Chapter 10: Hazardous Materials

A. INTRODUCTION

This chapter assesses the potential for the presence of hazardous materials in soil, groundwater and soil vapor at all 102 projected and potential development sites identified in the reasonable worst-case development scenario (RWCDS) associated with the Proposed Actions. Measures are proposed to remediate contamination and reduce exposure to future occupants and workers. The measures would be included as part of the Proposed Actions and would preclude the potential for significant adverse impacts related to hazardous materials.

An assessment of potential hazardous materials impacts was performed for the projected and potential development sites, i.e., properties where ground disturbance and/or renovation/ conversion and enlargements of existing structures are expected to occur as a result of the Proposed Actions.

As described in the 2014 *City Environmental Quality Review (CEQR) Technical Manual*, a hazardous material is defined as any substance that poses a threat to human health or to the environment. Such substances include, but are not limited to: metals, volatile organic compounds (VOCs), commonly found in petroleum products and solvents; semi-volatile organic compounds (SVOCs), typically associated with fuel oil, coal and ash; and polychlorinated biphenyls (PCBs), usually associated with transformers and utilities. Hazardous materials also include substances used in building materials and fixtures, such as asbestos-containing material (ACM), lead-based paint (LBP), and mercury.

The presence of hazardous material does not necessarily indicate a threat to human health or the environment; a means of an exposure pathway, the presence of a receptor, and an unacceptable dose must also be present to cause a threat. During construction on development sites, hazardous materials could be disturbed through excavation of soil and bedrock, extraction of groundwater, or the demolition or renovation of existing structures. The most likely routes of human exposure from the hazardous materials evaluated are the inhalation of VOCs, the ingestion of particulate matter containing SVOCs or metals, or dermal (skin) contact with hazardous materials that can be released during soil-disturbing activities.

PRINCIPAL CONCLUSIONS

Based on the findings of this assessment, the potential for significant adverse impacts related to hazardous materials resulting from the Proposed Actions would be precluded through the placement of (E) Designations (E-422) for all privately owned projected and potential development sites. For the city-owned sites, Land Disposition Agreements (LDA) or comparable binding documents between the City of New York and prospective developers would require measures similar to that of an (E) Designation. An (E) Designation for hazardous materials requires, prior to change of use or redevelopment requiring ground disturbance, that the fee-owner of the property conduct a Phase I Environmental Site Assessment (ESA), subsurface

testing and remediation, where appropriate, to the satisfaction of the New York City Mayor's Office of Environmental Remediation (OER). The New York City Department of Buildings (DOB) permits associated with such actions cannot be issued without OER approval. The OER review would ensure protection of human health and the environment from known or suspected hazardous materials.

B. METHODOLOGY

As described in the *CEQR Technical Manual*, the purpose of a hazardous materials assessment is to determine whether a proposed action could lead to potential increased human exposure to hazardous materials and whether the increased exposure could lead to significant public health impacts or environmental impacts. The objective of this analysis is to determine which, if any, of the projected and potential development sites identified as part of the RWCDS may have been adversely affected by current or historical uses on-site, adjacent to, or within 400 feet of the sites.

Hazardous materials, as defined in the *CEQR Technical Manual*, are substances that pose a threat to human health and the environment including, but not limited to, heavy metals, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), methane, polychlorinated biphenyls (PCBs), pesticides, and hazardous wastes. Historical building materials, such as asbestos and lead-based paint, are also considered in the hazardous materials assessment.

Each of the sites was evaluated for potential impacts due to hazardous materials by: (1) reviewing historical Sanborn fire insurance maps; (2) reviewing an environmental regulatory database summary for the site and nearby properties; and (3) conducting site reconnaissance (from streets and public right-of-ways as interior access was not available) to determine current occupants/use and any indications of historical or current hazardous materials use or storage (e.g., underground storage tank fill caps). See **Appendix D** for the Hazardous Materials Database and Sanborn reports.

SANBORN FIRE INSURANCE MAP REVIEW

Historical and recent Sanborn maps were reviewed to assess site and nearby activities and operations listed in *Hazardous Materials Appendix 1* of the *CEQR Technical Manual* from circa 1893 through 2005. The review included identifying historical vehicle uses (fueling operations, garages with gasoline tanks, auto repair shops, etc.) and/or industrial uses (manufacturing, coal storage, chemical laboratories, metal works, printing facilities, substations, foundries, paint manufacturers, junk yards, rail yards, etc.).

DATABASE REVIEW

A set of standard federal and state regulatory databases (per ASTM E1527-13) indicating the potential for hazardous materials was reviewed including:

- The New York State SPILLS database, which is an inventory of sites where petroleum or chemical releases have been reported to the New York State Department of Environmental Conservation (NYSDEC) since April 1, 1986;
- The NYSDEC chemical bulk storage (CBS) database, which is an inventory of registered (since July 15, 1998) facilities that store (non-petroleum) hazardous substances—as defined

by 6 NYCRR Part 597—in aboveground tanks (ASTs) with capacity equal to or greater than 185 gallons and/or in underground tanks (USTs) of any size;

