10 Hazardous Materials

Introduction

A hazardous materials assessment determines whether a proposed action may increase the exposure of people or the environment to hazardous materials, and, if so, whether this increased exposure would result in potential significant public health or environmental impacts. The potential for significant impacts related to hazardous materials can occur when (1) elevated levels of hazardous materials exist on a site, and the project would increase pathways to human or environmental exposure; (2) the project would introduce new activities or processes using hazardous materials, and the risk of human or environmental exposure is increased; or (3) the project would introduce a population to potential human or environmental exposure from off-site sources.

Given their broad applicability, the sites where the Proposed Actions would facilitate development are difficult to predict. Additionally, the proposed zoning text and map amendments are not expected to induce development or cause a significant change in the overall amount, type, or location of development. The Proposed Actions are not anticipated to alter the sites on which development would occur, either under the No Action or With Action scenarios. However, because the land use actions necessary to facilitate development on a site (i.e., certifications, authorizations, and special permits) may be changed or eliminated by the proposed regulations, the Proposed Actions could increase the proportion of development sites proceeding as-of-right.

Therefore, a hazardous materials screening assessment was performed following the 2014 *CEQR Technical Manual* guidelines to determine the potential for adverse impacts with respect to hazardous materials. The assessment is based on a comparison of the development of the four prototypical analysis sites under the No Action scenario with the With Action scenario, as described in **Chapter 1**, *Project Description*. Following the screening assessment, a generic impact analysis of potential impacts is provided.

Principal Conclusions

The Proposed Actions could potentially result in significant, adverse impacts related to hazardous materials. In accordance with the methodology outlined in the *CEQR Technical Manual*, a hazardous materials assessment of the prototypical analysis sites was conducted. The Proposed Actions could result in increased ground disturbance in areas where hazardous materials may be present. The assessment analyzed the potential impacts of hazardous materials as they pertain to the Proposed Actions and compared the development of the four prototypical analysis sites under the With Action scenario with prototypical analysis site development under the No Action scenario.

The extent of effects of hazardous materials are unknown because of the generic nature of the Proposed Actions and because it is not possible to determine exactly where and to what extent additional ground disturbance may occur. Without an assessment of a specific development site, the absence of hazardous materials cannot be definitively demonstrated. As such, the possibility of impacts related to hazardous materials cannot be eliminated. However, the extent of the potential impact is expected to be limited. The Proposed Actions are not expected to induce development on sites where development would not have otherwise been possible, thereby limiting the potential for additional ground disturbance.

Screening Assessment

According to the 2014 *CEQR Technical Manual*, a hazardous material is any substance that poses a threat to human health or the environment. Substances that may be of concern include, but are not limited to, the following:

- Heavy metals, including lead, cadmium, mercury, arsenic, and chromium that are used in smelters, foundries, platers, and metal works and may be components in paint, ink, petroleum products, and coal ash. Heavy metals may be toxic to humans and cause serious physical impairment.

- Volatile organic compounds (VOCs), including benzene, toluene, ethylbenzene, total xylenes, methyl tertiary butyl ether, and hexane, as well as chlorinated compounds, such as trichloroethylene and tetrachloroethylene that are commonly used as solvents and cleaners. Volatile organic compound vapors may be toxic, and under certain conditions may result in vapor intrusion and could lead to explosive or ignitable conditions.

- Semivolatile organic compounds, including phenols and other components of creosote and coal tar, as well as polycyclic aromatic hydrocarbons, that may be naturally occurring but are

more commonly found at higher levels in combustion byproducts such as ash. Several polycyclic aromatic hydrocarbons are either known to be or suspected to be carcinogenic.

- Methane, which is generated by decomposing plants and other organic materials. Methane is often found in or near filled wetland areas; methane trapped beneath foundations may lead to explosions.

- Polychlorinated biphenyls, which were formerly used in electrical equipment and as a plasticizer. Polychlorinated biphenyls bioaccumulate in aquatic organisms and humans and may cause a variety of neurological and other adverse effects.

- Pesticides, which are substances or mixtures of substances used to destroy or mitigate insects, rodents, fungi, weeds, or other plant life. Many pesticides are toxic to humans and animals.

- Dioxins, which are or were generally formed as by-products of combustion or manufacturing and industrial processing.

- Hazardous wastes are defined by regulations promulgated under the Federal Resource Conservation and Recovery Act and by NYSDEC, found at 6 NYCRR Part 371, as solid wastes that either meet one of the following four characteristics: chemically reactive, ignitable, corrosive, or toxic, or are listed wastes.

