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Hazardous Materials

The goal of the hazardous materials assessment is to determine whether a proposed action would lead to a potential increase in exposure of hazardous materials to people or the environment or whether the increased exposure would lead to significant public health impacts or environmental damage. As described in the *CEQR Technical Manual*, a hazardous material is any substance that poses a threat to human health or the environment. Substances that can be of concern include, but are not limited to, heavy metals, volatile and semi volatile organic compounds, methane, polychlorinated biphenyls and hazardous wastes (defined as substances that are chemically reactive, ignitable, corrosive, or toxic).

Introduction

According to the *CEQR Technical Manual*, the potential for significant impacts from hazardous materials can occur when hazardous materials exist on a site and an action would increase pathways to their exposure; the project would introduce new activities or processes using hazardous materials and the risk of human or

environmental exposure is increased; or the project would introduce a population to potential human or environmental exposure from off-site sources.

The introduction of a CPC special permit for new hotels in M1 districts could result in shifting hotel development from M1 districts to other locations where they will continue to be permitted as-of-right, but would not otherwise change any rules regulating development in these locations. Since it is not possible to evaluate the impacts of any specific development as the specific location of future development projects is unknown, the hazardous materials assessment is based on prototypical sites as defined and described in **Chapter 1**, "**Project Description**."

Principal Conclusions

Analyses were conducted on the prototypical sites to assess hazardous materials pertaining to the shift from non-hotel use (i.e., a residential or different commercial use) in the No-Action condition to commercial hotel use in the With-Action condition.

The results of the hazardous materials analysis revealed that hazardous materials may be present at each prototypical site which would be encountered under a hotel redevelopment where ground disturbance would be involved. Contaminants could be encountered in on-site soils, groundwater and soil vapor. Based on the review of historical resources and EDR database reports, the specific type of contamination encountered would be largely contingent on the overall density and specific current or historical uses neighboring properties (particularly those located hydraulically upgradient with respect to assumed groundwater flow), as well as site-specific history. Specific on-site and nearby uses identified in the prototypical analyses that were determined to represent environmental concerns included rail spurs and former freight yard uses, registered active/historic dry cleaning facilities, hazardous waste generator database listings, gasoline filling stations, underground storage tank registrations, New York State Department of Environmental Conservation (NYSDEC) spill incidents, industrial/manufacturing uses or previous uses that would attribute to suspected urban fill materials, (E) Designated parcels and high density development.

In summary, the assessment concluded that the proposed action could result in additional in-ground disturbance that could occur on sites where hazardous materials exist. The extent of this additional ground disturbance would be limited, as the proposed action itself is not expected to induce development on sites where development would not have otherwise been possible. Furthermore, the city's prevalent urban form and density means there is a history of previous ground disturbance occurring throughout the city. Since the proposed action would not change any rules regulating as-of-right development outside of M1 districts, the prototypical sites are assessed to describe the possible effects of shifting from one use (such a different commercial or residential use) in the No-Action condition to a hotel use in the With-Action condition.

Screening Analysis

The proposed action would introduce a special permit for hotels to be located within M1 districts, except for areas that are airport property or areas adjacent to airports that are predominantly non-residential. The proposed action itself is not anticipated to induce development on sites where development would not have otherwise been possible. However, the locations of new hotels are expected to shift which may result in additional in-ground disturbance. In-ground disturbance is any disturbance to an area not previously excavated and includes new excavation deeper and/or wider than previous excavations on the same site. Furthermore, CEQR specifically provides the following circumstances as examples of projects where a hazardous materials assessment is warranted: when construction requires soil disturbance in a manufacturing zone and development within close proximity to a manufacturing zone- both scenarios which apply to the proposed action. Furthermore, when existing or existing site uses, or surrounding site uses have the potential to impact subsurface conditions.

Detailed Assessment

As mentioned above, hazardous materials usually need to be assessed for actions that would result in any in-ground disturbance. Since this proposal is generic and does not contain specific development sites, site specific impacts could not be analyzed. However, prototypical development sites were defined and analyzed to better understand the possible effects related to hazardous materials that may occur as the result of the proposed action.

In order to conduct an analysis for hazardous materials and other environmental impacts, seven prototypical sites and were selected in varying locations throughout New York City as described in **Chapter 1**, "**Project Description**." The types of sites selected ranged in size and configuration, and some sites included multiple buildings and/or tax parcels. Furthermore, the neighborhoods selected varied in density, demographics and character. These sites were selected as a representative variety of future conditions where a hotel use may be considered within a typical commercial and/or mixed-use district. The analysis for the prototypical sites, as outlined below, was summarized in the "M1 Hotel Supplemental Hazardous Material Study: Prototypical Analyses," prepared by VHB Engineering, Surveying and Landscape Architecture, P.C. (VHB), dated February 12, 2018 (a.k.a. the Analyses Report; see **Appendix A.5**).