- The NYSDEC Petroleum Bulk Storage (PBS) database (or BULK PETRO), which is an inventory of properties that store greater than 1,100 gallons in aggregate of petroleum products;
- The NYSDEC Leaking Storage Tank Incident Reports (LTANKS), which are inventories of leaking ASTs or USTs incidents reported after April 1, 1986; the causes of releases may be tank test failures, tank failures, or tank overfills;
- The Hazardous Waste Generators (HAZ) database, which uses both the NYSDEC manifest system for hazardous waste handlers and the U.S. Environmental Protection Agency (EPA) records pursuant to the Resource Conservation and Recovery Act (RCRA), also referred to as the Resource Conservation and Recovery Information System (RCRIS) database, includes information on sites that generate, transport, store, treat, and/or dispose of hazardous waste as defined by RCRA;
- An air discharge facility database (ADF), which is a listing of air pollutant sources that are permitted with the EPA, NYSDEC, or NYC Office of Environmental Remediation (OER);
- New York State Brownfield Cleanup Sites, which are sites on record with the NYSDEC as abandoned, idle, or under-used industrial and commercial sites where redevelopment is being contemplated under the NYSDEC Brownfield Cleanup Program.
- Solid Waste Facilities (SWF) sites, which are included in a NYSDEC database with certain landfills, incinerators, transfer stations, recycling centers, and other sites that manage or managed solid waste.
- State Inactive Hazardous Waste Disposal Site Registry (SHWS), which is program (also known as State Superfund) listing information regarding a variety of sites likely requiring cleanup.
- An inventory of historical and current registered dry cleaning facilities compiled by Environmental Data Resources, Inc. (EDR) of Milford, Connecticut.

SITE RECONNAISSANCE

Each site and nearby properties were observed in an attempt to verify and potentially supplement literature and database records, and to identify any existing environmental conditions and note any potential evidence of historical conditions. Because the interior of the sites were not accessible for this effort, the reconnaissance was performed from public access areas, such as streets and sidewalks.

Typical observations: the nature of the visible operations; evidence of petroleum bulk storage tanks from either signs, fill ports and/or vent pipes; roof or sidewall vents where potential air discharges occur; electrical transformers or large capacitors; sheens, discoloration or staining of surfaces; topographical disturbances including excavation and filling; stressed vegetation; and solid waste disposal practices.

C. EXISTING CONDITIONS

TOPOGRAPHY AND HYDROGEOLOGY

Based on reports compiled by the U.S. Geological Survey (USGS), the East Harlem neighborhood is approximately 10 to 20 feet above sea level. Groundwater is expected to be first encountered at approximately 10 to 15 feet below grade (generally a few feet above sea level). Groundwater is expected to flow in a generally easterly direction towards the Harlem River. However locally, actual groundwater flow may be affected by other factors, such as, subway lines utilities, and basements.

REGULATORY DATABASE RECORDS

The regulatory database records indicated multiple facilities listed within or adjacent to the study area with some potential to have affected environmental conditions within the study area, including numerous listings on the NYSDEC Spills database, Petroleum Bulk Storage (PBS) facilities, Hazardous Waste Generators, NYSDEC Brownfield Cleanup Sites (including several former automotive facilities/filling stations along Park Avenue), Air Discharge facilities, and several lots with existing E-designations for hazardous materials.

OVERVIEW OF HISTORICAL USES

The study area has been predominately residential (with some institutional, commercial, and religious uses) since before 1893. Early industrial uses included facilities in the northern and eastern portions of the study area, near the Harlem River, including the Third Avenue Railway car shops and rail yard located east of Third Avenue and south of East 129th Street and fueling companies with coal pockets and gasoline tanks further north along the riverfront. Large gas holders associated with manufactured gas plant operations were located west of Third Avenue between East 110th and 111th Streets until 1968. Additional automotive/industrial uses became more prevalent in the 1930s, i.e., prior to modern environmental regulation, including warehouses, manufacturers, laboratories, filling stations, and garages with gasoline tanks throughout the study area.

Currently, the study area includes primarily residential, commercial, institutional, educational, and community facility developments. These facilities are interspersed with industrial and automotive facilities, such as automotive repair shops, filling stations, New York City Department of Sanitation (DSNY) and Consolidated Edison facilities, substations, and bus facilities for the Metropolitan Transportation Authority (MTA) and Metro-North Railroad facilities.

Based on the age of the majority of structures on the sites, building materials are likely to include asbestos-containing materials (ACM), lead-based paint (LBP), and/or. polychlorinated biphenyls (PCBs). At currently vacant sites, such materials and/or buried petroleum storage tanks may also remain from the debris of former structures in the subsurface.

Historical uses potential of environmental concern (also indicated in column 9 in **Table 10-1**) are principally associated with the following uses and activities in the study area:

- Auto-related, transportation, industrial or utility uses on the development site or an adjacent site (e.g., garage, filling station, auto repair, substation and other uses noted in Hazardous Materials Appendix 1 of the *CEQR Technical Manual*);

- USTs or leaking USTs on the development site or an adjacent site;
- Spills of petroleum or chemicals on the development site or an adjacent site; and
- Aboveground storage tanks on the development site or an adjacent site.

