Chapter 18: Public Health

A. INTRODUCTION

Public health is the effort of society to protect and improve the health and well-being of its population. As described in Chapter 1, "Project Description," and Chapter 2, "Analytical Framework," in the future with the proposed actions (the With Action condition), the Project Area would be redeveloped with two new mixed-use buildings on two project sites (project site A—601 West 29th Street and project site B—606 West 30th Street). The Project Area includes these two project sites as well as an intervening lot (Lot 38), which is not part of either project site but is assumed to be redeveloped for the purposes of environmental review. The Project Area would be rezoned and included in the Special Hudson River Park District. Overall, it is assumed that the Project Area would contain residential apartments, retail, accessory parking, and potentially a public facility (a Fire Department of the City of New York-Emergency Medical Service [FDNY-EMS] Station). The 2014 *City Environmental Quality Review (CEQR) Technical Manual* defines as its goal with respect to public health "to determine whether adverse impacts on public health may occur as a result of a proposed project, and if so, to identify measures to mitigate such effects."

According to the *CEQR Technical Manual*, for most proposed projects, a public health analysis is not necessary. Where no significant unmitigated adverse impact is found in other CEQR analysis areas, such as air quality, water quality, hazardous materials, or noise, a public health analysis is not warranted. If an unmitigated significant adverse impact is identified in one of these analysis areas, the lead agency may determine that a public health assessment is warranted for that specific technical area.

As described in the relevant analyses of this Draft Environmental Impact Statement (DEIS), upon completion of construction, the proposed actions would not result in significant adverse impacts in any of the technical areas related to public health. However, as described in Chapter 17, "Noise," the Hudson Tunnel Project construction activities could potentially result in unmitigated significant adverse noise impacts on project buildings if they are occupied during pile driving. This significant adverse noise impact would be temporary as it is due to construction of the Hudson Tunnel Project. Further, as discussed in Chapter 20, "Construction," the proposed actions would result in unmitigated significant adverse noise impacts during construction of the proposed projects. These significant adverse construction noise impacts would be temporary as they are due to construction of the proposed projects.

PRINCIPAL CONCLUSIONS

The analyses presented in this DEIS conclude that the proposed actions would not result in unmitigated significant adverse impacts in the following technical areas: air quality, water quality, or hazardous materials. Although during some periods of construction the proposed actions would result in significant adverse impacts related to noise as defined by *CEQR Technical Manual* thresholds, the predicted overall changes in noise levels would not be large enough to significantly affect public health. Therefore, the proposed actions would not result in

significant adverse public health impacts. In addition, the Hudson Tunnel Project construction activities could potentially result in unmitigated significant adverse noise impacts on project buildings if they are occupied during pile driving. This impact is expected to be temporary and short-term during construction of the Hudson Tunnel Project. However, since the noise would not be chronic and would not exceed the threshold of short-term high decibel levels, the predicted noise levels on project buildings resulting from construction of the Hudson Tunnel Project would not constitute a potential significant adverse public health impact.

B. METHODOLOGY

The noise analysis presented in Chapter 17, "Noise," identified the potential for newly constructed receptors in the Project Area to experience noise exposure as a result of existing noise levels at the Project Area and due to construction of the Hudson Tunnel Project exceeding the recommended noise levels according to *CEQR Technical Manual* noise exposure guidance. Further, the construction noise analysis presented in Chapter 20, "Construction," identified the extent of the potential noise exposure to the public as a result of construction of the proposed projects. At locations and during times where either noise analysis determined the potential for significant adverse noise impacts, the projected noise effects were examined further to determine whether they would constitute significant adverse impacts to public health. The *CEQR Technical Manual* thresholds for noise exposure and construction noise impacts are based on quality of life considerations and not on public health considerations. The potential noise exposure identified in Chapter 17, "Noise" and Chapter 20, "Construction" was evaluated for its potential to impact the health of the affected population by comparing it with the relevant health-based noise criteria as described in the *CEQR Technical Manual*, which identifies chronic exposure to high levels of noise, prolonged exposure to noise levels above 85 dBA (the *CEQR Technical Manual* recommended threshold for potential hearing loss), and episodic and unpredictable exposure to short-term impacts of noise at high decibel levels of concern for public health effects.

