occupants would depend on the amount of façade noise attenuation provided by the buildings. At all analyzed noise receptors, interior noise levels are predicted to be up to 62 dBA. While the *CEQR Technical Manual* sets an acceptable interior L_{10} noise level goal of 45 dBA for residential or community facility uses, the CEQR interior noise guideline is aimed at reducing noise nuisance and improving quality of life for City residents, and interior noise levels higher than the CEQR target do not necessarily indicate public health concerns. Such interior noise levels are similar to typical exterior noise levels commonly experienced at urban areas. Additionally, construction noise would typically not occur during the nighttime hours when receptors are most sensitive to noise.

In terms of public health, construction under the Proposed Project with either Envelope 1 or Envelope 2 would not have the potential to result in episodic or unpredictable exposure to short-term impacts of noise at high decibel levels. Since the area of potential noise impacts is limited, and the population exposed to elevated noise levels due to construction is very limited, the noise would not be chronic and would not be considered short-term high decibel levels, and the predicted noise resulting from construction would not constitute a potential significant adverse public health impact. Therefore, there would not be significant adverse public health impacts due to construction under the Proposed Project with either Envelope 1 or Envelope 2. ✷