D. THE FUTURE WITHOUT THE PROPOSED ACTIONS

In the Future without the Proposed Actions (No Action Condition), the sites are assumed to either remain unchanged from existing conditions, or become occupied by uses that are as-of-right under existing zoning (see Chapter 1, "Project Description"). Although the sites do not currently present a hazard to people or the environment, any construction involving soil disturbance could potentially increase pathways for human exposure to any subsurface hazardous materials present. Except for a limited number of the sites which are already subject to an E-designation, such soil disturbance would likely not be conducted in accordance with all of the procedures (e.g., for conducting testing before commencing excavation and implementation of health and safety plans during construction) described in the following section. However, should petroleum tanks and/or petroleum spills be identified (e.g., during excavation for new foundations), legal requirements (including those of NYSDEC) would need to be followed, as would applicable regulatory requirements prior to demolition relating to asbestos-containing materials (ACMs) and relating to disturbance and handling of suspect lead-based paint (LBP). Off-site disposal of excess soil/fill would also need to be conducted in accordance with federal and state requirements. Overall, in the No Action Condition, the amount of soil disturbance would likely be less than in the Future with the Proposed Actions, but the controls on its performance would not be as stringent as under the Proposed Actions, as described below.

E. THE FUTURE WITH THE PROPOSED ACTIONS

In the future with the Proposed Actions (With Action Condition), activities associated with the redevelopment of the 68 projected development sites and the 34 potential development sites could result in demolition and construction activities that could increase pathways for human exposure. **Table 10-1** summarizes the findings of the hazardous materials evaluation for each of the sites. In the final column, it includes the recommendation of the placement of hazardous materials (E) Designations (E-422) for all privately owned potential and projected sites as they all could have been adversely affected by current or historical uses at, adjacent to, or within 400 feet of that site. In evaluating whether the placement of an (E) Designation for hazardous materials was necessary, current site conditions and previous on-site uses were prioritized, followed by the adjacent site use or history, and finally the conditions within a 400-foot radius. For city-owned sites, comparable measurements would be required through a Land Disposition Agreement (LDA) or similar binding mechanism between the City of New York and future developers, as discussed below.

Table 10-1
Assessment of Projected and Potential Development Sites

Site #	Block	Lot	Address	Existing Zoning	Sanborn Maps/City Directories	On-Site Database Listings	Concerns within 400-foot radius	On-site Environmental Concern (Historical and/or Current)	Site Visit Findings	E-DESIGNATION Recommendation
1	1754	33,40		C8-3						
		33	1900 PARK AVENUE	C8-3	X	X	X	FS, SP, BCP,A, Tk	X	E-designation
		40	1908 PARK AVENUE	C8-3	X	X	X	FS, SP, BCP,A, RCRA, Tk	X	E-designation
2	1769	3	1725 PARK AVENUE	M1-4	X	X	X	M	X	E-designation
3	1623	33,34		R7-2						
		33	1660 PARK AVENUE	R7-2			X		X	E-designation
		34	1662 PARK AVENUE	R7-2			X		X	E-designation
4	1775	3,6,165,168,71		M1-2						
		3	1845 PARK AVENUE	M1-2	X	X	X	A, Fire Sta	X	E-designation
		6	107 EAST 126 STREET	R7-2	X	X	X	Tk, FP/VP	X	E-designation
		165	112 EAST 128 STREET	R7-2	X	X	X	FS, RCRA,AIRS	X	E-designation
		168	EAST 128 STREET	M1-2			X		X	E-designation
		71	106 EAST 127 STREET	M1-2	X	X	X	A, FS	X	LDA
5	1751	40,137,33,34,37,132,35,38,36		C8-3						
		40	1856 PARK AVENUE	C8-3	X		X	A	X	E-designation
		137	1850 PARK AVENUE	C8-3			X			E-designation
		33	PARK AVENUE	C8-3			X			E-designation
		34	1842 PARK AVENUE	C8-3	X		X	A, I FP/VP	X	LDA
		37	1848 PARK AVENUE	C8-3			X		X	E-designation
		132	EAST 126 STREET	C8-3			X		X	E-designation
		35	1844 PARK AVENUE	C8-3	X		X	I	X	E-designation
		38	1852 PARK AVENUE	C8-3			X		X	E-designation
		36	1846 PARK AVENUE	C8-3	X		X	I	X	E-designation
6	1746	33	1700 PARK AVENUE	R7-2		X	X	RCRA, FP/VP	X	E-designation
7	1745	134	1678 PARK AVENUE	R7-2			X	I	X	E-designation
8	1750	40	1824 PARK AVENUE	C6-3	X	X	X	FS, RCRA, Tk, SP,E-des, MW	X	E-designation E-201
9	1774	68	102 EAST 126 STREET	C6-3	X	X	X	I,E-des, FP/VP	X	E-designation E-201
10	1773	1,69,67,72,4		C6-3/C4-4D						
		1	1801 PARK AVENUE	C6-3	X	X	X	I,E-des	X	E-designation E-201
		69	1815 PARK AVENUE	C6-3		X	X	I,E-des, FP/VP	X	E-designation E-201
		67	110 EAST 125 STREET	C4-4D	X	X	X	I	X	E-designation
		72	1811 PARK AVENUE	C6-3	X		X	I	X	LDA
		4	1807 PARK AVENUE	C6-3			X		X	LDA
11	1772	33,34,35,37,38,39,134,140		C4-4						
		33	185 EAST 123 STREET	C4-4	X		X	I	X	E-designation
		34	2262 3 AVENUE	C4-4			X		X	E-designation
		35	2268 3 AVENUE	C4-4	X		X	I	X	E-designation
		37	2272 3 AVENUE	C4-4			X		X	E-designation
		38	2274 3 AVENUE	C4-4			X		X	E-designation
		39	2276 3 AVENUE	C4-4		X	X	A, RCRA	X	E-designation
		134	2266 3 AVENUE	C4-4			X		X	E-designation
		140	182 EAST 124 STREET	C4-4	X	X	X	I, Tk	X	E-designation

