

A. INTRODUCTION

In accordance with the *City Environmental Quality Review (CEQR) Technical Manual*, this chapter considers the potential for the Proposed Actions to result in any significant adverse effects to hazardous materials.

The Proposed Actions would facilitate the redevelopment of the Western Rail Yard Site (Block 676, Lots 1 and 5) in the Hudson Yards neighborhood of Manhattan, Community District 4 (the “WRY Site” or the “Development Site”) with new mixed use buildings containing residential, commercial, and community facility space, a hotel resort complex with and new public open space (the “Proposed Project”). The Development Site occupies the entire area bounded by West 30th and West 33rd Streets and Eleventh and Twelfth Avenues and comprises the western portion of the John D. Caemmerer West Side Yard, an active rail yard where the Long Island Rail Road (LIRR) stores commuter trains. In addition to the Development Site, the Affected Area encompasses the portion of West 33rd Street and the sidewalks between Eleventh and Twelfth Avenues. There is a state process underway to designate locations for downstate gaming licenses; therefore, the Applicant is also presenting for environmental analysis purposes an Alternative Scenario that reflects a similar density and the same open space configuration as the Proposed Project but includes residential and commercial buildings in place of the hotel resort with gaming. The scenario that would result in the more conservative analysis is analyzed for each technical area. The analysis provided below considers both “With Action” scenarios.

PRINCIPAL CONCLUSIONS

Consistent with the Remedial Measures outlined in the 2009 *Western Rail Yard Final Environmental Impact Statement* (2009 FEIS) for the Western Rail Yard project (CEQR No. 09DCP007M) and associated Restrictive Declaration (R-230), and the 2021 *Western Rail Yard Infrastructure Project Combined FEIS/Record of Decision and Final Section 4(f) Evaluation* (2021 FEIS) for the Western Rail Yard Infrastructure project, measures are either already in place or would be put into place to ensure the adequate remediation of hazardous materials conditions either prior to, or in conjunction with, development of the Proposed Project or the Alternative Scenario. As such, this analysis finds that the Proposed Actions would not result in any significant adverse impacts to hazardous materials.

The 2009 and 2021 FEISs identified the potential for contamination within the Development Site from current and past usage based on soil and groundwater sampling. R-230 was recorded against the Development Site as a result of the 2009 FEIS. The Restrictive Declaration, which is regulated like an E-designated property, requires that, prior to obtaining New York City Department of Buildings (DOB) permits associated with redevelopment, the property owner conduct Phase I Environmental Site Assessments (ESAs), Phase II subsurface investigations, and remediation, where appropriate, to the

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satisfaction of the New York City Office of Environmental Remediation (OER). The Restrictive Declaration would also ensure that any necessary post-construction measures required by OER would be implemented.

The hazardous materials assessments of the 2009 and 2021 FEISs also identified the potential for asbestos-containing materials (ACM), lead-based paint (LBP), and polychlorinated-biphenyl-(PCB)-containing equipment, and lighting fixtures within the existing buildings. As noted in those FEISs, regulatory requirements for maintenance and (if necessary) disposal of such materials prior to or during demolition would be followed.

With the implementation of the investigation and remediation measures required by the Restrictive Declaration, applicable local, state, and federal regulations, and/or conditions in development contracts/agreements, construction specifications, leases, and/or amended leases, the Proposed Actions would not result in any significant adverse impacts with respect to hazardous materials.

B. METHODOLOGY

This chapter identifies potential issues of concern that could pose a hazard to workers, the community, and/or the environment during or after implementation of the Proposed Project or the Alternative Scenario. The potential for hazardous material conditions within the Development Site was evaluated based on assessments and investigations associated with the following:

- *Western Rail Yard Project Final Environmental Impact Statement (FEIS)*, AKRF, Inc., October 2009.
- *Western Rail Yard Infrastructure Project Combined FEIS/Record of Decision and Final Section 4(f) Evaluation*, AKRF, Inc., November 2021.