As part of VHB's Analyses Report, localized groundwater flow and an approximate depth-to-groundwater for sites located in Brooklyn and Queens was determined utilizing United States Geological Survey (USGS) topographic maps checked against the USGS *Water Table Elevation and Potentiometric-Surface Altitudes in the Upper Glacial, Magothy, and Lloyd Aquifers beneath Long Island, New York, April-May 2010*. No groundwater elevation maps are available for Manhattan. As such, depth-to-groundwater was assumed to either be perched above bedrock, or range between sea level and the actual topographic elevation above mean sea level (amsl) of the

respective site. Groundwater flow typically mimics surface topography within Manhattan. As such, groundwater flow was assumed to flow in the direction of surface topography toward the nearest surface water body.

Upon the determination of an approximate depth and flow direction for groundwater, each site was subject to a review of available resources, including Sanborn Fire Insurance Maps that dated back to as early as the 1880s, and historic aerial photographs dating back to as early as the 1920s. Sanborn Fire Insurance Maps and historic aerial photographs were provided by Environmental Data Resources, Inc. (EDR).

In addition to the above, a regulatory agency database report was conducted by EDR for each of the seven prototypical sites. The regulatory agency database report included a search of local, State and federal database listings for the target site and surrounding areas. The databases searched in the EDR database report were conducted to radii consistent with the American Society for Testing and Materials (ASTM) Practice E1527-13.

The aforementioned historic resources and EDR database report were reviewed to determine the history and usage of the respective prototypical site. Adjacent and surrounding site uses were also examined as part as part of the analysis to determine if any potential hazardous materials may have affected site conditions. As previously indicated, site hydrogeology was also analyzed and special consideration was given to adjacent and surrounding sites located both topographically and hydrogeological upgradient of each respective site, as these locations have a greater potential to affect hazardous materials conditions at a respective site.

The following summary of each respective prototypical site and is provided below, with respect to hazardous materials conditions.

Area 1: Manhattan below 59th

This prototypical site is located in midtown Manhattan, where numerous commercial stores, mixed-use properties and high rise commercial buildings are present. Based on a review of historical resources as well as the EDR dataset report, numerous hazardous waste generators were identified proximate to the prototypical property, which indicates the storage and generation of hazardous wastes nearby. These indications may affect subsurface conditions at the prototypical site and could affect subsurface conditions in a neighborhood of similar density and improvements. In addition to hazardous waste generators, numerous NYSDEC spill incidents were identified in the EDR database report surrounding the prototypical site. Although not one spill incident alone could be attributed to an environmental condition at the prototypical site, given the neighborhood density and numerous spills within the respective search radius, there is a potential for groundwater to be impaired beneath the site. Furthermore, soil vapor impacts may also be present. Potentially upgradient dry cleaning facilities, as well as E-Designated parcels, were also identified within the EDR database report. These sites are indicative of potential

subsurface impacts to soil, groundwater and soil vapor. Some also have the potential to affect subsurface conditions at the prototypical site.

Area 2: Long Island City

This prototypical site is located in the Long Island City neighborhood of Queens, where numerous commercial and industrial warehouse buildings previously operated. The neighborhood has transformed vertically with commercial office and residential high-rise buildings in place of former industrial and commercial uses. A review of Sanborn Fire Insurance maps has indicated this prototypical property was previously improved when several residential dwellings were demolished. The eastern portions of the site were developed with a tool manufacturing building that was then converted into a warehouse facility. Given the previous development, urban fill may be present at the site which may have impacted subsurface conditions. Furthermore, one parcel associated with the site is listed with an E-Designation relating to hazardous materials testing protocols. In addition, the EDR database report reveals numerous listings relating to storage tanks, hazardous waste generators and associated shipments and NYSDEC spill incidents and leaking tanks—all of which are likely associated with former industrial operations that previously existing in the surrounding area that may have also collectively affected subsurface conditions relating to hazardous materials at the prototypical site.

Area 3: Jamaica

This prototypical site is located in downtown Jamaica, Queens, proximate to a transportation hub associated with the LIRR and JFK AirTrain. The site is improved with a warehouse, store, a multi-story retail building and a surface parking lot. A review of Sanborn Fire Insurance Maps and historic aerial photographs revealed that, prior to its current configuration, portions of this site were traversed by a rail spur and were improved with a freight depot associated with the rail right-of-way further south. Furthermore, a gasoline filling station was previously present in areas now currently utilized as a surface parking lot. Furthermore, gasoline tanks were depicted within on Sanborn map depictions of the existing warehouse. Manufacturing tenants were also indicated in on-site buildings. Each of these former site features have the potential to have impacted subsurface conditions at the prototypical site relating to hazardous materials. The EDR database report indicates the site is also listed for the historical generation of spent solvents relating to former industrial/manufacturing uses. The site is also E-Designated for potential impacts relating to hazardous materials contamination. Additionally, numerous hazardous waste generators are present in the surrounding area, which is typical of old industrial neighborhoods proximate to major transportation and freight railroad areas. A former dry cleaning facility is present to the northeast of the site and upgradient with respect to groundwater flow. Each of these conditions have the potential to have impacted subsurface conditions at the prototypical site.