Table 10-1 (cont'd)
Assessment of Projected and Potential Development Sites

Site #	Block	Lot	Address	Existing Zoning	Sanborn Maps/City Directories	On-Site Database Listings	Concerns within 400-foot radius	On-site Environmental Concern (Historical and/or Current)	Site Visit Findings	E-DESIGNATION Recommendation
12	1770	36	2226 3 AVENUE	C4-4D		X	X	RCRA, SP, Tk	X	E-designation
13	1786	4,47		C4-4D						
		4	2231 3 AVENUE	C4-4D			X		X	E-designation
		47	2239 3 AVENUE	C4-4D			X		X	E-designation
14	1767	33	2162 3 AVENUE	C4-4D		X	X	RCRA, FP/VP	X	E-designation
15	1636	40,138,38,39, 37,139		R8A						
		40	1982 3 AVENUE	R8A			X		X	E-designation
		138	1978 3 AVENUE	R8A			X		X	E-designation
		38	1976 3 AVENUE	R8A	X		X	FP/VP, I	X	E-designation
		39	1980 3 AVENUE	R8A		X	X	RCRA	X	E-designation
		37	1974 3 AVENUE	R8A		X	X	RCRA		E-designation
		139	188 EAST 109 STREET	R8A			X			E-designation
16	1643	35,37,137,33		C4-4D						
		35	2108 3 AVENUE	C4-4D			X		X	E-designation
		37	2108 3 AVENUE	C4-4D			X		X	E-designation
		137	2108 3 AVENUE	C4-4D			X		X	E-designation
		33	2102 3 AVENUE	C4-4D		X	X	RCRA, FP/VP	X	E-designation
17	1660	3,4,45,1		R8A						
		3	2009 3 AVENUE	R8A		X	X	SP	X	E-designation
		4	2011 3 AVENUE	R8A	X	X	X	RCRA, E-des	X	E-designation E-201
		45	2013 3 AVENUE	R8A	X	X	X	A, FP/VP	X	E-designation
		1	2005 3 AVENUE	R8A		X	X	RCRA	X	E-designation
18	1635	33,35,36,37, 38,39,40		R8A						
		33	1950 3 AVENUE	R8A		X	X	Sp, RCRA,Tk, FP/VP	X	E-designation
		35	1954 3 AVENUE	R8A			X		X	E-designation
		36	1956 3 AVENUE	R8A			X		X	E-designation
		37	1958 3 AVENUE	R8A			X		X	E-designation
		38	1960 3 AVENUE	R8A			X		X	E-designation
		39	1962 3 AVENUE	R8A			X		X	E-designation
		40	1964 3 AVENUE	R8A	X	X	X	RCRA,I	X	E-designation
19	1634	34,35,36,37, 38,33		R8A						
		34	1926 3 AVENUE	R8A			X		X	E-designation
		35	1928 3 AVENUE	R8A			X		X	E-designation
		36	1930 3 AVENUE	R8A			X		X	E-designation
		37	1932 3 AVENUE	R8A			X		X	E-designation
		38	1934 3 AVENUE	R8A			X		X	E-designation
		33	1924 3 AVENUE	R8A		X	X	RCRA, FP/VP	X	E-designation
20	1654	3,4,45		R8A						
		3	1887 3 AVENUE	R8A			X			E-designation
		4	1889 3 AVENUE	R8A	X		X	I		E-designation
		45	1891 3 AVENUE	R8A			X			E-designation
22	1771	33,36		C4-4						
		33	2246 3 AVENUE	C4-4		X	X	A, RCRA		E-designation
		36	2252 3 AVENUE	C4-4			X			E-designation
23	1643	56	126 EAST 116 STREET	R7-2			X	FP/VP	X	E-designation
24	1768	71,169,69,70, 170		M1-4						
		71	96 EAST 120 STREET	M1-4			X		X	E-designation
		169	102 EAST 120 STREET	M1-4			X		X	E-designation
		69	104 EAST 120 STREET	M1-4			X		X	E-designation
		70	100 EAST 120 STREET	M1-4			X		X	E-designation
		170	98 EAST 120 STREET	M1-4			X		X	E-designation