In addition to the hazardous material studies reviewed for the 2009 FEIS, the 2021 FEIS relied on assessments from the 2004 *No. 7 Subway Extension-Hudson Yards Rezoning and Development Program Final Generic Environmental Impact Statement* (Hudson Yards FGEIS) (Metropolitan Transportation Authority/City Planning Commission [MTA/CPC]); the 2013 *EA/FONSI for Construction of a Concrete Casing in the Hudson Yards* (Federal Railroad Administration [FRA]/Amtrak); and the 2014 *SEA/FONSI for Construction of a Concrete Casing Extension in the Hudson Yards* (FRA/Amtrak).

The above-referenced FEISs included summaries of Phase I ESAs in 2004 and 2009, and a Phase II Environmental Site Investigation (ESI) in 2004 (i.e., soil and groundwater testing). The hazardous materials screening conducted as part of the 2021 FEIS also summarized the remedial actions undertaken to achieve closure of petroleum Spill 04-07411 in March 2013.

C. EXISTING CONDITIONS

POTENTIAL CONTAMINANTS OF CONCERN

Soil and groundwater can become contaminated as a result of past or current activities either at a site or nearby. Such contamination can remain undetected for many years without posing a threat to health or the environment. Excavation, earth moving, dewatering, and other construction or demolition activities can, however, expose the

contaminants, provide a pathway of exposure and, if such contaminants are not properly managed, introduce potential risk to construction workers and others.

Demolition of existing structures that have ACM, LBP, or equipment containing PCBs also has the potential to release contaminants if these materials are not properly managed.

Based on the types of contaminants that are typically found in New York City and past and present uses associated with the Development Site, some of the potential contaminants of concern are described below. The list provides a summary of categories of contaminants but is not a comprehensive list of all contaminants that could be encountered:

- **Volatile organic compounds (VOCs):** These include aromatic compounds—such as benzene, toluene, ethylbenzene, xylene (BTEX), and methyl tertiary butyl ether (MTBE), which are found in petroleum products (especially gasoline)—and chlorinated compounds, such as tetrachloroethene (also known as perchloroethylene or “perc”) and trichloroethene, which are common ingredients in solvents, degreasers, and cleansers. VOCs represent the greatest potential for concern since, in addition to contaminating soil and groundwater, they can generate vapors that migrate into buildings.
- **Semivolatile organic compounds (SVOCs):** The most common SVOCs in urban areas are polycyclic aromatic hydrocarbons (PAHs), which are constituents of partially combusted coal- or petroleum-derived products, such as coal ash and fuel oil. PAHs are commonly present in urban fill materials. In addition, petroleum-related SVOCs could be associated with petroleum storage tanks currently or formerly located on-site.
- **PCBs:** Historically used in transformers (as a dielectric fluid), some underground high-voltage electric lines, hydraulically operated machinery, and fluorescent lighting ballasts. PCBs tend to travel only short distances in soil.
- **Pesticides, herbicides, and rodenticides:** These are commonly used to control rodents, insects, and vegetation in vacant structures or in vegetated areas.
- **Metals (including lead, arsenic, cadmium, chromium, and mercury):** Metals are often used in smelters, foundries, and metal works and are found as components in paint, ink, petroleum products, and coal ash. Metals are frequently present in fill material throughout the New York metropolitan area. However, metals tend not to migrate far in soil; therefore, they would be of greatest concern near the location where they were generated. In addition, the age of many buildings on the Development Site indicates that they may contain LBP, which was allowed for use in New York City residential buildings until 1960 and restricted for use in commercial buildings by the Consumer Products Safety Commission in 1977.
 - **Fuel oil and gasoline from storage tanks:** Numerous parcels within the Development Site currently have, or once had, both known and undocumented above-ground storage tanks (ASTs) and/or underground storage tanks (USTs) for fuels, including heating oil, waste oil, motor oil, and gasoline. Some of these tanks may have been removed; others, although no longer in use, may remain buried in place. Some of the tanks are known to have leaked, and others have possibly leaked despite no record of a spill. Some of the spills have been cleaned up in

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accordance with state regulations but others have not, either because they have not yet been discovered or because cleanup, which can take several years, is ongoing.