- Other less commonly encountered hazardous materials include radionuclides (e.g., radiation sources) and biological wastes (e.g., medical waste). When these materials are managed in accordance with applicable regulatory requirements (e.g., in a hospital or laboratory setting), they are not expected to be associated with adverse effects.

Hazardous materials may be present in the soil, groundwater, soil vapor, or buildings and structures on-site as the residue of past or current activities. Manufacturing processes and commercial activities typically use, and thus require, storage and handling of hazardous materials, and leaking and misuse may release these materials to the environment.

Additionally, hazardous materials may have been imported to a site as fill or grading material. Elevated levels of hazardous materials are often found in fill of unknown origin, also known as “historic fill,” where neither past nor current activity suggest these types of materials were used. This is especially true for properties that are adjacent to waterways where, historically, large amounts of fill material have been used as part of urban development.

Hazardous materials can migrate to a site from contamination located off-site via surface or groundwater flow or migrating soil vapor. Finally, hazardous materials may be incorporated in on-site buildings and structures; examples are lead in paints or asbestos in insulation, tiling, caulking, roofing materials, or electrical components. For these reasons, any project that involves ground disturbance in New York City has the potential to encounter hazardous materials.

Hazardous materials usually need to be assessed for actions that would result in any ground disturbance. Ground disturbance is any disturbance to an area not previously excavated (or filled) and includes new excavation deeper and/or wider than previous excavations on the same site.

The Proposed Actions are not expected to induce development on sites where development would not have otherwise been possible. However, for some prototypical analysis sites, the Proposed Actions would allow greater ground disturbance than would be allowed under the No Action scenario. In addition, the Proposed Actions do not preclude development and associated ground disturbance.

Therefore, the Proposed Actions have the potential to result in hazardous materials impacts and, in accordance with the 2014 *CEQR Technical Manual*, further assessment is provided.

Hazardous Materials Analysis

Increased Ground Disturbance

Review of the With Action scenario indicates that an increase in ground disturbance would be allowed in one prototypical analysis site:

- **Prototypical Analysis Site 3**: Potential ground disturbance would increase from no as-of-right allowed to 50 percent of the lot area.

Decreased Ground Disturbance

Review of the With Action scenario indicates that the potential for ground disturbance would decrease in two prototypical analysis sites:

- **Prototypical Analysis Site 2**: Potential ground disturbance would decrease from 68 percent of the lot area to 65 percent.

- **Prototypical Analysis Site 4**: Potential ground disturbance would decrease from 48 percent of the lot area to 44 percent.

Similar Ground Disturbance

Review of the With Action scenario indicates that permitted ground disturbance would not change in one of the prototypical analysis sites.

- **Prototypical Analysis Site 1**: Potential ground disturbance would be similar (50 percent for both With Action and No Action scenarios).

Analysis

The Proposed Actions would not permit residential development in formerly commercial or manufacturing zones. Therefore, it is unlikely that prototypical analysis sites, which are located in residential zoning districts, would be located on areas with contaminated soils. Development of small residential parcels is generally considered a "Type II" action under SEQRA, meaning that these actions would not have a significant, adverse impact on the environment related to the creation of a hazard to human health or other factors (6 CRR-NY 617.7(c)).

However, the possibility cannot be ruled out. As such, increased ground disturbance on these parcels could disturb hazardous materials on the site, resulting in a significant, adverse impact. However, the extent of the potential impact is expected to be limited. The Proposed Actions are not expected to induce development on sites where development would not have otherwise been possible, thereby limiting the potential for additional ground disturbance. Since development resulting from the Proposed Actions on prototypical analysis sites would be as-of-right, 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. Therefore, any such impact would remain unmitigated.

The four prototypical analysis sites were examined for the potential for ground disturbance. Of the four sites, one would permit greater ground disturbance under the With Action scenario than would be permitted under the No Action scenario, and two would permit less ground disturbance under the With Action scenario than would be permitted under the No Action scenario; the allowable ground disturbance in one site would not change.

For the prototypical analysis site where an increase in ground disturbance could occur, a higher potential for impacts related to hazardous materials is expected. For prototypical analysis sites where less ground disturbance would occur, the potential for impacts related to hazardous materials is expected to be less. However, under both the With Action and No Action scenarios, ground disturbance could have impacts related to hazardous materials.

The impacts related to hazardous materials cannot be quantified because of the generic nature of the evaluation in this EIS. Hazardous materials could be encountered on any of the parcels considered in the Proposed Actions, with or without implementation of the Proposed Actions.

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