Table 10-1 (cont'd)
Assessment of Projected and Potential Development Sites

Site #	Block	Lot	Address	Existing Zoning	Sanborn Maps/City Directories	On-Site Database Listings	Concerns within 400-foot radius	On-site Environmental Concern (Historical and/or Current)	Site Visit Findings	E-DESIGNATION Recommendation
25	1622	36,35		R7-2						
		36	1646 PARK AVENUE	R7-2			X		X	E-designation
		35	1644 PARK AVENUE	R7-2		X	X	RCRA	X	E-designation
26	1655	29	242 EAST 106 STREET	R8A		X	X	RCRA	X	E-designation
		24	2053 2 AVENUE	R8A		X	X	RCRA, Sp		E-designation
27	1785	1,104		C4-4D						
		1	2203 3 AVENUE	C4-4D			X		X	LDA
		104	205 EAST 120 STREET	C4-4D			X		X	E-designation
28	1643	71	100 EAST 116 STREET	R7-2			X	FP/VP	X	E-designation
29	1659	1	1985 3 AVENUE	R8A	X	X	X	RCRA,A	X	E-designation
30	1756	33	1940 PARK AVENUE	R7-2	X		X	I, M	X	E-designation
31	1622	33	1640 PARK AVENUE	R7-2			X		X	E-designation
32	1768	40,39		C4-4D						
		40	2198 3 AVENUE	C4-4D			X		X	E-designation
		39	2196 3 AVENUE	C4-4D			X		X	E-designation
33	1655	1,3,102		R8A						
		1	1905 3 AVENUE	R8A			X		X	E-designation
		3	1911 3 AVENUE	R8A			X		X	E-designation
		102	1909 3 AVENUE	R8A			X		X	E-designation
35	1676	49	2038 2 AVENUE	R8A	X		X	I	X	E-designation
36	1772	55	2026 LEXINGTON AVENUE	R7-2			X		X	E-designation
37	1771	51	148 EAST 123 STREET	R7-2			X		X	E-designation
38	1643	50,149,49		R7-2						
		50	154 EAST 116 STREET	R7-2			X		X	E-designation
		149	156 EAST 116 STREET	R7-2		X	X	RCRA	X	E-designation
		49	158 EAST 116 STREET	R7-2			X		X	E-designation
39	1643	21	151 EAST 115 STREET	R7-2			X		X	E-designation
40	1639	49,48		R7-2/R7A						
		49	154 EAST 112 STREET	R7-2	X		X	FP/VP, I	X	E-designation
		48	156 EAST 112 STREET	R7A			X		X	E-designation
41	1639	21	163 EAST 111 STREET	R7-2		X	X	Sp, RCRA	X	E-designation
42	1638	56	144 EAST 111 STREET	R7-2			X		X	E-designation
43	1637	51,52,21,22		R7-2						
		51	152 EAST 110 STREET	R7-2	X		X	I	X	E-designation
		52	150 EAST 110 STREET	R7-2			X		X	E-designation
		21	1759 LEXINGTON AVENUE	R7-2		X	X	Tk	X	E-designation
		22	153 EAST 109 STREET	R7-2			X		X	E-designation
44	1637	24,25		R7-2/R7A						
		24	157 EAST 109 STREET	R7-2			X		X	E-designation
		25	159 EAST 109 STREET	R7A			X		X	E-designation
45	1635	149,150		R7-2						
		149	1733 LEXINGTON AVENUE	R7-2			X		X	E-designation
		150	1731 LEXINGTON AVENUE	R7-2			X		X	E-designation
46	1635	48,49		R7-2/R7A						
		48	156 EAST 108 STREET	R7A			X		X	E-designation
		49	152 EAST 108 STREET	R7-2			X		X	E-designation
47	1634	158	1710 LEXINGTON AVENUE	R7-2			X		X	E-designation
48	1643	63	116 EAST 116 STREET	R7-2		X	X	Sp	X	E-designation
49	1643	41	176 EAST 116 STREET	R7A	X	X	X	I, RCRA	X	E-designation