- **Fill materials of unknown origin:** In the past, waste materials, including coal and incinerator ash, demolition debris, and industrial wastes, were commonly used as fill in urban areas. Even fill material consisting primarily of soil may exhibit elevated levels of PAHs, metals, PCBs, or other contaminants.
 - **Methane:** Methane is formed from the decomposition of organic materials—both natural organic deposits (e.g., former tidal marsh deposits) and/or municipal wastes. Methane represents a concern since it can migrate through the subsurface into buildings, causing an explosion hazard.
 - **Hydrogen Sulfide:** Similarly to methane, hydrogen sulfide is formed from the decomposition of organic materials—both natural organic deposits (e.g., former tidal marsh deposits) and/or municipal wastes. Hydrogen sulfide represents a concern since it can migrate through the subsurface into buildings, causing a toxicity and explosion hazard.
- **Asbestos:** Asbestos is a generic name for a group of naturally occurring minerals. Before 1990, these minerals were commonly used in various building materials, such as insulation, fireproofing, roofing, plaster, and floor and ceiling tiles, due to their excellent fire resistance and insulating properties. Asbestos-containing materials (ACM) are classified as friable or non-friable. Friable ACM, such as spray-applied fireproofing and thermal system insulation, are those which when dry can be crumbled, pulverized, or reduced to powder by hand or other mechanical pressure and present a greater health concern than non-friable ACM (such as vinyl floor tiles and some asphaltic roofing materials), as they more readily release asbestos fibers. In 1990, use of most ACM, except some non-friable ACM, was banned by the federal Clean Air Act, but buildings built before 1990 on the Development Site are likely to contain them. In addition to materials within existing structures, subsurface utility lines may be coated with asbestos or encased in the ACM “transite.”

SUBSURFACE CONDITIONS

Based on U.S. Geological Survey mapping (Weehawken Quadrangle), the Development Site is at an elevation ranging between approximately 10 and 30 feet above the North American Vertical Datum of 1988 (NAVD 1988), an approximation of mean sea level. The Development Site was formerly part of the Hudson River, which was filled to expand the Manhattan shoreline beginning approximately in the late 1800s. Based on the prior subsurface investigations, the subsurface consists of an approximately 10- to 35-foot layer of fill materials (including silty sand, gravel, clay, bricks, cinders, concrete, roots, wood, slag, glass, asphalt, gypsum, and rock fragments), which is underlain by native sand, silt, clay, organic soil (riverine deposits), and glacial till. Depth to bedrock ranges from approximately 25 to 150 feet below ground surface (bgs), with bedrock sloping down toward the west.

Groundwater is approximately 5 to 7 feet below grade and is anticipated to flow in a westerly or northwesterly direction toward the Hudson River (approximately 260 feet away) but is likely tidally influenced. The actual groundwater flow direction may also be affected by bedrock topography, subsurface openings or obstructions and other factors

beyond the scope of this assessment. Groundwater in Manhattan is not used as a source of potable water (the municipal water supply uses upstate reservoirs).

HAZARDOUS MATERIALS ASSESSMENT

SITE HISTORY

According to the historical review conducted for the prior FEISs, much of the Development Site originally comprised riverbanks and adjacent wetland areas of the Hudson River prior to the industrial development in the early 19th century. The Development Site was used as freight yards in the late 1800s by the New York Central and Hudson River Railroad Company and the New York Ontario and Western Railroad Company. Significant railroad use during this time facilitated the expanding shipping and manufacturing industries, which for the surrounding area included a mix of small industries, metal works, lumberyards, sawmills, hay and freight depots, stockyards, meat processing and packing facilities, and gas tanks interspersed among row houses.