C. PUBLIC HEALTH ASSESSMENT

NOISE

As described in Chapter 17, "Noise," based on the conceptual construction schedule presented in the Hudson Tunnel DEIS, the loudest period of construction (i.e., 12 months of pile driving) would occur before the proposed projects would be completed and occupied.

In the event the proposed projects are completed and occupied during Hudson Tunnel construction when pile driving is still occurring, construction of the Hudson Tunnel Project would be producing noise levels of 97 dBA $L_{eq(8)}$ at the proposed projects' façades. The Hudson Tunnel DEIS assumed there would be no variation in construction noise levels throughout the work day. Therefore, 97 dBA is also assumed to be the worst-case peak hour construction noise levels in terms of $L_{eq(1)}$. The potential noise levels identified at the newly introduced noise receptors on the project sites—should they be occupied during the most noise-intensive Hudson Tunnel Project construction activities—would constitute a significant adverse noise impact. This significant adverse noise impact would be temporary as it is due to construction of the Hudson Tunnel Project. Although the *CEQR Technical Manual* thresholds for significant adverse noise impacts are predicted as a result of construction of the Hudson Tunnel Project, these exceedances would not constitute a significant adverse public health impact. As discussed above, the *CEQR Technical Manual* thresholds for noise are based on quality of life considerations and not on public health considerations. An impact found pursuant to a quality of life framework (i.e., significant adverse construction noise impact) does not definitively imply

that an impact will exist when the analysis area is evaluated in terms of public health (i.e., significant adverse public health impact).

The predicted noise impacts identified would not constitute chronic exposure to high levels of noise because of the short-term and intermittent nature of construction noise as described in Chapter 17, "Noise." The maximum 1-hour predicted construction noise levels from the Hudson Tunnel Project (up to 97 dBA at the exterior of the proposed buildings) occur over a limited duration during the construction period based on the amount and type of construction work occurring in the construction work areas and, given building attenuation, would be significantly lower within the buildings. Furthermore, based on the Hudson Tunnel Project DEIS, construction activity would be limited to two shifts per weekday extending only a single hour into the night-time hours, leaving the remainder of the night and the weekends unaffected by construction noise. Since the construction noise would fluctuate in level, would not occur constantly throughout the construction period, which itself is limited in duration, and would extend only a single hour into the night-time hours, it would not be described as "chronic." Consequently, construction of the newly introduced receptors would not have the potential to experience chronic exposure to high levels of noise.

The predicted absolute exterior noise levels at the newly introduced receptors would be above the threshold for potential hearing loss of 85 dBA at the proposed projects during the most noise-intensive period of construction of the Hudson Tunnel Project. The maximum 1-hour predicted levels of noise resulting from construction of the Hudson Tunnel Project would be up to 97 dBA. However, as shown in Chapter 17, "Noise," the proposed projects would be required to provide 31 to 33 dBA of window/wall attenuation (on the façades that would experience noise from the Hudson Tunnel Project). Therefore, interior noise levels at the proposed projects during construction of the Hudson Tunnel Project would be in the mid 60s dBA (including for the single hour of construction during the night-time hours), well below the 85 dBA threshold for potential hearing loss.

Based on the predicted noise levels described in Chapter 17, "Noise," it is also not expected that the newly introduced receptors would experience unpredictable exposure to short-term impacts of noise at high decibel levels. Based on the Hudson Tunnel Project DEIS, because construction noise would generally not occur during most of the nighttime hours when residents are most sensitive to noise, the newly introduced noise receptors would not be expected to experience unpredictable exposure to short-term impacts of noise at high decibel levels during the most noise-intensive periods of construction of the Hudson Tunnel Project.

Since, as described above, the noise would not be chronic, would not exceed the threshold of short-term high decibel levels and would not result in unpredictable exposures to short-term impacts during the day-time or night-time hours, the predicted noise levels at project buildings resulting from construction of the Hudson Tunnel Project would not constitute a potential significant adverse public health impact.