Table 10-1 (cont'd)
Assessment of Projected and Potential Development Sites

Site #	Block	Lot	Address	Existing Zoning	Sanborn Maps/City Directories	On-Site Database Listings	Concerns within 400-foot radius	On-site Environmental Concern (Historical and/or Current)	Site Visit Findings	E-DESIGNATION Recommendation
50	1667	102	2147 3 AVENUE	C4-4D			X		X	E-designation
51	1666	105,5		C4-4D/R7A						
		105	205 EAST 116 STREET	C4-4D	X		X	I	X	E-designation
		5	207 EAST 116 STREET	R7A			X		X	E-designation
52	1788	28	2413 2 AVENUE	R7-2	X	X	X	RCRA, I	X	E-designation
53	1786	28	2375 2 AVENUE	R8A			X		X	E-designation
54	1786	123,23,22,121		R8A						
		123	2365 2 AVENUE	R8A			X		X	E-designation
		23	2363 2 AVENUE	R8A			X		X	E-designation
		22	2361 2 AVENUE	R8A			X		X	E-designation
		121	249 EAST 121 STREET	R8A	X		X	I	X	E-designation
55	1785	23,22,21		R8A						
		23	2343 2 AVENUE	R8A			X		X	E-designation
		22	2341 2 AVENUE	R8A	X		X	I	X	E-designation
		21	245 EAST 120 STREET	R8A	X		X	I	X	E-designation
56	1784	128,28,27,26, 25,120		R8A						
		128	246 EAST 120 STREET	R8A		X	X	Tk, RCRA	X	E-designation
		28	2337 2 AVENUE	R8A		X	X	I	X	E-designation
		27	2335 2 AVENUE	R8A			X	FP/VP	X	E-designation
		26	2333 2 AVENUE	R8A		X	X		X	E-designation
		25	2331 2 AVENUE	R8A		X	X		X	E-designation
		120	EAST 119 STREET	R8A			X		X	E-designation
57	1795	3,2,1		R8A						
		3	2306 2 AVENUE	R8A	X		X	A	X	E-designation
		2	2304 2 AVENUE	R8A			X		X	E-designation
		1	2302 2 AVENUE	R8A	X		X	I	X	E-designation
58	1667	26	2293 2 AVENUE	R8A	X			A,I	X	E-designation
59	1667	22,120		R8A						
		22	2287 2 AVENUE	R8A	X	X	X	I, RCRA	X	E-designation
		120	249 EAST 117 STREET	R8A	X	X	X	Sp, I	X	E-designation
60	1689	1	2282 2 AVENUE	R8A	X		X	I	X	E-designation
61	1666	23	2269 2 AVENUE	R8A			X		X	E-designation
62	1688	2,1		R8A						
		2	2264 2 AVENUE	R8A		X	X	RCRA	X	E-designation
		1	2262 2 AVENUE	R8A	X		X	I	X	E-designation
63	1665	25,24,23,122		R8A						
		25	2249 2 AVENUE	R8A	X	X	X	RCRA, I	X	E-designation
		24	2245 2 AVENUE	R8A	X		X	I	X	E-designation
		23	2243 2 AVENUE	R8A			X		X	E-designation
		122	245 EAST 115 STREET	R8A	X		X	I	X	E-designation
64	1687	3,102		R8A						
		3	2246 2 AVENUE	R8A	X		X	I	X	E-designation
		102	2244 2 AVENUE	R8A			X	I	X	E-designation
65	1682	49	2160 2 AVENUE	R8A			X			E-designation
66	1682	4,3		R8A						
		4	2152 2 AVENUE	R8A			X			E-designation
		3	2150 2 AVENUE	R8A			X			E-designation
67	1680	3	2 AVENUE	R8A			X		X	E-designation
68	1644	12	125 EAST 116 STREET	R7-2			X		X	E-designation
69	1771	1,2		M1-4						
		1	1761 PARK AVENUE	M1-4	X	X	X	Sp, I	X	LDA
		2	PARK AVENUE	M1-4	X		X	I	X	LDA
A	1753	37	1890 PARK AVENUE	C8-3	X	X	X	Sp, Tk, A, FS	X	E-designation
B	1772	69,70		R7-2						

Table 10-1 (cont'd)
Assessment of Projected and Potential Development Sites

Site #	Block	Lot	Address	Existing Zoning	Sanborn Maps/City Directories	On-Site Database Listings	Concerns within 400-foot radius	On-site Environmental Concern (Historical and/or Current)	Site Visit Findings	E-DESIGNATION Recommendation
		69	104 EAST 124 STREET	R7-2			X	FP/VP	X	E-designation
		70	102 EAST 124 STREET	R7-2			X		X	E-designation
C	1767	1,2,3,4,67,68, 69,71,72,168, 169		R7-2						
		1	1681 PARK AVENUE	R7-2			X		X	LDA
		2	1683 PARK AVENUE	R7-2			X		X	LDA
		3	1685 PARK AVENUE	R7-2	X		X	I	X	LDA
		4	1687 PARK AVENUE	R7-2	X		X	I	X	LDA
		67	110 EAST 119 STREET	R7-2	X		X	I	X	LDA
		68	108 EAST 119 STREET	R7-2			X		X	LDA
		69	1693 PARK AVENUE	R7-2	X		X	A, I	X	LDA
		71	1691 PARK AVENUE	R7-2	X		X	A, I	X	LDA
		72	1689 PARK AVENUE	R7-2	X		X	I	X	LDA
		168	106 EAST 119 STREET	R7-2	X		X	I	X	LDA
		169	104 EAST 119 STREET	R7-2	X		X	I	X	LDA
D	1621	32	75 EAST 115 STREET	R7-2	X	X	X	I	X	E-designation
E	1644	37,38,39		C4-4D						
		37	2136 3 AVENUE	C4-4D			X		X	E-designation
		38	2138 3 AVENUE	C4-4D		X	X	RCRA	X	E-designation
		39	2140 3 AVENUE	C4-4D		X	X	RCRA	X	E-designation
F	1661	4		R8A						
		4	2031 3 AVENUE	R8A	X		X	A	X	E-designation
G	1645	35,33		C4-4D						
		35	2148 3 AVENUE	C4-4D			X		X	E-designation
		33	2144 3 AVENUE	C4-4D	X	X	X	RCRA	X	E-designation
H	1633	39,38		R8A						
		39	1916 3 AVENUE	R8A			X		X	E-designation
		38	1914 3 AVENUE	R8A			X		X	E-designation
I	1643	38,40,39		C4-4D						
		38	2116 3 AVENUE	C4-4D		X	X		X	E-designation
		40	2120 3 AVENUE	C4-4D	X		X	I	X	E-designation
		39	2118 3 AVENUE	C4-4D			X		X	E-designation
J	1639	39,40,41,38, 137		R8A						
		39	2032 3 AVENUE	R8A			X		X	E-designation
		40	2034 3 AVENUE	R8A			X		X	E-designation
		41	174 EAST 112 STREET	R8A			X		X	E-designation
		38	2030 3 AVENUE	R8A	X		X	I	X	E-designation
		137	2028 3 AVENUE	R8A	X		X	A	X	E-designation
K	1620	23		R7-2						
		23	70 East 115th Street	R7-2			X		X	E-designation
		23	65 East 112th Street	R7-2		X	X	RCRA	X	E-designation
L	1640	1		R7-2						
		1	1840 Lexington Avenue	R7-2		X	X	RCRA	X	E-designation
		1	1810 Lexington Avenue	R7-2		X	X	Sp	X	E-designation
		1	1565 Park Avenue	R7-2	X		X	I	X	E-designation
		1	1581 Park Avenue	R7-2			X			E-designation
		1	1591 Park Avenue	R7-2			X			E-designation
		1	1611 Park Avenue	R7-2			X			E-designation
M	1640	21		R7-2						
		21	2070 3 Avenue	R7-2	X		X	M, I	X	E-designation
		21	2060 3 Avenue	R7-2	X		X	M, I	X	E-designation
		21	1809 Lexington Avenue	R7-2	X		X	A	X	E-designation
		21	1829 Lexington Avenue	R7-2			X			E-designation
N	1662	1		R7-2						