The early 20th century saw the development of the passenger rail tunnel under the Hudson River and the construction of the elevated highway and improved railroad operations. By 1950, the Western Rail Yard was identified as the New York Central Railroad Company Freight Yard with an extensive track system and freight terminal building. The western portion of the freight terminal building was used as a motor freight station, which was likely for the transfer of goods or materials from local transport to rail cars. The High Line was present along the western and southern perimeter of the Development Site by 1950. During the late 1980s, the Western Rail Yard was converted to the LIRR West Side Storage Yard.

2004 PHASE I ENVIRONMENTAL SITE ASSESSMENT

The 2009 FEIS reviewed for this assessment included summaries of a 2004 Phase I ESA. The ESA included a visual inspection of the Development Site and surrounding area (the inspection of the surrounding area was conducted from public rights-of-way); a review of available records and historical maps; and an evaluation of federal and state environmental regulatory databases. The following recognized environmental conditions (RECs) were identified by the 2004 Phase I ESA:

- The use of petroleum and chemicals associated with historical uses of the Development Site as a lumber yard, freight yard, and train storage yard;
- The potential use of pesticides, herbicides, and creosote for the management of train tracks;
- Historical off-site uses, including a rail yard with coal storage, iron works, a lumber yard, a coal yard, garages, filling stations, a truck rental company, and a motor freight station; and
- Two reported petroleum releases were identified with the potential to affect subsurface conditions at the Development Site: Spill No. 04-07107 (on-site) and 04-07411 (off-site within 0.125 mile).

2004 PHASE II SUBSURFACE INVESTIGATION

Based on the findings of the 2004 Phase I ESA, a Phase II investigation was conducted to ascertain subsurface conditions. The scope of the investigation included:

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- The advancement of 45 soil borings to a maximum depth of 45 feet below surface grade, with collection and laboratory analysis of 175 soil samples;
- Screening of soil samples for VOCs and methane; and
- The collection and laboratory analysis of 11 groundwater samples.

Soil sampling results, when compared to 6 New York Code of Rules and Regulations (NYCRR) Soil Cleanup Objectives (SCOs), did not reveal any elevated levels of pesticides, herbicides, or PCBs. Also, no above-background levels of methane were detected, and none of the samples exhibited toxicity levels above Resource Conservation and Recovery Act (RCRA) hazardous waste characteristics. Elevated levels of SVOCs known as PAHs were detected in soil, which are compounds typically formed during incomplete burning of coal, oil, gas, wood, garbage, or other organic substances. PAHs are commonly present in urban fill materials. Metals were also detected in the samples, in some cases above the SCOs. However, based on the distribution and levels detected, the metals and organic compounds detected at levels above their respective SCOs are attributable to the presence of urban fill.

For comparison purposes, the groundwater sampling results were compared to DEC's "Class GA" Water Quality Standards or Guidance Values (drinking water standards), though groundwater in Manhattan is not used as a potable source. No pesticides, herbicides or PCBs were detected in the groundwater samples. VOCs (BTEX) and SVOCs (naphthalene, 2-methylphenol, 4-methylphenol, and several PAHs) were detected in two of the samples analyzed at concentration levels above "Class GA" standards or guidance values, which may reflect the presence of isolated petroleum and creosote contamination.

Metals exceeding the groundwater criteria included arsenic, barium, beryllium, chromium, copper, magnesium, manganese, lead, and mercury. However, the contaminant levels encountered were consistent with those typically found in urban groundwater—in particular, areas with historic fill. Additionally, during the sampling event, field screening identified high turbidity levels, indicating that the presence of metals at these concentrations is attributable to metals in suspended particles within the groundwater samples rather than attributable to specific releases or spills.

In addition to the "Class GA" comparisons, the groundwater sampling results were also compared to the New York City Department of Environmental Protection (DEP)'s Effluent Discharge Limitations to sewers. Analytical results indicate that groundwater would likely require treatment prior to its discharge to meet DEP groundwater discharge criteria.

Generally, the soil sampling results were consistent with the presence of historic urban fill, which was expected at the Development Site. However, in two instances (DEC Spill cases 04-07107 and 04-07411), potential petroleum impacts were noted during field screening, and DEC was notified. Laboratory analyses revealed no elevated levels of VOCs or SVOCs in the former case; DEC was therefore requested to close Spill 04-07107. The spill case was closed by DEC on April 6, 2006.