Area 4: South Slope

This prototypical site is located in the South Slope neighborhood of Brooklyn and is improved with a single-story retail building. Surrounding areas consist generally of multi-family residential buildings as well as mixed-use residential buildings with ground floor retail. A review of Sanborn Fire Insurance maps and historic aerial photographs revealed the site was previously improved with a several storefronts as early as 1888. Circa 1980, these structures were presumably demolished and replaced with the existing commercial-use structure that occupies the entire parcel. Based on the previous presence of former structures, urban fill may be present at the site which could have impacted subsurface conditions. Furthermore, a review of regulatory agency databases indicates numerous hazardous waste generators and NYSDEC spill incidents (including leaking tanks) present within the surrounding areas. An adjacent dry-cleaning facility was also identified to the west of the prototypical site. These conditions could have the potential to have impacted subsurface conditions at the site.

Area 5: Downtown Brooklyn

This prototypical site is located in downtown Brooklyn and is improved with a two-story single-tenant retail building. Based on a review of Sanborn Fire Insurance maps and historic aerial photographs, the site was previously improved with three separate buildings that contained frontage along Fulton Street and Hanover Place. The site was presumably redeveloped over time, based on the reconfiguration of Sanborn Maps, and the site was improved with the existing two-story commercial building by 1977. Based on the presence of former structures, urban fill may be present at the site that could have impacted subsurface conditions. Furthermore, a review of regulatory agency databases indicated numerous hazardous waste generators and shipments of hazardous waste, as well as numerous NYSDEC spill incidents (including leaking tanks) present within the surrounding areas. These listings could have the potential to have impacted subsurface conditions at the site.

Area 6: Brownsville

This prototypical site is located in the Brownsville neighborhood of Brooklyn and is comprised of several parcels that are improved with a one-story retail building and a mixed-use building (a converted duplex) with ground floor retail. A review of Sanborn Fire Insurance maps and historic aerial photographs revealed the site was previously improved with four three-story mixed-use buildings with commercial storefronts and a duplex (later converted to mixed-use). Between 1981 and 1983, all of the former structures were presumably demolished, with the exception of the duplex. By 1986, the existing commercial building was constructed and the mixed-use building remained. Based on the presence of former structures, urban fill may be present that could have impacted subsurface conditions at the site. Furthermore, a review of regulatory agency databases indicated the prototypical site was listed as a registered dry-cleaning facility between 1988 and 1993. The presence of a former

dry cleaner has the potential to have impacted subsurface conditions relating to the use of chlorinated solvents. Furthermore, numerous hazardous waste generators and shipments of hazardous waste, as well as NYSDEC spill incidents (including leaking tanks) are present within the surrounding areas. These listings could have the potential to have impacted subsurface conditions at the site.

Area 7: Williamsburg

This prototypical site is located in the Williamsburg section of Brooklyn and consists of multiple parcels, but is improved with a large one-story interconnected warehouse building. A review of Sanborn Fire Insurance maps and historic aerial photographs revealed the site was previously improved with rail spurs and a freight depot. The site was subsequently reconfigured and improved with a lime storage structure. Between 1983 and 1986, the rail spurs and buildings were demolished and subsequently replaced with the existing warehouse. Based on the presence of historical structures, urban fill may be present. Furthermore, rail spurs and a former freight depot have the potential to have impacted subsurface conditions at the site. A review of regulatory agency databases indicated the prototypical site is listed as a former hazardous waste generator of ignitable wastes. The site was also listed for a removed 4,000-gallon vaulted diesel UST and a closed NYSDEC spill incident relating to former unsecured drums. The site also carries an E-Designation for a hazardous materials testing protocol. These listings indicate there may be subsurface impacts at the prototypical site relating to hazardous materials. Notwithstanding the prototypical site listings, numerous hazardous waste generators and shipments of hazardous waste, as well as NYSDEC spill incidents (including leaking tanks) are present within the surrounding areas. Additionally, a dry-cleaning supply facility operated adjacent to the site between 1958 and 2002. These listings could have the potential to have impacted subsurface conditions at the site.

Conclusion

If development were to occur in potentially contaminated areas, depending on a variety of factors—such as the location of any in-ground hazardous materials on the site, the depth and location of building foundations and the extent and location of grading activities—possible effects related to hazardous materials could be realized as summarized below.

Development may occur within contaminated portions of a site, but may not result in grading or foundation work that would result in ground disturbance in areas that might be characterized by hazardous materials contamination. In addition, if only portions of a site contain hazardous materials, development may occur on those portions which do not contain such materials. In addition, development may act as a barrier, the effect of which would be to cap-off, or contain contamination in place and prevent migration.

Development may disturb hazardous materials on the site. Since development resulting from the proposed action would be as-of- right in both the No-Action and

With-Action conditions, there would be no mechanism for the city to conduct or require a program to test for hazardous materials contamination, or to mandate the remediation of such materials.

In addition, development may disturb hazardous materials on the site, affecting construction workers. Since development resulting from the proposed action would be as-of-right, there would be no mechanism for the city to require a worker health and safety plan (HASP) for removal or treatment of such materials.