Table 10-1 (cont'd)
Assessment of Projected and Potential Development Sites

Site #	Block	Lot	Address	Existing Zoning	Sanborn Maps/City Directories	On-Site Database Listings	Concerns within 400-foot radius	On-site Environmental Concern (Historical and/or Current)	Site Visit Findings	E-DESIGNATION Recommendation
		1	2095 3 Avenue	R7-2			X		X	E-designation
		1	2055 3 Avenue	R7-2			X		X	E-designation
O	1755	33	1916 PARK AVENUE	C8-3	X	X	X	Tk, RCRA, MW, M	X	E-designation
P	1784	45,4,47,48		C4-4D						
		45	2197 3 AVENUE	C4-4D			X		X	E-designation
		4	2191 3 AVENUE	C4-4D			X		X	E-designation
		47	2195 3 AVENUE	C4-4D			X		X	E-designation
		48	2193 3 AVENUE	C4-4D			X		X	E-designation
Q	1748	p/o 35	1911 MADISON AVENUE	R7-2	X	X	X	RCRA,BCP	X	E-designation
R	1748	p/o 1	51 EAST 122 STREET	R7-2	X		X	FS, A	X	E-designation
S	1667	45	2151 3 AVENUE	C4-4D		X	X	RCRA	X	E-designation
T	1771	70,69,71		M1-4						
		70	104 EAST 123 STREET	M1-4	X		X	A	X	E-designation
		69	106 EAST 123 STREET	M1-4			X		X	E-designation
		71	102 EAST 123 STREET	M1-4			X		X	LDA
U	1655	45	1915 3 AVENUE	R8A			X			E-designation
V	1775	170	100 EAST 128 STREET	M1-2	X	X	X	RCRA, A, M,FP/VP	X	E-designation
X	1786	24,26		R8A						
		24	2367 2 AVENUE	R8A			X		X	E-designation
		26	2369 2 AVENUE	R8A			X		X	E-designation
Y	1796	2	2324 2 AVENUE	R8A			X		X	E-designation
Z	1689	51	2292 2 AVENUE	R8A		X	X	RCRA	X	E-designation
AA	1683	50	2174 2 AVENUE	R8A			X			E-designation
AB	1635	51,52		R7-2						
		51	1725 LEXINGTON AVENUE	R7-2			X		X	E-designation
		52	1723 LEXINGTON AVENUE	R7-2			X		X	E-designation
AC	1633	52	152 EAST 106 STREET	R7-2			X		X	E-designation
AD	1632	20	1655 LEXINGTON AVENUE	R7-2			X		X	E-designation
AE	1643	48,47		R7A						
		48	160 EAST 116 STREET	R7A	X		X	I	X	E-designation
		47	162 EAST 116 STREET	R7A	X		X	I	X	E-designation
AF	1662	16	2183 2 AVENUE	R7-2	X		X	I	X	E-designation
AG	1684	1	2178 2 AVENUE	R7-2			X		X	E-designation
AH	1638	33	2004 3 AVENUE	R8A			X		X	E-designation
AI	1788	4, 48, 49, 50		C4-4						
		4	2271 3 AVENUE	C4-4			X			E-designation
		48	2277 3 AVENUE	C4-4			X			E-designation
		49	2275 3 AVENUE	C4-4		X	X	I, RCRA		E-designation
		50	2273 3 AVENUE	C4-4		X	X	I, RCRA		E-designation

Notes:
■ Indicates environmental concern identified on-site
■ Indicates environmental concern identified within 400 feet
■ Indicates existing hazardous materials e-designation
On-Site Concerns (historical and/or current):FS=Filling Station, A=Automotive repair/service, Tk=Tank(s), M=Manufacturing, I=Industrial, SP=Spill, E-des=Existing E-designation, LDA=Land Disposition Agreement, RCRA=Resource Conservation & Recovery Act, BCP=NYSDEC Brownfield Cleanup Program, FP/VP=Suspect Fuel Oil Fill Port/Vent Pipe, MW=Suspect Monitor Well, Fire Sta=Fire Station