Regarding Spill 04-07411, located on the sidewalk southeast of the intersection of Twelfth Avenue and West 33rd Street, contamination consistent with petroleum was confirmed by laboratory analysis. This spill was subject to a December 2006 Consent Order between LIRR and DEC requiring further testing and remediation as warranted. Spill 04-07411 was closed by DEC in March 2013 after additional soil sampling and groundwater

monitoring; based on evidence of coal tar observed in the spill area, the Development Site was enrolled in the DEC State Hazardous Waste Site (SHWS) database as Site No. 231083.

2009 PHASE I ENVIRONMENTAL SITE ASSESSMENTS

The 2021 FEIS reviewed for this assessment included a summary of a 2009 Phase I ESA. The findings were generally similar to those of the 2004 Phase I ESA, with the following additional RECs identified:

- On-site Spill 04-07411, which was reported based on contamination noted in the northwestern corner of the Development Site during the 2004 Phase II ESI, and had an active status at the time of the 2009 Phase I ESA (the spill was subsequently closed in March 2013);
- On-site Spill 04-07107, for which closure was requested from DEC at the time of the 2009 Phase I ESA. The report noted that no closure documentation was identified; thus, the spill was identified as a REC. However, based on online DEC records, this spill listing was closed in April 2006; and
- Nearby regulatory listings, including four open-status spills, one Comprehensive Environmental Response, Compensation, And Liability Information System (CERCLIS) listing with a No Further Remedial Action Planned (NFRAP) status, and one New York State Brownfield Cleanup Program (BCP) site.

2021 HAZARDOUS MATERIALS SCREENING

The 2021 FEIS included a hazardous materials screening comprising a visual inspection of the Development Site and surrounding area (the inspection of the surrounding area was conducted from public rights-of-way); a review of prior assessment investigations reviewed for the 2009 FEIS; a review of assessments from the 2004 Hudson Yards FGEIS; the 2013 *EA/Finding of No Significant Impact (FONSI) for Construction of a Concrete Casing in the Hudson Yards*; and the 2014 *SEA/FONSI for Construction of a Concrete Casing Extension in the Hudson Yards*; a review of available records and historical maps; and an evaluation of federal and state environmental regulatory databases.

As with the prior assessments, a review of previous reports, historical land use maps and the regulatory database information identified potential concerns, including a long history of railroad operations following the anthropogenic filling of the former in-water areas beneath the Development Site in the late 1800s and historical railroad and industrial uses in adjoining areas. Additionally, although the database information noted that on-site Spill 04-07411 was closed by DEC in March 2013 after additional soil sampling and groundwater monitoring, it was noted that based on evidence of coal tar contamination observed in the spill area (encountered within apparent fill materials between approximately 15 to 40 feet below grade according to the spill file notes), the Development Site was enrolled in the DEC SHWS database as Site No. 231083 with Classification Code: P (Potential). The contaminants of concern identified were PAHs, coal tar and BTEX. Subsequent subsurface testing conducted in the spill area (i.e., northwestern corner of the Development Site) by D&B Engineers and Architects, P.C. in 2015 determined that the depth of the identified contamination and the presence of site caps in the area (pavements and foundations) would prevent direct exposure of these

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contaminants to construction workers and the public. Nonetheless, the condition would continue to be monitored by DEC under the SHWS registration.

According to DEC information, the “P” classification is used for sites where preliminary information indicates that a site may have contamination that makes it eligible for consideration for placement on the Registry of Inactive Hazardous Waste Disposal Sites (commonly referred to as the list of State Superfund Sites) and further investigation, in the form of a site characterization, is needed to determine if a Class P site qualifies for listing of the site on the Registry. The database information noted that as information for this site becomes available, it will be reviewed by the New York State Department of Health (NYSDOH) to determine if site contamination presents public health exposure concerns.