CONSTRUCTION NOISE

Construction of the proposed projects would include noise control measures as required by the *New York City Noise Control Code.* These measures include a variety of source (i.e., reducing noise levels at the source or during the most sensitive time periods) and path (e.g., placement of equipment, implementation of barriers or enclosures between equipment and sensitive receptors) controls.

Even with these noise control measures, the analysis presented in Chapter 20, "Construction," found that predicted noise levels due to construction-related activities would result in noise levels at receptors in the vicinity of the projects' work areas that would constitute potential significant adverse impacts. These significant adverse noise impacts would be temporary as they are due to construction of the proposed projects. The locations predicted to experience potential significant adverse impacts include 534 West 30th Street, residences near Eleventh Avenue and West 29th Street, and areas on the High Line directly across West 30th Street from the construction work areas (see Figure 20-5).

Although the *CEQR Technical Manual* 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 *CEQR Technical Manual* 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 (i.e., significant adverse construction noise impact) does not definitively imply that an impact will exist when the analysis area is evaluated in terms of public health (i.e., significant adverse public health impact).

The predicted noise impacts identified would not constitute chronic exposure to high levels of noise because of the short term and intermittent nature of construction noise as described in Chapter 20, "Construction." The maximum predicted construction noise levels (up to the low-80s dBA) occur over a limited duration during the construction period based on the amount and type of construction work occurring in the construction work areas. Furthermore, construction activity would be limited to a single shift during the day, leaving the remainder of the day and the evening unaffected by construction noise. Since the construction noise would fluctuate in level and would not occur constantly throughout the construction period, which itself is limited in duration, it would not be described as "chronic." Consequently, construction of the proposed projects would not have the potential to result in chronic exposure to high levels of noise.

The predicted absolute noise levels would be below the threshold for potential hearing loss of 85 dBA at all analyzed receptors. The maximum predicted levels of noise resulting from construction of the proposed projects would be in the low-80s dBA.

Based on the predicted noise levels described in Chapter 20, "Construction," it is also not expected that construction of the proposed projects would result in unpredictable exposure to short-term impacts of noise at high decibel levels. The maximum short-term noise impact resulting from construction of the proposed projects would be in the low-80s dBA. Because of the limited magnitude by which interior noise levels would exceed the acceptable threshold at residential receptors and construction noise would not occur during the nighttime when residences are most sensitive to noise, predicted noise levels due to construction of the proposed projects would not constitute unpredictable exposure to short-term impacts of noise at high decibel levels.

Additionally, the predicted noise exposure for occupants of the residential buildings that could experience potentially significant adverse construction noise impacts would depend on the amount of façade noise attenuation provided by the buildings. The façade noise attenuation is a factor of the building façade construction as well as whether the building's windows can remain closed. Buildings that have an alternate means of ventilation (e.g., some form of air conditioning) are assumed to be able to maintain a closed-window condition, which results in a higher level of façade noise attenuation. At the existing residential receptors located at 534 West 30th Street, standard building façade construction, along with an alternate means of ventilation

allowing for the maintenance of a closed-window condition at this receptor, would be expected to provide approximately 30 dBA window/wall attenuation[1], and interior noise levels at this receptor during construction would be in the mid 50s dBA, up to approximately 9 dBA higher than the 45 dBA recommended for residential areas according to the *CEQR Technical Manual* noise exposure guidelines. At the existing residential receptors located near the corner of Eleventh Avenue and West 29th Street, standard building façade construction, along with an alternate means of ventilation allowing for the maintenance of a closed-window condition, would be expected to provide approximately 30 dBA window/wall attenuation, and interior noise levels during construction would be in the low 50s dBA, up to approximately 6 dBA higher than the 45 dBA recommended for residential areas according to the *CEQR Technical Manual* noise exposure guidelines.

Since the area of potential noise impacts is limited and the population exposed to elevated noise levels due to construction is very limited and as described above, the noise would not be chronic, and would not exceed the threshold of short-term high decibel levels, the predicted noise resulting from construction of the proposed projects would not constitute a potential significant adverse public health impact. Therefore, there would not be significant adverse public health impacts due to construction of the proposed projects. ✷

[1] Interior noise levels would be 30 dBA less than exterior noise levels. Standard façade construction using insulated glass windows typically provides approximately 25-30 dBA window/wall attenuation.