As noted above, construction-related activities anticipated for the With Action Condition could increase pathways for exposure to hazardous materials. However, the possibility of impacts to

the health and safety of workers, the community, and future occupants would be reduced by performing demolition and construction in accordance with the measures identified below:

- Prior to construction, further investigation would be performed on each site. This would start with preparation of a Phase I Environmental Site Assessment (ESA) in accordance with American Society of Testing Materials (ASTM) Standard E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Practice*. This would be followed by preparation of a subsurface investigation protocol for agency review. The scope of the investigation would be determined by the findings of the Phase I ESA. Upon approval of the protocol, the investigation (typically including laboratory analysis of soil, groundwater and soil vapor samples from the site) would be implemented and a report prepared for the agency along with the proposed remediation plan (i.e., measures to be implemented prior to or as part of construction to avoid impacts to the health and safety of workers, the community, and future occupants) which would include a construction health and safety plan.
- Any renovation or demolition activities with the potential to disturb LBP would be performed in accordance with the applicable Occupational Safety and Health Administration regulation (OSHA 29 CFR 1926.62—*Lead Exposure in Construction*).
- Prior to any renovation or demolition activities with the potential to disturb suspect ACMs, an asbestos survey would be conducted to determine whether these materials are ACMs. If these materials prove to contain asbestos, they would be properly removed and disposed of in accordance with all state and federal regulations.
- Unless there is labeling or test data that indicates that florescent lights, other electrical equipment, and hydraulic fluid are not mercury- and/or PCB-containing, if disposal is required, it would be performed in accordance with applicable federal, state, and local regulations and guidelines.
- All excavated soil requiring off-site disposal would be managed in accordance with applicable regulatory requirements. All soil and any other materials intended for off-site disposal would be tested in accordance with the requirements of the intended receiving facility. Transportation of material leaving the site for off-site disposal would be in accordance with federal, state, and local requirements covering licensing of haulers and trucks, placarding, truck routes, manifesting, etc. All on-site petroleum storage tanks (and any unforeseen tanks encountered during redevelopment) would be properly closed and removed in accordance with applicable requirements.
- If dewatering is required for construction, testing would be performed to ensure compliance with New York City Department of Environmental Protection (DEP) sewer discharge permit/approval requirements and, if necessary, pre-treatment world be conducted prior to discharge to the sewer.

To ensure the measures above are implemented, as warranted, an (E) Designation (E-422) for hazardous materials would be placed on the privately owned sites identified in **Table 10-1** as part of the proposed rezoning. Recommendations for (E) Designations are based on whether the sites may have been adversely affected by current or historical uses at, adjacent to, or within 400 feet. In determining whether a site is recommended for an (E) Designation, current site conditions were given priority, followed by the adjacent site use or history, and finally the conditions within a 400-foot radius.

The (E) Designation would require that, prior to redevelopment, the property owner conduct: a Phase I ESA in accordance with the ASTM E1527-13; and implement a soil, soil vapor, and groundwater testing protocol, and remediation where appropriate, to the satisfaction of OER before issuance of construction-related DOB permits (pursuant to Section 11-15 of the *Zoning Resolution*—Environmental Requirements). The (E) Designation also mandates construction-related health and safety plans, which must be approved by OER.

The text of the (E) Designation (E-422) would be the following:

> ***Task 1****—The applicant submits to OER, for review and approval, a Phase I ESA of the site along with a soil and groundwater testing protocol, including a description of methods and a site map with all sampling locations clearly and precisely represented.*
>
> *If site sampling is necessary, no sampling should begin until written approval of a protocol is received from OER. The number and location of sample sites should be selected to adequately characterize the site, the specific source of suspected contamination (i.e., petroleum based contamination and non-petroleum based contamination), and the remainder of the site's condition. The characterization should be complete enough to determine what remediation strategy (if any) is necessary after review of sampling data. Guidelines and criteria for selecting sampling locations and collecting samples are provided by OER upon request.*
>
> ***Task 2****—A written report with findings and a summary of the data must be submitted to OER after completion of the testing phase and laboratory analysis for review and approval. After receiving such results, a determination is made by OER if the results indicate that remediation is necessary.*
>
> *If OER determines that no remediation is necessary, written notice shall be given by OER.*
>
> *If remediation is indicated from the test results, a proposed remediation plan must be submitted to OER for review and approval. The applicant must complete such remediation as determined necessary by OER. The applicant should then provide proper documentation that the work has been satisfactorily completed.*

For the city-owned sites, similar requirements to those associated with the (E) Designation, i.e., a Phase I Environmental Site Assessment, subsurface testing (in accordance with an agency-approved protocol) and an agency-approved remediation plan), would be required through an LDA or similar binding documents between the City of New York and prospective developers.

F. CONCLUSION

As shown in **Table 10-1**, the Proposed Actions would include the placement of hazardous materials E-Designations (E-422) for all privately owned projected and potential development sites. For city-owned sites, comparable measurements would be required through an LDA or similar binding documents between the City of New York and prospective developers. The implementation of these measures would preclude the potential for significant adverse impacts associated with the Proposed Actions. ✷