D. THE FUTURE WITHOUT THE PROPOSED ACTIONS

In the No Action condition, it is assumed that the Development Site will be developed with 4.5 million zoning square feet (5,009,725 gross square feet) of residential, commercial, and community facility space at the time of the build year. In the No Action scenario, the Development Site will, nonetheless, be remediated pursuant to the R-230. Regulatory requirements for maintenance of ACM, LBP, and PCB-containing materials, and petroleum storage tanks, will continue to apply.

E. THE FUTURE WITH THE PROPOSED ACTIONS

The With Action condition, whether the Proposed Project or the Alternative Scenario, would involve demolition of existing structures, followed by construction of new mixed use buildings containing residential, commercial, and community facility space. The development would require soil disturbance on-site, and limited soil disturbance within surrounding roadways. As noted above, the potential for subsurface contamination has been identified throughout the Development Site. Existing structures may contain asbestos, LBP, PCB-containing equipment, and/or petroleum storage tanks. Although the demolition and construction activities associated with the With Action condition could increase pathways for human exposure, impacts would be avoided by performing development activities in accordance with the following measures:

- Adherence to the requirements of R-230 recorded against the Development Site will require that prior to obtaining DOB permits associated with redevelopment, the property owner conduct Phase I ESAs and Phase II subsurface investigations, and prepare and implement site-specific remedial action plans (RAPs) and construction-related health and safety plans (CHASPs), where appropriate, to the satisfaction of OER. These plans would include the proposed development plans and outline any remediation that would be required, including excavation of any identified contaminated soil; environmental monitoring and other health and safety measures to protect workers and the surrounding community during remediation/excavation; endpoint sampling; and post remediation engineering and/or institutional controls, including capping, installation of vapor mitigation systems, and groundwater monitoring, if appropriate.
- Institutional controls required by the Restrictive Declaration and/or RAP will ensure implementation of the above measures and any necessary post-construction measures per OER requirements, e.g., implementation of health and safety

procedures during subsurface utility repair. This would include protocols for reporting to DEC if any contamination associated with the SHWS registration of the Development Site were encountered.

- Removal of any encountered tanks would be performed in accordance with applicable regulatory requirements, including DEC requirements relating to spill reporting and tank registration.
- If dewatering is necessary as part of the proposed construction activities, water would be discharged to sewers in accordance with DEP requirements (if discharged to a sanitary or combined sewer), or DEC requirements (if discharged to an outfall leading to surface waters).
- An asbestos survey of buildings built before 1990 to be demolished would be conducted, and any ACM that would be disturbed would be removed and disposed of prior to demolition in accordance with local, state, and federal requirements.
- Any activities with the potential to disturb lead-based paint would be performed in accordance with applicable requirements (including federal Occupational Safety and Health Administration [OSHA] regulation 29 CFR 1926.62—Lead Exposure in Construction).
- Unless there is labeling or test data indicating that suspect PCB-containing electrical equipment, hydraulic equipment and fluorescent lighting fixtures do not contain PCBs, and that fluorescent lighting bulbs do not contain mercury, if disposal is required, it would be conducted in accordance with applicable federal, state and local requirements.
- Any stored chemicals would be properly disposed of prior to demolition/construction in accordance with applicable requirements.

In addition to these measures, as noted above, the Development Site was enrolled in the DEC SHWS database as Site No. 231083 with Classification Code: P (Potential) because of the discovery of coal tar during the 2013 spill investigation (Spill 04-07411). This classification is applied to sites where preliminary data indicates the potential presence of contamination that makes it eligible for placement on the Registry of Inactive Hazardous Waste Disposal Sites (commonly referred to as the list of State Superfund Sites). If further information and/or investigation data is obtained suggesting that hazardous waste was disposed on the Development Site and that any resulting contamination presents a significant threat to public health or the environment, the Classification Code would be changed, and environmental management would be supervised by DEC.

With the implementation of the above measures, no significant adverse impacts related to hazardous materials would be expected to be associated with the With Action condition. *